MANAGING DIGITAL LEARNING ENVIRONMENT FOR STUDENTS WITH SPECIAL NEEDS IN PUBLIC SCHOOLS IN RIVERS STATE NIGERIA

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Abstract

This paper investigated managing the digital learning environment for students with special needs in public schools in Rivers State, Nigeria. Students with special needs typically include individuals with physical disabilities such as mobility impairments or sensory impairments like blindness or deafness. Additionally, there are those with learning special needs, such as dyslexia or dyscalculia, which impact their ability to acquire, process, or express information effectively. School administrators must embrace a holistic approach to managing the digital learning environment for students with special needs by integrating these innovative strategies: universal design for learning (UDL), leveraging accessible technology and tools, individualized learning plans (ILPs), professional development of teachers, engaging parents and caregivers, and adopting culturally responsive practices. The researchers identified various policy frameworks for managing digital learning environments for students with special needs in secondary schools that will ensure that these environments are inclusive, accessible, and effective in meeting the diverse needs of all students. The study concluded that managing digital learning environments for students with special needs in Rivers State's public schools is both important and challenging. These digital tools can greatly help students with special needs by offering personalized and flexible learning options. However, there are many obstacles to overcome, such as a lack of proper equipment, limited internet access, and not enough trained teachers. The paper suggested, among others, that the government should ensure the availability of a range of assistive technologies and digital learning tools that cater to various disabilities.

Keywords: *Digital Learning Environment, Students with Special Needs, Universal Design for Learning (UDL), Engaging Parents and Caregivers and* Adopting Culturally Responsive Practices

Introduction

The evolution of technology in education and equitable access to learning opportunities for all students, including those with special needs, has made it imperative for school administrators to have a paradigm shift towards creating an inclusive digital learning environment in the school system. In secondary education in Nigeria, managing students with special needs presents a complex challenge that demands inclusive strategies (Ajayi, 2020). With the advent of digital learning environments, teaching and learning in secondary education has undergone a significant transformation, providing opportunities to the diverse needs of students, including those with special needs (UNESCO, 2021).

A digital learning environment (DLE) is a technological platform that facilitates education and training through digital means. It involves a variety of tools, strategies and resources designed to create an engaging, interactive, and flexible learning experience for students. These environments are used by educational institutions, businesses, and individuals to enhance traditional learning methods and provide innovative ways to access and engage with educational contents. The digital learning environment (DLE) has transformed education, offering unprecedented access to information, personalized learning experiences, and enhanced opportunities for collaboration. As technology evolves, DLEs have become essential in educational institutions worldwide, reshaping traditional educational paradigms and addressing a diverse array of learning needs.

In Nigeria, the National Policy on Education (NPE) emphasizes the importance of leveraging digital learning environments to enhance educational access, quality, and inclusivity (Federal Republic of Nigeria, 2013). The NPE recognizes the transformative potential of technology in addressing the diverse needs of learners, including those with special needs, and advocates for the integration of digital tools and resources into instructional practices (Federal Ministry of Education, 2013).

Students with special needs has to do with individuals with physical special needs, such as mobility impairments or sensory impairments like blindness or deafness. Additionally, there are those with learning special needs, such as dyslexia or dyscalculia, which impact their ability to acquire, process, or express information effectively. Developmental delays, ranging from mild to severe, affect cognitive, social, emotional, or physical development, while behavioral disorders, like attention-Deficit/Hyperactivity Disorder (ADHD) or autism spectrum disorder, can manifest in difficulties with attention, impulse control, or social interaction. Conversely, some students exhibit exceptional abilities and talents, falling under the category of giftedness.To effectively navigate this terrain, school administrators must embrace a holistic approach to manage digital learning environment for students with special needs by integrating these innovative strategies; universal design for learning (UDL), leveraging accessible technology and tools, individualized learning plans (ILPs), professional development of teachers, engaging parents and caregivers, and adopting culturally responsive practices (Rose & Meyer, 2002).

Universal Design for Learning (UDL) serves as a cornerstone for creating inclusive learning environments that accommodate the variability of all learners, including those with special needs (CAST, 2018). By providing multiple means of representation, expression, and engagement, educators can scaffold learning experiences that are accessible and meaningful for diverse student populations (Edyburn, 2010). For instance, utilizing multimedia resources, offering alternative assessments, and incorporating flexible instructional strategies can enhance the accessibility and effectiveness of digital learning platforms for students with special needs (Nevels & Gray, 2019).

