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Integrating Educational Technology to Support Inclusive Education in Leading Countries A Comparative Study with Jordan

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Abstract

This study examined the use of educational technology to support inclusive education in Jordanian schools and analyzed similarities and differences between Jordan's experience and those of four leading countries: Canada, Finland, Australia, and the United Arab Emirates (UAE). A mixed methods approach was employed. Data were collected through an electronic questionnaire administered to a sample of 100 special education teachers and focus group interviews with six specialist educational supervisors. The findings indicated that technology use in Jordanian schools was higher for basic media than for advanced tools, such as artificial intelligence and virtual reality. The results also revealed a statistically significant positive correlation between technology use and the effectiveness of inclusive education, as well as statistically significant differences associated with teaching experience. The study recommends strengthening the Ministry of Education's role in supporting these efforts through legislation, expanding opportunities for continuing professional development, and encouraging research on technology and inclusion. These measures would help improve educational quality and promote educational equity for students with disabilities.

Keywords: educational technology; inclusive education; inclusive schools; the Jordanian experience

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تحليل تجارب الدول الرائدة في دمج تكنولوجيا التعليم لخدمة التعليم الدامج: دراسة مقارنة مع تجربة الأردن

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الملخص

هدفت هذه الدراسة إلى الكشف عن واقع استخدام تكنولوجيا التعليم في دعم الدمج التربوي في المدارس الأردنية، وتحليل أوجه التشابه والاختلاف بينها وبين تجارب أربع دول رائدة في هذا المجال (كندا، فنلندا، استراليا، والامارات العربية)، تم توظيف منهج البحث المختلط، حيث جُمعت البيانات من خلال استبانة إلكترونية طُبّقت على عينة من 100 معلم ومعلمة في مجال التربية الخاصة، بالإضافة إلى مقابلات مجموعات تركيز (Focus group) مع 6 مشرفين تربويين مختصين، وقد أظهرت نتائج الدراسة أن مستوى استخدام التكنولوجيا في المدارس الأردنية يتراوح بين المتوسط والمرتفع في ما يتعلق بالوسائط البسيطة، لكنه لا يزال ضعيفًا في استخدام الأدوات المتقدمة كالذكاء الاصطناعي والواقع الافتراضي، كما كشفت النتائج وجود علاقة ارتباط إيجابية دالة إحصائيًا بين توظيف التكنولوجيا وفاعلية التعليم الدامج، إضافة إلى وجود فروق ذات دلالة تعزى إلى متغير الخبرة.. كما توصي الدراسة بضرورة تفعيل دور وزارة التربية والتعليم في دعم هذه الجهود من خلال التشريعات، وتوسيع فرص التدريب المستمر، وتحفيز البحث العلمي في مجال التكنولوجيا والدمج، بما يسهم في تحسين جودة التعليم وتحقيق مبدأ العدالة التربوية للطلبة ذوي الإعاقة

الكلمات المفتاحية: تكنولوجيا التعليم، التعليم الدامج، المدارس الدامجة، التجربة الأردنية

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Introduction

Educational technology has advanced substantially in recent decades, facilitating the inclusion of students with disabilities in mainstream educational settings. Many countries have adopted technology-based policies and strategies to strengthen inclusive education. However, some countries, including Jordan, face challenges in implementing this model effectively. Examining and comparing international experiences with Jordan's experience is therefore important for identifying lessons and strengthening local inclusive education practices.

This transformation forms part of the accelerating digital revolution, which has made educational technology an essential component of contemporary education systems (UNESCO, 2015). Educational technology tools have become integral to learning environments, improving educational quality, increasing student engagement, and providing equitable learning opportunities for all groups, including those previously affected by marginalization or discrimination, such as children with disabilities or special educational needs (Al-Azawei et al., 2016).

Educational technology is defined as the systematic use of digital technologies and contemporary pedagogical knowledge to design, implement, and evaluate teaching and learning more efficiently and effectively (Roblyer & Doering, 2013). Its role has expanded beyond recreational or occasional use to become a principal means of reinforcing concepts, extending learning opportunities, and adapting instruction to learners' approaches and individual needs.

Supporting inclusive education is a prominent area in which educational technology can be used effectively. Inclusive education is a cornerstone of contemporary education. It is now understood as a human right and a foundation for equitable, sustainable societies (UNESCO, 2009). It involves the participation of all students, including those with disabilities, in mainstream educational settings, together with the support they need through adaptations to curricula, teaching strategies, and instructional resources. These adaptations are intended to ensure effective learning with dignity, without discrimination or segregation (Ainscow et al., 2006).

Inclusive education is important because it reflects an educational and humanitarian commitment to equity and justice. Contemporary educational literature suggests that its benefits extend beyond students with disabilities to the development of social and human values among

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all students, including acceptance, cooperation, empathy, and respect for diversity (Florian & Black-Hawkins, 2011).

Across all age groups, from early childhood to higher education, there is a pressing need to implement inclusive education supported by educational technology. In early childhood, technology can support the development of children with disabilities through educational games and interactive programs that develop cognitive, language, and motor skills (Plass et al., 2015). Research shows that inclusion in classrooms from an early age improves children's social interaction, strengthens their confidence, and supports their long-term academic development (Loreman, 2007).

In basic education, technology helps provide personalized instruction suited to each student's needs. Examples include educational software offering progressively structured practice, text-to-speech applications for students with visual impairments, and interactive whiteboards that support sensory and visual engagement with content (Alquraini & Gut, 2012). At this stage, technology-supported inclusive education can help reduce dropout rates among students with disabilities and enhance their active classroom participation.

At the secondary level, opportunities for technology use expand to include virtual learning environments, e-learning platforms, and digital assessment tools that enable students to work according to their abilities and at their own pace (Burgstahler, 2015). At this stage, there is a growing need to support students with physical or hearing impairments or learning difficulties through specialized technologies that help them complete learning tasks and participate fully in education.

In higher education, technology-supported inclusive education is essential, particularly as the number of students with special educational needs increases and e-learning, blended learning, and open learning environments expand. Technology enables these students to participate in lectures, conduct research, and engage in university activities through tools such as real-time sign language interpretation, screen magnification, text-to-speech, customizable platforms, and other resources (Seale, 2013).