Accessible technology and tools play a key role in facilitating equitable access to educational resources and promoting independent learning experiences for students with special needs (Hitchcock & Stahl, 2020). From screen readers and speech-to-text software to adaptive devices and assistive apps, integrating accessible technology enables students to overcome barriers and actively participate in digital learning activities (Edyburn, 2013). Moreover, ensuring compatibility and customization options allows for personalized learning experiences tailored to individual preferences and abilities (Jones & Higbee, 2010).

Professional development of teachers serves as a basis for building educators' capacity to effectively support students with special needs in digital learning environments (Desimone et al., 2019). By equipping teachers with evidence-based practices, technological competencies, and pedagogical strategies, professional development initiatives empower educators to differentiate instruction, leverage assistive technology, and design accessible learning materials (Cook & Friend, 2019). Ongoing training and mentorship opportunities further cultivate a culture of continuous improvement and innovation, ensuring that educators remain responsive to the evolving needs of diverse learners (Gable et al., 2019).

Parent and caregiver involvement is integral to supporting the holistic development and academic success of students with special needs in digital learning environments (Turnbull & Turnbull, 2012). By fostering open communication, collaboration, and partnership between educators and families, schools can create a supportive ecosystem that extends beyond the classroom walls (Harry & Klingner, 2007). Engaging parents and caregivers in the co-design of ILPs, providing resources and training on assistive technology, and soliciting feedback on digital learning initiatives empower families to actively participate in their child's educational journey and advocate for their unique needs (Epstein & Sheldon, 2016).

Culturally responsive practices emphasize the importance of honoring students' diverse cultural backgrounds, languages, and lived experiences in digital learning environments (Gay, 2018). By integrating culturally relevant content, perspectives, and instructional approaches, educators can promote equity, inclusion, and academic engagement among students with special needs (Ladson-Billings, 1995). Moreover, fostering culturally responsive pedagogy fosters a sense of belonging, affirmation, and cultural pride, empowering students to leverage their cultural assets as resources for learning and identity development (Milner, 2015).

In an ideal situation, public schools in Rivers State, Nigeria, should provide an inclusive and supportive digital learning environment that caters to the diverse needs of all students, including those with special needs. This ensures equitable access to education, enabling every student to achieve their full potential and contribute meaningfully to society. However, the reality is that many public schools in Rivers State are struggling to effectively manage digital learning environments for students with special needs. Despite the increasing integration of technology in education, these students often face significant barriers that hinder their ability to fully participate and benefit from digital learning opportunities.

Over time, various measures have been implemented to address this issue, including the provision of basic digital tools and occasional training sessions for educators. Additionally, some schools have attempted to use general educational software to support students with special needs, and there have been sporadic efforts to engage parents and caregivers in the learning process. Despite these efforts, the problem persists. Students with special needs continue to face challenges such as inadequate access to assistive technologies, a lack of customized learning materials, and insufficient training for educators in inclusive digital practices. These challenges not only prevent these students from accessing quality education but also worsen their existing difficulties, making it even harder for them to succeed academically.

The effects of this problem are significant. Students with special needs often experience lower academic performance and reduced engagement in the learning process. They may feel isolated and marginalized within the school community, leading to decreased self-esteem and motivation. These issues also impact their families, who may struggle to support their children's education in the absence of adequate resources and guidance. The lack of effective digital learning environments can hinder the overall educational development of these students, limiting their future opportunities and exacerbating social inequalities.

Although there have been efforts to improve digital learning environments for students with special needs, there is a gap in knowledge regarding the most effective approaches tailored to the specific context of public schools in Rivers State. While similar challenges have been addressed in other regions using various methods, there is a need for a comprehensive, context-specific strategy that considers the unique challenges and resources available in Rivers State. This paper specifically seeks to explore and identify the most effective strategies for managing digital learning environments for students with special needs in Rivers State Nigeria, to develop a policy framework that will help school administrators in managing and promoting digital learning environment with special needs students in public schools with the goal of providing a more equitable and inclusive education for all.

Policy Framework on Managing Digital Learning Environment for Students with Special Needs

A policy framework is a structured set of guidelines and principles that guide the development, implementation, and evaluation of policies in the school setting. Onyekwere and Chinedu (2020), defined policy framework as streamlining the objectives and actions of different government agencies and aligning them with the overall development agenda. Policy framework provides a basis for monitoring and evaluating the effectiveness of policies, ensuring accountability, and facilitating adjustments based on feedback and changing circumstances. For example, Nigeria's National Policy on Education serves as a comprehensive framework guiding all educational activities and reforms. It sets out the goals, strategies, and standards for achieving educational excellence and equity. In managing digital learning environments for students with special needs in secondary schools, this policy framework will ensure that these environments are inclusive, accessible, and effective in meeting the diverse needs of all students.

Managing digital learning environments for students with special needs requires the following;

a) Government agencies that are involve in the management of public schools should have a budgetary allocation for implementation and managing of digital learning environment of students with special needs.

b) School administrators should mobilize for other source of funding by involving other educational stakeholders.

c) There should be monitoring and accountability of funds management.

d) There should be a stakeholder's engagement strategies on the need for development of digital learning environment for students with special needs (Semenitari 2024)

e) A well constituted monitoring and evaluation boards in ministries of education to monitor and evaluate the programmes and curricula of the students with special needs in public secondary schools

f) There should be inclusive classrooms and infrastructure that provide tailored support and accommodation to meet the various student needs should be encouraged.

g) Teachers training programmes should emphasize inclusive pedagogies and strategies for supporting diverse learners needs both formal and virtually

h) School managers and policy makers should work in collaboration with other stakeholder in education in providing resources, support and in development of digital learning environment modules, equipment's for training teachers and teaching of the student with special needs

i) School administrators and teachers must advocate for the integration of digital learning platform in the curriculum for teaching of student with special needs in the secondary school to promote better learning outcomes and encouragement

j) There should be standardized framework for the curricular to ensure that all secondary schools to maintain a minimum level of quality both in the content and the digital learning environment platforms to suit these special needs

k) Government and school administrators in public schools should fund and encourage teachers to develop their psychological, emotional, social well, digital skills that will equip them for the challenges that are associated in the management of digital learning environment for student s with special needs

l) As stipulated in the National Policy on Education (2014) on inclusive education, Government should intentionally encourage the school administrators to implement inclusive education in their various schools to carter for the diverse needs of the student in our secondary school especially for those with special needs

m) Continuous research development should be encouraged in teaching methodologies and project that address imminent challenges, innovations and problem solving

Conceptual Clarifications

Digital Learning Environment

Digital learning environments have become increasingly prevalent in modern education, offering innovative ways to deliver instruction and support diverse learner needs. These environments encompass a wide range of digital tools, platforms, and resources that facilitate teaching and learning processes in both online and blended settings (Bates, 2019). At their core, digital learning environments aim to create interactive, engaging, and personalized learning experiences that transcend traditional classroom boundaries.

The concept of digital learning environments has evolved significantly over the past few decades, driven by advancements in technology and changing educational paradigms. According to Selwyn (2017), these environments are characterized by their ability to integrate various digital technologies, such as learning management systems, multimedia content, virtual simulations, and collaborative tools, to create comprehensive and dynamic learning spaces. These spaces are designed to support diverse learning styles, promote active engagement, and foster critical thinking and problem-solving skills.One of the key features of digital learning environments is their flexibility and accessibility. They allow learners to access educational content and resources anytime, anywhere, breaking down geographical and temporal barriers to education (Means et al., 2014). This aspect is particularly beneficial for students with special needs, as it enables them to learn at their own pace and in settings that accommodate their individual requirements.

Digital learning environments also facilitate personalized learning experiences. Through the use of adaptive technologies and data-driven insights, these environments can tailor content and instructional approaches to meet the unique needs and preferences of each learner (Holmes et al., 2018). This level of customization is especially valuable for students with special needs, as it allows for targeted interventions and support strategies. Moreover, digital learning environments promote collaboration and communication among students, teachers, and other stakeholders. They provide platforms for real-time interaction, peer-to-peer learning, and the creation of virtual learning communities (Garrison, 2017). These collaborative features can help students with special needs develop social skills and feel more connected to their peers and educators.

The integration of multimedia elements in digital learning environments enhances the learning experience by catering to different learning modalities. According to Mayer (2009), the combination of text, images, audio, and video can improve comprehension and retention of information, particularly for students with diverse learning needs. However, it is important to note that the effective implementation of digital learning environments requires careful planning, appropriate infrastructure, and ongoing support. Educators and administrators must consider factors such as digital literacy, accessibility, and equity to ensure that all students, including those with special needs, can fully benefit from these environments (Bulger, 2016).