The benefits of technology-supported inclusive education also extend to teachers, administrators, and the school environment as a whole. Teachers trained to use technology to adapt instruction are better able to respond to classroom diversity and deliver lessons in different ways. Technology also allows schools to document student performance and monitor

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progress, supporting educational decisions based on accurate data (King-Sears & Evmenova, 2007).

Despite this potential, technology-supported inclusive education faces several challenges. These include inadequate technological infrastructure in some educational institutions, insufficient staff training, the absence of consistent policies, and cultural or community resistance to inclusion (UNICEF, 2021). An integrated approach is therefore needed to connect technical, pedagogical, and administrative aspects and ensure coordination among ministries of education, teachers, families, and technology service providers.

Statement of the Problem

Global interest in inclusive education as a human right has increased, and international organizations such as UNESCO emphasize the need to provide inclusive educational environments for all students, including those with disabilities. Nevertheless, the effective use of educational technology to support this commitment remains challenging in many countries, particularly developing and emerging countries. The central problem is the lack of integration between educational policies and technological and human resources. This creates a gap between theory and practice and prevents the intended goals of inclusive education from being achieved.

Contemporary educational literature indicates that educational technology can play a central role in successful inclusive education when it is used within a comprehensive pedagogical vision encompassing training, equipment, and curricula (Zaharah et al., 2022). Countries that have adopted comprehensive strategies, such as Finland, Canada, and Australia, have reported progress in promoting the inclusion of students with disabilities and reducing educational and social disparities within schools (Nelson et al., 2021).

In Jordan, the effective use of technology in inclusive education remains an implementation concern. Qutish (2021), in a study of 60 teachers in inclusive schools in the Marka district, reported moderate attitudes toward technology use during COVID-19 and recommended targeted teacher preparation and training. These findings support examining how available resources, staff preparation, and classroom practices interact in Jordanian inclusive settings.

Addressing this gap is particularly important in light of successful experiences in Arab countries such as the UAE. In recent years, the UAE has adopted a comprehensive national inclusive

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education policy supported by advanced technological infrastructure, Universal Design for Learning (UDL) standards, and smart educational platforms designed for students with disabilities. Almahdi and Alghamdi (2023) reported that the UAE had made substantial progress in providing technology-based inclusive environments across all educational stages by combining digital infrastructure with flexible educational policies.

Accordingly, the research problem arises from the need to:

Analyze the gap between policies and implementation in countries that have not yet achieved an advanced level of technology-supported inclusive education, such as Jordan.

Compare Jordan's experience with those of countries that have succeeded in this area: Finland, Canada, Australia, and the UAE.

Understand the shared factors that have enabled these countries to use technology to support inclusive education, alongside the challenges that Jordan continues to face.

Although numerous studies have addressed either inclusive education or educational technology, recent comprehensive comparative research connecting the two remains limited. This is particularly evident following the COVID-19 pandemic, which highlighted the urgent need for technology to ensure continuity of education for everyone (Kocdar et al., 2021). Moreover, most previous studies have focused on Western countries, with insufficient analysis of successful Arab experiences such as that of the UAE.

Research Questions

The research problem gives rise to the following questions:

1. What is the current state of educational technology use in supporting inclusive education in Jordan?

2. What is the relationship between educational technology use and the effectiveness of inclusive education in Jordan?

3. Are there statistically significant differences at $\alpha \leq 0.05$ in teachers' views of the effectiveness of educational technology in supporting inclusive education attributable to variables such as experience, academic qualification, and educational stage?

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4. What similarities and differences exist between Jordan's experience and those of Finland, Canada, Australia, and the UAE in integrating educational technology into inclusive education?

Study Objectives

This study aims to analyze educational technology use in supporting inclusive education in Jordan by examining the integration of pedagogical practices with available technological resources and identifying gaps that hinder effective inclusive learning environments. It also seeks to compare Jordan's experience with those of leading countries, including Finland, Canada, Australia, and the UAE, to identify successful practices and shared factors that have supported technology-enabled inclusive education. A further objective is to identify statistically significant differences in teachers' attitudes toward the effectiveness of educational technology according to demographic variables, thereby informing practical recommendations for policies and educational practices in Jordan.

Significance of the Study

The significance of this study stems from the growing need to develop inclusive education systems that respond to accelerating digital transformations. Integrating educational technology with inclusive education is an emerging direction in global education policy. The study's theoretical contribution lies in strengthening educational literature through a comparative framework examining leading countries' experiences, thereby enriching knowledge of strategies for integrating technology and educational inclusion. Its practical contribution lies in providing field data and analyses that clarify the state of inclusive education in Jordan and identify shortcomings and challenges that prevent technology from enabling education for all. These insights can help decision-makers and educational planners develop appropriate policies and practices and draw on successful international experiences to strengthen technology-based inclusive environments across educational stages.

Study Limitations and Delimitations

The study relies on teachers' self-reported data, which may affect the objectivity of the findings. The sample is limited to a small number of Jordanian public schools, restricting generalization to all educational settings in the country. The comparison also focuses on only four countries—Finland, Canada, Australia, and the UAE—and therefore may not reflect the full diversity of international experiences in inclusive education and technology. The study does not directly assess the impact of technology use on the academic achievement of students with disabilities;

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instead, it focuses on descriptive analysis and educational attitudes. Social and economic variables that may affect the effectiveness of educational technology in inclusive education are not analyzed.

Thematic scope: The study focuses on educational technology use in supporting inclusive education and on teachers' views of its effectiveness in Jordanian public schools. It does not address students' academic performance assessments or other psychological and social aspects of inclusive education.

Geographical scope: The study is limited to inclusive public schools in Jordan. According to Jordanian Ministry of Education statistics for 2023, there were 30 pioneering inclusive schools and 1,002 schools enrolling students with disabilities, supported by 237 trained and qualified support teachers. The study includes teachers working in inclusive classrooms at the basic and secondary levels only, limiting the generalizability of its findings to private schools or non-formal educational institutions.