Student with Special Needs

Students with special needs encompasses a diverse group of learners who require additional support, accommodations, or specialized educational services to access and participate fully in the learning process. These students may have physical, cognitive, emotional, or developmental disabilities that affect their ability to learn in traditional educational settings (Hallahan et al., 2019).The term "special needs" covers a wide spectrum of conditions, including but not limited to learning disabilities, autism spectrum disorders, intellectual

disabilities, physical impairments, sensory impairments, and emotional or behavioral disorders. Each of these conditions presents unique challenges and requires tailored approaches to education (Friend & Bursuck, 2018). Students with special needs often require individualized education plans (IEPs) that outline specific goals, accommodations, and support services tailored to their unique learning requirements. These plans are typically developed through collaboration between educators, parents, and specialists to ensure that the student's needs are comprehensively addressed (Gargiulo & Bouck, 2017). Accommodations for students with special needs can take various forms, depending on the individual's specific challenges. These may include modifications to curriculum, instructional methods, assessment procedures, and the physical learning environment. For instance, a student with visual impairment might require materials in Braille or large print, while a student with attention deficit hyperactivity disorder (ADHD) might benefit from extended time on assignments or frequent breaks (Mitchell & Sutherland, 2020).

It is crucial to recognize that students with special needs are not a homogeneous group. Each student has unique strengths, challenges, and learning styles that must be considered in designing effective educational interventions. This diversity underscores the importance of individualized approaches and the need for educators to be flexible and responsive to each student's needs (Rose et al., 2018).In Rivers State, Nigeria, supporting students with special needs presents unique challenges. These may include limited resources, inadequate infrastructure, insufficient trained personnel, and societal stigma associated with disabilities. Despite these challenges, there is growing recognition of the importance of inclusive education and the need to provide appropriate support for students with special needs (Obiakor et al., 2017).

Strategies for Managing Digital Learning Environment for Students with Special Needs

Universal Design for Learning (UDL)

Universal Design for Learning (UDL) is a notable strategy that can be effectively utilized to manage digital learning environments for students with special needs. UDL emphasizes creating flexible learning environments that accommodate individual learning differences and promote inclusivity. One of the core principles of UDL is providing multiple means of representation, which allows students to access information in various ways. For example, digital content can be presented through text, audio, video, or interactive graphics, enabling students to choose the format that best suits their learning preferences and needs (Meyer, Rose, & Gordon, 2014). This flexibility is particularly beneficial for students with disabilities who may require alternative formats to engage with the material effectively.

UDL also emphasizes the importance of multiple means of engagement, recognizing that students are motivated and engaged in different ways. In a digital learning environment, this can be achieved by offering a variety of interactive activities, gamified learning modules, and opportunities for collaborative learning. These elements help maintain student interest and motivation, particularly for those who may struggle with traditional teaching methods (Rao &Meo, 2016). Providing choices in learning activities and assessments can help students take ownership of their learning process and increase their engagement.

Leveraging Accessible Technology and Tools

Leveraging accessible technology and tools is another crucial strategy for managing digital learning environments for students with special needs. Accessible technology includes a range of digital tools and resources designed to remove barriers and provide equitable learning opportunities. These technologies cater to diverse learning styles and abilities, ensuring that all students can fully participate in educational activities.One significant category of accessible technology is assistive technology, which includes devices and software specifically designed to aid students with disabilities. For instance, screen readers such as JAWS and NVDA convert text to speech, enabling visually impaired students to access digital content (Hersh & Johnson, 2010). Additionally, text-to-speech programs like NaturalReader and Kurzweil 3000 assist students with reading difficulties, such as dyslexia, by reading text aloud, thus enhancing comprehension and retention (Edyburn,

2020). These tools provide alternative ways for students to engage with and process information, promoting greater accessibility and inclusivity in the digital learning environment.

Another essential component of accessible technology is the use of captioning and transcription tools. Captioning tools like Otter.ai and Amara automatically generate captions for videos, making them accessible to students with hearing impairments (Ellis, 2017). Transcription services can also be used to convert spoken lectures into text, benefiting students who are deaf or hard of hearing, as well as those who prefer to review material in a written format. These tools ensure that audio and video content is accessible to all students, regardless of their hearing abilities.In addition to these specialized tools, mainstream technologies also play a vital role in creating accessible digital learning environments. Features like voice recognition and dictation software, found in tools such as Google Docs and Microsoft Word, enable students with physical disabilities to write and communicate without the need for a keyboard (Guzman, 2020). Similarly, tools like Grammarly and Read&Write offer support for writing and reading, helping students with cognitive disabilities by providing features like text prediction, spell check, and reading assistance.