Temporal scope: The study was conducted during the 2024–2025 academic year. The data pertain to that period and do not include an analysis of developments or policies outside this timeframe.

Methodology

The study adopts a descriptive analytical approach to describe educational technology use in supporting inclusive education in Jordan and to analyze teachers' views through a questionnaire and supervisors' views through focus group interviews. It also employs a comparative approach to compare Jordan's experience with those of Finland, Canada, Australia, and the UAE, drawing on recent literature and studies published after 2020.

Data Collection Instruments

Data were collected using a questionnaire administered to teachers working in Jordanian public schools with inclusive classrooms at the basic and secondary levels. Experts in educational technology and special education reviewed the questionnaire to assess its face validity, and revisions were made based on their feedback. Reliability was assessed using Cronbach's alpha, with an overall coefficient of 0.89, indicating high internal consistency. The questionnaire covered multimedia use, the design of interactive technology-based activities, support for

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individual differences, communication with parents, and the use of artificial intelligence and augmented reality.

Focus group interviews were also conducted with a small number of experts and specialists—educational supervisors—in inclusive education and educational technology to deepen understanding of field conditions. Three reviewers with expertise in inclusive education examined the focus group instrument and confirmed that its questions were appropriate to the study's themes and objectives. Face validity was assessed through expert review, while content validity was addressed by ensuring coverage of the study's themes. To strengthen the dependability of the qualitative findings, the researcher triangulated focus group and questionnaire data and analyzed the sessions through joint review.

Study Sample

The sample comprised 100 teachers in inclusive schools and schools with resource rooms. They were selected using stratified random sampling from schools in different regions of Jordan to ensure broad geographical and educational representation.

Six special education supervisors were also selected to participate in the focus groups.

Data Analysis

Quantitative data were analyzed using SPSS. Cronbach's alpha was used to assess reliability, alongside analyses of frequencies, means, and standard deviations. Pearson's correlation coefficient was used to examine the association between technology use and perceived inclusive education effectiveness. Analysis of variance (ANOVA) or t-tests were used to compare variables and examine statistically significant differences. Qualitative data from the focus group interviews were analyzed thematically through content coding and categorization of the findings.

Research Ethics

All ethical standards for research were observed. Participants' consent was obtained, data confidentiality was protected, and information was used exclusively for research purposes. Participants were informed of the study's objectives and their right to withdraw at any time.

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Review of Previous Studies

Previous studies were organized according to the experiences of the four countries examined. These experiences are outlined below.

Finland's Experience

Finland is internationally recognized as a leading country in integrating educational technology into inclusive education policies. Its education system draws on UDL principles and advanced digital tools to ensure that all students, including those with disabilities, can access inclusive and well-developed learning environments. The Finnish experience emphasizes teacher empowerment through intensive training and interactive e-learning platforms that support individual and collaborative learning, with a focus on accessible digital content and diverse assistive tools. Recent studies indicate that this approach has enhanced the participation of students with special educational needs and improved their educational and social outcomes, making Finland a model for integrating technology into inclusive education.

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Table 1. Previous studies on the integration of educational technology into inclusive education in Finland

Study	Authors	Sample	Key findings	Relevance to the present study	Variables examined
1. The Use of Digital Technologies at School and Cognitive Learning Outcomes: A Population-Based Study in Finland (2021)	Saarinen, Lipsanen, Hintsanen, Huotilainen, & Keltikangas-Järvinen	PISA 2015 data for 5,037 Finnish students	Intensive ICT use was associated with poorer academic performance; this association was stronger among students with higher technological skills (Hipatia Press).	Highlights the importance of careful pedagogical planning before widespread technology adoption and of evaluating the Jordanian context before introducing digital tools.	ICT use; academic performance; students' digital skills
2. Remark on digital accessibility: educational disparities define digital inclusion from adolescence onwards (2023)	Kaarakainen & Saikkonen	14,892 Finnish young people, from adolescence onward	Educational disparities affected digital skills, excluding some groups from effective digital inclusion (ResearchGate).	Supports examining social and educational disparities in Jordan and their influence on technology integration in inclusive education.	Educational attainment; digital skills; digital access

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Study	Authors	Sample	Key findings	Relevance to the present study	Variables examined
3. Higher education and the flipped classroom approach: efficacy for students with a history of learning disabilities (2024)	Kiljunen, Sointu, Äikäs, Valtonen, & Hirsto	1,592 students at the University of Eastern Finland, including students with and without a history of learning support	Academic performance did not differ by support history; students with support needs reported lower self-regulation and self-efficacy, greater difficulty, and a stronger preference for collaboration.	Supports attention to guidance and self-regulation when adapting flipped courses to diverse learning needs in Jordanian higher education.	Learning approach; learning disabilities; academic participation

Canada's Experience

The following table presents Canada's experience in integrating educational technology into inclusive education.

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Table 2. Previous studies on the integration of educational technology into inclusive education in Canada

Study	Authors	Sample	Key findings	Relevance to the present study	Variables examined
Teachers' perceived usefulness of assistive technology in Ontario classrooms	Lamond, Mo, & Cunningham (2023)	111 middle and secondary school teachers in Ontario	AT knowledge and resources predicted perceived usefulness; training did not add significantly to that prediction. Access and practical barriers also mattered.	Illustrates the importance of resources and knowledge, alongside training, for technology integration in Jordanian schools.	Technology knowledge; resources; perceived effectiveness

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Study	Authors	Sample	Key findings	Relevance to the present study	Variables examined
A Document Analysis on the Use of Assistive Technology in School-Based Instruction for Children with Specific Learning Disorders in Cameroon and Canada	Yonge & Maich (2024)	Qualitative content analysis of eight documents	Both countries had AT provision, relevant policies, and financial assistance; the study recommends improved provision, training, and funding.	Enables comparison between strong Canadian policies and less systematically organized implementation in Jordan.	Educational policies; funding; access to technology
Using Google Classroom as Assistive Technology in Universally Designed Classrooms	Sharpe & Young (2023)	Eight teachers and six students at one junior high school in Newfoundland and Labrador	Teachers and students perceived Google Classroom as supporting diverse learning needs within a UDL framework.	Demonstrates the potential to turn familiar educational tools into effective resources for inclusion in Jordan.	E-learning tools; inclusion; support for students with disabilities

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Study	Authors	Sample	Key findings	Relevance to the present study	Variables examined
Using Technology to Enhance Services and Supports for Children and Youth with Disabilities and Medical Complexity and their Families in Canada: A Scoping Review	Gerlach et al. (2023)	Twelve included studies of home and community services	Digital services supported access to assessments, parent coaching, and peer support; digital equity remained a concern.	Supports integrating digital services to strengthen inclusive education in remote areas of Jordan.	Digital access; support services; educational inclusion
Co-learning implementation of assistive technologies in elementary schools	Study implementation (2019/2020)	Canadian elementary schools serving students with special educational needs	Integrating technology into the curriculum through co-learning enhanced the autonomy of students with disabilities (ResearchGate).	Offers an applied model that can be adapted to basic education in Jordan.	Collaborative learning; assistive technology; classroom inclusion

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Canada offers an advanced model of using technology to strengthen inclusive education through comprehensive strategies based on positive teacher attitudes, continuing professional development, and advanced digital infrastructure. The Canadian system gives high priority to technological accommodations that enable students with disabilities to access educational content effectively, with particular emphasis on assistive devices and e-learning technologies. Recent Canadian studies confirm that technology integration supports teaching and learning while helping create inclusive environments that value diversity and reduce educational and social disparities, reinforcing inclusive education as a fundamental right for all.

Australia's Experience

Australia's integrated approach combines teachers' professional awareness with modern assistive technologies and e-learning platforms designed for inclusive education. It aims to make technology an effective means of supporting students with disabilities across educational stages by providing varied and accessible content and encouraging classroom interaction. Recent studies emphasize positive teacher attitudes and professional training as central to successful technology integration, while highlighting technology's positive contribution to students' educational and social outcomes. The following table summarizes this experience.

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Table 3. Previous studies on the integration of educational technology into inclusive education in Australia

Study title	Author	Sample	Key findings	Relevance to the present study	Variables examined
Inclusive online learning in Australia: Barriers and enablers	Marsden et al. (2025)	Students, parents, and school staff at three secondary schools in Western Australia	Access, affordability, digital skills, and social conditions shaped digital inclusion; the study piloted a Digital Inclusion Studio.	Identifies digital barriers to effective technology-enabled inclusion.	Digital access; inclusion; educational policies
Toward the Improvement of Inclusive Education for Students With Disabilities via Online Intervention: Feasibility Randomized Controlled Trial in Australia	Spong et al. (2023)	A feasibility RCT involving parents, teaching staff, and allied health professionals	Examined online learning about inclusive education and reasonable adjustments; findings should not be presented as a direct test of student achievement.	Offers a professional learning approach relevant to designing and evaluating reasonable adjustments.	Professional learning; reasonable adjustments; intervention feasibility

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The United Arab Emirates' Experience

The UAE is a leading example in the Arab region of adopting advanced national policies to support technology-enabled inclusive education. It emphasizes advanced technological infrastructure, including integrated digital platforms and modern assistive devices, alongside extensive adoption of UDL principles in schools. Teacher training and preparation for effective use of these technologies are also priorities. Recent studies indicate that this strategy has improved the inclusion of students with special educational needs and increased their academic and social participation, reflecting considerable progress relative to other countries in the region. Table 4 presents studies of the UAE's experience in integrating educational technology into inclusive education.

Table 4. Previous studies on the integration of educational technology into inclusive education in the UAE

Study title	Author	Sample	Key findings	Relevance to the present study	Variables examined
Dubai's Inclusive Education Policy from School Leaders' Perspectives	Massouti et al. (2024)	Ten leaders of private schools in Dubai	Policy implementation varied across schools and depended on training and support.	Highlights the importance of school leadership in integrating technology to support inclusive education.	Policies; leadership; technology

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Study title	Author	Sample	Key findings	Relevance to the present study	Variables examined
Inclusive Education Strategies in Higher Education Institutions	Education Sciences (2025)	A review of UAE universities	Identified gaps in assistive technology and a lack of policies.	Provides an institutional perspective on inclusion systems in UAE higher education.	Assistive technology; higher education inclusion

The comparison in Table 5 shows that the four countries have adopted different but effective models for integrating technology into inclusive education. Finland leads in the comprehensiveness of its strategies and practices, whereas Canada emphasizes local contexts and pedagogical attitudes. Australia combines advanced infrastructure with practical implementation. The UAE represents a successful Arab model of using technology nationally and demonstrates clear political commitment and investment in this area.

Table 5. Comparison of Finland, Canada, Australia, and the UAE

Dimension	Finland	Canada	Australia	UAE
National strategy	A national plan emphasizing UDL and inclusive digital learning	Comprehensive approaches at local and regional levels	A federal policy supporting technology in inclusive education	A federal strategy explicitly supporting inclusive digital education
Teacher training	Intensive training focused on inclusive technologies	Specialized training programs, with regional variation	Good training, with limited coverage in some rural areas	Comprehensive and continuing programs preparing teachers to use technology

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Dimension	Finland	Canada	Australia	UAE
Technological infrastructure	Highly advanced, including smart assistive tools	Good infrastructure, particularly in major cities	Strong, updated infrastructure with specific support for inclusive schools	Substantial investment in digital infrastructure and educational platforms
Technologies used	Interactive tools, smart platforms, and applications for students with disabilities	Assistive devices, e-learning, and digital accessibility tools	Individual support technologies, virtual classrooms, and diverse resources	Virtual reality, artificial intelligence, and inclusive platforms
Inclusive education outcomes	Effective inclusion and advanced academic and social outcomes	Noticeable improvements in participation and educational outcomes	Clear improvements, particularly in urban inclusive schools	Increased inclusion rates and engagement among students with disabilities

The reviewed studies illustrate both opportunities and limitations in technology-supported inclusion. Saarinen et al. (2021) caution that intensive digital technology use does not necessarily improve academic outcomes. Kaarakainen and Saikkonen (2023) link educational disparities to differences in digital abilities, while Kiljunen et al. (2024) find that students with and without a history of learning support achieved similar outcomes in flipped courses, although support needs remained evident. In Canada, Lamond et al. (2023) identify knowledge and resources as predictors of perceived assistive technology usefulness; Yonge and Maich (2024) examine access, policy, and funding; and Sharpe and Young (2023) document teachers' and students' perceptions of Google Classroom. Gerlach et al. (2023) address technology-enabled home and community services, which are relevant to access but are not direct measures of school achievement. In Australia, Marsden et al. (2025) identify barriers to digital inclusion, and Spong et al. (2023) examine the feasibility of online professional learning about inclusive education and reasonable adjustments. Together, these studies support attention to accessible

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design, resources, professional learning, and contextual inequalities rather than assumptions of automatic educational improvement.

In the UAE, Massouti et al. (2024) examine the perspectives of ten private school leaders in Dubai on inclusive education policy. They report policy understanding and examples of inclusive strategies, alongside challenges related to funding, staffing, student–teacher ratios, and teacher training. This evidence supports attention to institutional implementation and continuing professional development; it does not, by itself, establish national rates of AI adoption or technology-related achievement gains.

Results

Research Question 1 What is the current state of educational technology use in supporting inclusive education in Jordan

Figure 1. Descriptive analysis of teachers' responses

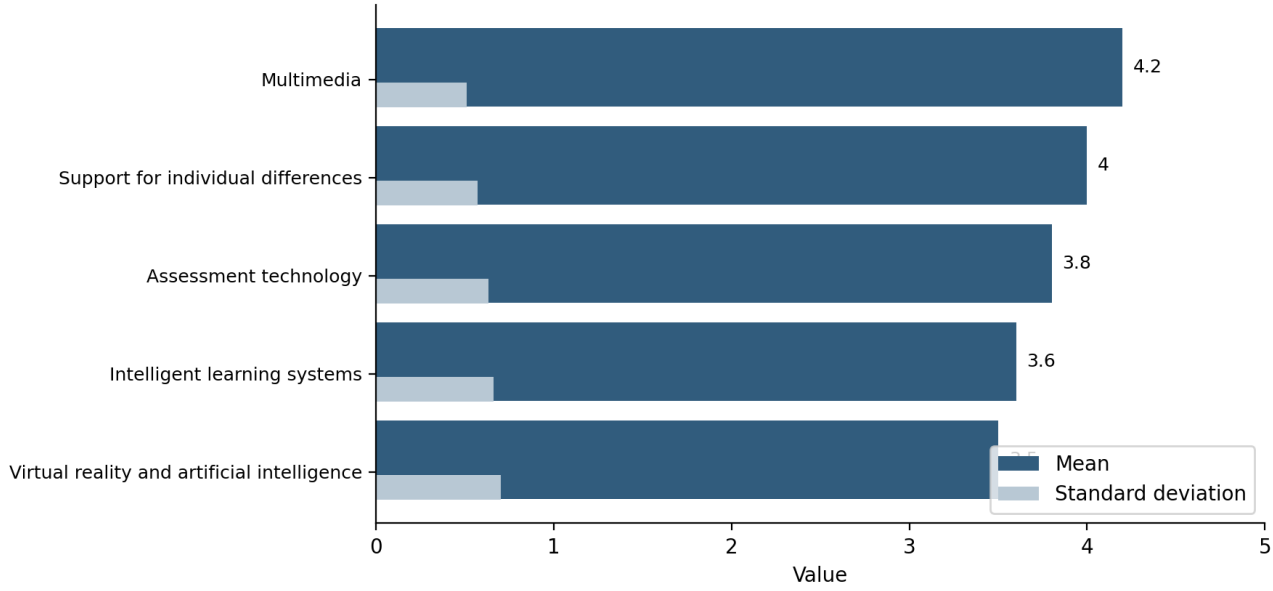

Figure 1 presents teachers' reported means and standard deviations across five technology-related domains. Multimedia had the highest reported mean (M = 4.20, SD = 0.51), followed by support for individual differences (M = 4.00, SD = 0.57), assessment technology (M = 3.80, SD = 0.63), intelligent learning systems (M = 3.60, SD = 0.66), and virtual reality and artificial intelligence (M = 3.50, SD = 0.70). The latter domains were lower relative to the others; the quantitative results alone do not justify labeling their use "low" without specified scale interpretation thresholds. The qualitative accounts identify additional barriers to advanced

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technology use. Al-Azawei et al. (2016) emphasize accessible and flexible design through UDL rather than technology use alone, providing a relevant framework for interpreting these implementation gaps.

The qualitative analysis of the focus group discussion reinforces these findings. Participants generally agreed that technology use in inclusive education in public schools was limited because of inadequate infrastructure and a lack of continuing training. Visual media, such as videos and images, were the most frequently used resources, whereas artificial intelligence and simulation technologies were almost absent. One supervisor stated: “Private schools perform better than public schools in this area, particularly in terms of resources.”

Research Question 2 What is the relationship between educational technology use and the effectiveness of inclusive education

Table 6 indicates a statistically significant positive association between educational technology use and the perceived effectiveness of inclusive education. Because the study is observational and relies on self-reported data, this correlation does not establish that technology use causes improved inclusive education outcomes.

Table 6. Pearson correlation coefficient

Variables	Correlation coefficient (r)	p value
Technology use × effectiveness of inclusive education	0.67	< .001

Table 6 shows a positive correlation between educational technology use and the perceived effectiveness of inclusive education ($r = 0.67$, $p < .001$). This finding indicates that higher reported technology use was associated with higher perceived effectiveness. It is consistent with the broader importance of accessible digital resources discussed in the literature. Lamond et al. (2023), for example, identified assistive technology knowledge and resource availability as predictors of teachers’ perceived usefulness of assistive technology; their findings provide contextual support rather than a direct replication of the correlation reported here.

The qualitative analysis of supervisors’ views indicated that technology is more than a support tool; it is a critical component in improving the effectiveness of inclusive education when accompanied by continuing training and an appropriate environment. Supervisors agreed that

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technology directly improves teachers' ability to adapt activities to the needs of students with disabilities. One supervisor observed: "In classrooms where teachers use interactive tools, such as educational videos or communication applications, students show noticeable improvements in engagement and behavior." However, some participants noted that insufficient continuing training limits the benefits of this relationship. The strong positive relationship between technology and inclusive education therefore suggests that technology is an integral component of successful inclusive teaching and learning.

Research Question 3 Are there statistically significant differences at α ≤ 0.05 in teachers' views of the effectiveness of educational technology in supporting inclusive education attributable to experience academic qualification or educational stage

The ANOVA values presented in Figure 2 indicate statistically significant differences associated with teaching experience ($F = 4.75$, $p = .003$). Differences associated with academic qualification ($F = 1.22$, $p = .306$) and educational stage ($F = 0.88$, $p = .415$) were not statistically significant at $\alpha \leq .05$. Supervisors described more experienced teachers as using flexible strategies; one participant stated: "An experienced teacher does more than explain the lesson; they design activities and use technology for assessment and evaluation as well." This qualitative observation should be distinguished from the ANOVA result: without group means or post hoc comparisons, the direction of the quantitative differences cannot be determined. Qutish (2021) also reported no statistically significant differences by academic qualification in a Jordanian study of technology use in inclusive schools, although that study used a different sample and context.

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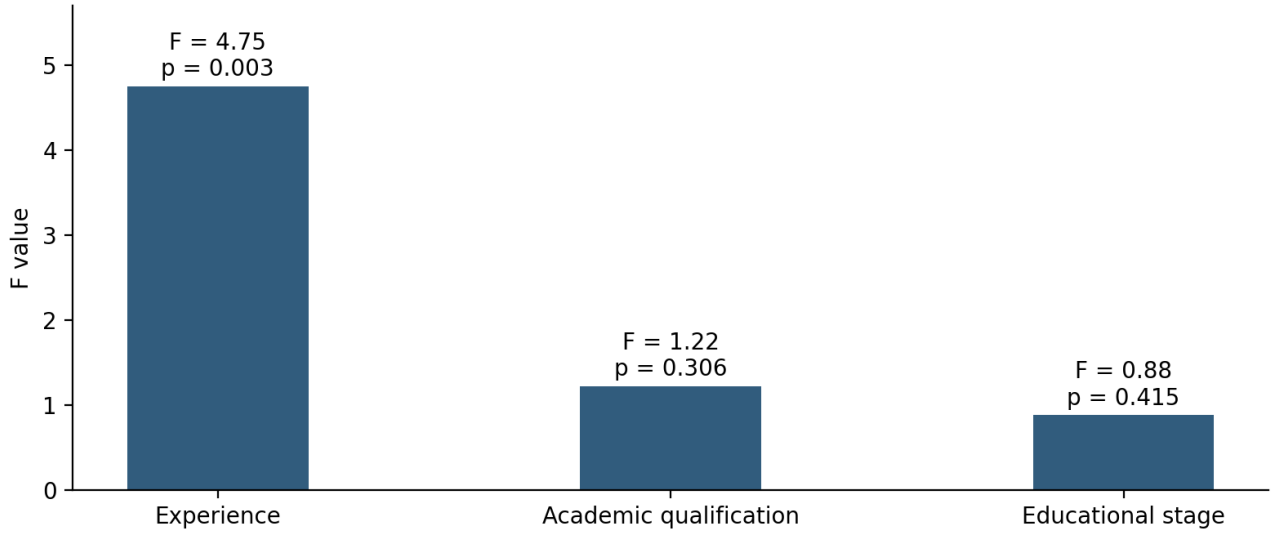
Figure 2. Analysis of variance by experience, academic qualification, and educational stage



Research Question 4 Comparison of Jordan with the selected international experiences

Table 7. Narrative comparison of Jordanian findings with the reviewed international experiences

Dimension	Jordan (study findings)	Canada	Finland	UAE	Australia
Actual extent of use	Moderate to high use of basic media; limited use of smart technologies (AI, VR)	Very high; a shift toward personalized learning using AI and educational data analytics	High and consistent; technology is integrated into educational policies and comprehensive assessment	High; movement toward comprehensive digital transformation in Al-Amal and inclusive schools	Three-school evidence identifies uneven digital access; national use rates are not estimated (Marsden et al., 2025).

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Dimension	Jordan (study findings)	Canada	Finland	UAE	Australia
Training and technical support	Limited and often unsystematic; ongoing plans are absent	Highly advanced; training forms part of teachers' continuing professional development	Institutional and integrated into the education system	Institutional; mandatory teacher training in public and private schools	Professional learning and family digital skills are identified as implementation needs (Marsden et al., 2025; Spong et al., 2023).
Use of advanced tools	Limited, such as infrequent use of virtual reality systems or performance analytics platforms	Widespread interactive platforms and adaptive learning technologies	Strong; AI-based educational decision support systems and simulation models	Moderate to high; reliance on national digital infrastructure through Smart Learning	Digital inclusion workshops and online professional learning are studied; national AI or VR adoption rates are not reported.

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Dimension	Jordan (study findings)	Canada	Finland	UAE	Australia
Inclusion of learners with disabilities	Structural difficulties, including large numbers, limited tools, and insufficient qualified personnel	High; inclusive education forms part of basic education legislation	Very high; regarded as one of the most successful countries in educational inclusion	Relatively high; government efforts to improve inclusive environments	The studies emphasize digital inequalities and reasonable adjustments; they do not provide a national inclusion rate.
Impact of technology on inclusion	Moderate; the study identifies a positive relationship between use and effectiveness	Quantitative and qualitative studies show increased engagement and achievement	Research demonstrates that technological support facilitates access to curricula	Clear in national test results indicating progress among students with disabilities	Evidence concerns barriers, enablers, and intervention feasibility; directly comparable student achievement effects are not available.

Examination of the table above led to the following observations:

The Jordanian findings indicate that use is concentrated in conventional tools, such as images, videos, and PowerPoint. The international literature illustrates other approaches, including assistive technology, accessible platforms, and targeted digital inclusion initiatives. The available studies do not establish comparable national adoption rates for artificial intelligence.

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The findings for the third research question indicate statistically significant differences associated with experience. International studies also emphasize the importance of professional development and resource availability; for example, Lamond et al. (2023) highlight assistive technology knowledge and resources, while Massouti et al. (2024) identify continuing professional development needs in Dubai.

The reviewed international experiences suggest that technology-supported inclusion benefits from coordinated policies, sustained professional development, and adequate resources. The Jordanian participants' accounts indicate implementation gaps in the schools represented in the sample; these findings should not be interpreted as evidence that Jordan has no national inclusive education policies.

Supervisors in Jordan described perceived improvements associated with technology use. Because the study did not directly measure student achievement and the international studies used different designs and outcome measures, the evidence does not permit a quantitative comparison of the magnitude of those improvements across countries.

Conclusions

Jordan needs to adopt a comprehensive institutional approach to activating educational technology in support of inclusive education.

The Jordanian participants' accounts indicate uneven implementation and reliance on individual efforts. International studies offer examples of practices and continuing challenges that can inform improvements in Jordan, without supporting a uniform ranking of countries.

Figure 3 presents a structured summary of the study's principal conclusions.

Figure 3. Conclusions

Limited technology use. The study found that educational technology use in supporting inclusive education in Jordan remains at an early stage and lacks comprehensive institutional plans.

Positive relationship between technology and inclusion. The statistical analysis identified a statistically significant correlation between educational technology use and the effectiveness of inclusive education, confirming the importance of technology as a factor supporting inclusion.

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Effects of experience and qualification. Differences associated with teaching experience were statistically significant ($F = 4.75$, $p = .003$), whereas differences associated with academic qualification were not ($F = 1.22$, $p = .306$).

Variation across educational stages. The reported ANOVA did not indicate statistically significant differences by educational stage ($F = 0.88$, $p = .415$). The available results do not support a conclusion that basic education has higher technology use than secondary education.

Infrastructure limitations. Focus group participants confirmed shortages of technological equipment and training in many schools, creating barriers to technology use in inclusion.

Comparison of international experiences. The literature reviewed for Finland, Canada, Australia, and the UAE points to the importance of accessible resources, professional learning, institutional coordination, and attention to digital inequalities. These experiences offer contextual lessons for Jordan rather than a standardized ranking of national performance.

Recommendations

Develop a national policy for technology integration: The Ministry of Education should develop a comprehensive national policy for using educational technology to support inclusive education, drawing on the experiences of advanced countries.

Build teachers' capacity: Develop and implement specialized training programs on assistive technology and digital applications for students with disabilities, and incorporate these topics into initial teacher education programs.

Improve infrastructure: Provide computers, high-speed internet, and interactive educational software in all schools, with particular attention to remote and marginalized schools.

Engage parents and local communities: Strengthen partnerships with local communities and the families of students with disabilities to ensure that technology-supported inclusion also receives support beyond school.

Adapt digital content: Develop diverse digital educational content tailored to different disabilities, including visual, hearing, and intellectual disabilities.

Conduct further research: Encourage applied studies of the impact of specific technological tools, such as artificial intelligence or virtual reality, on learning outcomes for students with disabilities.

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Strengthen international exchange: Establish partnerships with international educational institutions to benefit from their expertise and train Jordanian personnel in best practices.

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References

Al-Ibrahimi, I. J. K., & Hassan, Y. Kh. (2020). Educational technology use in teaching Arabic: A local study of preparatory and secondary schools [in Arabic]. Lark Journal, 1(48). https://doi.org/10.31185/lark.Vol1.Iss48.2634

E-learning for the development of Arabic language education [in Arabic]. (2022). Prepared by the Faculty of Education, Ain Shams University. A study examining the impact of e-learning on teaching Arabic as a core subject. tjhss.journals.ekb.eg

Junaidi, L. (2024). Digital technology use in classrooms from the perspectives of female middle school teachers in Hail [in Arabic]. Journal of Educational Sciences, 2(35). imamjournals.org

Al-Sumait, D. S. (2020). The effect of educational stage on the use of information technology to ensure educational quality: An applied study in Kuwait [in Arabic]. Journal of Quality Management and Academic Accreditation, 76, 283–315.

Al-Qahtani, A. B. A. S., & Al-Judai, A. B. M. (2024). Integrating technology and artificial intelligence in education: Teachers' experiences and challenges [in Arabic]. International Journal of Research and Studies Publishing, 56. ijrsp.com

Qutish, B. M. Dh. (2021). Inclusive school teachers' attitudes toward using technology to teach students with disabilities during the COVID-19 pandemic [in Arabic]. Middle East Journal of Educational and Psychological Sciences, 1(3), 245–234. https://doi.org/10.56961/mejeps.v1i3.54

Abu Alhija, F., & Alhassan, A. (2021). Teachers' readiness to implement inclusive education with technology in Jordanian public schools. International Journal of Educational Research Open, 2, 100081.

Abu-Hamour, B., & Muhaidat, M. (2021). Inclusive education in Jordan: Current challenges and future opportunities. International Journal of Inclusive Education, 25(8), 945–960. https://doi.org/10.1080/13603116.2020.1736654

Ainscow, M., Booth, T., & Dyson, A. (2006). Improving schools, developing inclusion. Routledge.

Al-Azawei, A., Serenelli, F., & Lundqvist, K. (2016). Universal Design for Learning (UDL): A content analysis of peer reviewed journals from 2012 to 2015. Journal of the Scholarship of Teaching and Learning, 16(3), 39–56. https://doi.org/10.14434/josotl.v16i3.19295

Almahdi, O., & Alghamdi, M. (2023). Emirati inclusive education policy and technology integration: A model for Arab countries. Education and Information Technologies, 28, 405–423. https://doi.org/10.1007/s10639-022-11041-8

Alquraini, T., & Gut, D. (2012). Critical components of successful inclusion of students with severe disabilities: Literature review. International Journal of Special Education, 27(1), 42–59.

Al-Zboon, E., & Smadi, J. (2022). Teachers' attitudes toward integrating assistive technology in inclusive classrooms in Jordan. Education and Information Technologies, 27(3), 3913–3931. https://doi.org/10.1007/s10639-021-10755-4

Burgstahler, S. (2015). Universal design in higher education: From principles to practice. Harvard Education Press.

Florian, L., & Black-Hawkins, K. (2011). Exploring inclusive pedagogy. British Educational Research Journal, 37(5), 813–828.

Gerlach, A. J., Matthiesen, A., Bulkeley, K., & Gibbs, K. (2023). Using technology to enhance services and supports for children and youth with disabilities and medical complexity and their families in Canada: A scoping review. Canadian Journal of Disability Studies, 12(2), 81–109. https://doi.org/10.15353/cjds.v12i2.1012

Inclusive Design Research Centre. (n.d.). Inclusive design for education and assistive technologies. OCAD University, Toronto.

Kaarakainen, M.-T., & Saikkonen, L. (2023). Remark on digital accessibility: Educational disparities define digital inclusion from adolescence onwards. Universal Access in the Information Society, 22, 1279–1292. https://doi.org/10.1007/s10209-022-00908-5

Kiljunen, J., Sointu, E., Äikäs, A., Valtonen, T., & Hirsto, L. (2024). Higher education and the flipped classroom approach: Efficacy for students with a history of learning disabilities. Higher Education, 88, 1127–1143. https://doi.org/10.1007/s10734-023-01162-1

King-Sears, M. E., & Evmenova, A. S. (2007). Premises, principles, and processes for integrating technology into instruction. Teaching Exceptional Children, 40(1), 6–14.

Kocdar, S., Karadeniz, A., Bozkurt, A., & Buyuk, K. (2021). Reflections on digital transformation in inclusive education during COVID-19: A global perspective. Educational Technology & Society, 24(2), 1–11.

Lamond, B., Mo, S., & Cunningham, T. (2023). Teachers' perceived usefulness of assistive technology in Ontario classrooms. Journal of Enabling Technologies, 17(1), 23–40. https://doi.org/10.1108/JET-05-2022-0040

Loreman, T. (2007). Seven pillars of support for inclusive education: Moving from "why?" to "how?". International Journal of Whole Schooling, 3(2), 22–38.

Marsden, L., Munn, L., Magee, L., Ferrinda, M., St. Pierre, J., & Third, A. (2025). Inclusive online learning in Australia: Barriers and enablers. Education and Information Technologies, 30, 5301–5330. https://doi.org/10.1007/s10639-024-13012-3

Massouti, A., Al-Rashaida, M., & Alhosani, M. (2024). A qualitative study on Dubai's inclusive education policy from school leaders' perspectives. Sustainability, 16(3), 1252. https://doi.org/10.3390/su16031252

Nelson, K., Walker-Gibbs, B., & Reynolds, R. (2021). Reimagining inclusive education through digital pedagogy: Insights from Australia and Canada. Australasian Journal of Educational Technology, 37(1), 19–32.

Plass, J. L., Homer, B. D., & Kinzer, C. K. (2015). Foundations of game-based learning. Educational Psychologist, 50(4), 258–283.

Pulkkinen, J., Räikkönen, E., Jahnukainen, M., & Pirttimaa, R. (2020). How do educational reforms change the share of students in special education? Trends in special education in Finland. European Educational Research Journal.

Roblyer, M. D., & Doering, A. H. (2013). Integrating educational technology into teaching (6th ed.). Pearson.

Saarinen, A. I. L., Lipsanen, J., Hintsanen, M., Huotilainen, M., & Keltikangas-Järvinen, L. (2021). The use of digital technologies at school and cognitive learning outcomes: A population-based study in Finland. International Journal of Educational Psychology, 10(1), 1–26. https://doi.org/10.17583/ijep.2021.4667

Seale, J. (2013). E-learning and disability in higher education: Accessibility research and practice. Routledge.

Sharma, S., Iivari, N., Ventä-Olkkonen, L., Hartikainen, H., & Kinnula, M. (2023). Inclusive child-centered AI: Employing design futuring for inclusive AI by and with children in Finland and India. arXiv Preprint.

Sharpe, S., & Young, G. (2023). Using Google Classroom as assistive technology in universally designed classrooms. Canadian Journal of Learning and Technology, 49(1), 1–17. https://doi.org/10.21432/cjlt28456

Spong, J., Iacono, T., Garcia-Melgar, A., Bagley, K., McKinstry, C., Hyett, N., & Arthur-Kelly, M. (2023). Toward the improvement of inclusive education for students with disabilities via online intervention: Feasibility randomized controlled trial in Australia. Journal of Research in Childhood Education, 37(4), 619–635. https://doi.org/10.1080/02568543.2023.2167025

Study on assistive technology in UAE special education context. Innovation for All: Unleashing the Power of Assistive Technology in Special Education in Arabic-Speaking Countries. ResearchGate.

Sustainable Inclusive Framework Studio for Inclusive Education—Perceptions of Teachers, Parents, and Students in UAE. Sustainability, 16(15), Article 6367.

UNESCO. (2009). Policy guidelines on inclusion in education. Paris: United Nations Educational, Scientific and Cultural Organization.

UNESCO. (2015). Information and communication technology (ICT) in education. Paris: UNESCO Institute for Statistics.

UNICEF Jordan. (2022). Inclusive Education Report: Status and Challenges in Jordan. [unicef.org]

UNICEF. (2021). The state of the world's children: On my mind – Promoting, protecting and caring for children's mental health. New York: United Nations Children's Fund.

Yonge, B., & Maich, K. (2024). A document analysis on the use of assistive technology in school-based instruction for children with specific learning disorders in Cameroon and Canada. Exceptionality Education International, 34(1). https://doi.org/10.5206/eei.v34i1.16705

Zaharah, H., Safiya, N., & Ismail, A. (2022). The role of technology in inclusive classrooms: An analytical review post-COVID. Journal of Education and Practice, 13(4), 47–55.

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https://doi.org/10.68792/008.01.2026

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