Professional Development of Teachers

Professional development is another pivotal strategy for managing digital learning environments for students with special needs. Professional development equips educators with the necessary skills and knowledge to effectively use technology and adopt inclusive teaching practices, ultimately fostering a supportive learning environment for all students.One critical aspect of professional development is training teachers to use assistive technologies. Teachers who are well-versed in tools such as screen readers, speech-to-text software, and educational apps tailored for students with disabilities can better support their diverse learners. For instance, a study by Alper and Raharinirina (2006) highlights that educators who received training in assistive technology were more confident and capable of integrating these tools into their teaching practices, leading to improved student outcomes. By understanding how to implement and utilize these technologies effectively, teachers can create more inclusive digital classrooms.

Professional development also involves training educators in the use of adaptive learning technologies. These technologies, such as personalized learning platforms and data-driven instructional tools, adjust to individual student needs and learning paces (Pane et al., 2017). Educators who are trained to use these technologies can better support students with special needs by providing tailored instruction that addresses their unique challenges and strengths. For example, professional development workshops that focus on using data analytics to track student progress and identify areas where additional support is needed can help teachers intervene more effectively and provide targeted assistance.

Engaging Parents and Caregivers

Engaging parents and caregivers is a vital strategy for managing digital learning environments for students with special needs. This involvement is crucial because it fosters a collaborative and supportive learning ecosystem that extends beyond the classroom, ensuring that students receive consistent support in their educational journey.One of the key ways to engage parents and caregivers is through regular and meaningful communication. Keeping parents informed about their child's progress, challenges, and achievements in the digital learning environment which helps them understand the educational goals and how they can support their child at home (Epstein, 2018). For instance, using digital platforms such as email, messaging apps, or learning management systems (LMS) like Google Classroom or Canvas, educators can share updates, provide feedback, and distribute resources that help parents stay involved in their child's learning process (Eynon & Malmberg, 2011). According to research by Hornby and Lafaele (2011), effective communication between educators and parents leads to better academic outcomes for students with special needs.

Another critical aspect of engaging parents and caregivers is offering them training and resources to navigate the digital learning tools their children are using. Providing tutorials, workshops, or webinars that cover

how to use specific technologies, such as assistive software or educational apps, empowers parents to support their children more effectively at home (Alonzo et al., 2018). For example, training sessions on how to use screen readers, speech-to-text tools, or other accessibility features can help parents assist their children in accessing and engaging with digital content. This not only enhances the learning experience for students with special needs but also builds parents' confidence in their ability to support their child's education.

Adopting Culturally Responsive Practices

Adopting culturally responsive practices is a crucial strategy for managing digital learning environments for students with special needs. These practices recognize and respect the diverse cultural backgrounds of students and incorporate culturally relevant content and pedagogy to create an inclusive and supportive learning environment.One fundamental aspect of culturally responsive practices is recognizing the importance of students' cultural identities in their learning process. By understanding and valuing students' cultural backgrounds, educators can create more meaningful and engaging learning experiences. For instance, incorporating culturally relevant examples, texts, and materials into the curriculum can help students see their own experiences reflected in the learning process, which can enhance their engagement and motivation (Gay, 2018). According to Ladson-Billings (1995), culturally responsive teaching goes beyond superficial inclusion of diverse content; it involves a deep understanding of the cultural contexts in which students live and learn.

Culturally responsive practices also involve addressing and challenging biases and stereotypes that may exist within the educational environment. This includes being mindful of the ways in which cultural biases can affect the assessment and treatment of students with special needs. For example, research has shown that students from minority backgrounds are often disproportionately represented in special education programs and may face biased assessments and lowered expectations (Skiba et al., 2008). Educators must critically examine their own biases and work to create equitable assessment and instructional practices that recognize the strengths and potential of all students, regardless of their cultural background.

Conclusion

Managing digital learning environments for students with special needs in Rivers State's public schools is both important and challenging. These digital tools can greatly help students with special needs by offering personalized and flexible learning options. However, there are many obstacles to overcome, such as lack of proper equipment, limited internet access, and not enough trained teachers.To make progress, Rivers State needs to focus on; improving school technology, training teachers better, getting more support from the government and changing negative attitudes about disabilities. While it won't be easy, creating good digital learning environments for students with special needs is crucial. It can help these students learn better, feel more included, and have more opportunities in life. By working together, schools, families, and the government can make education better for all students in Rivers State, including those with special needs.

Suggestions

1. Ministry of Education should develop and fund training programmes focused on digital literacy, inclusive teaching practices, and the use of assistive technologies. Training should cover Universal Design for Learning (UDL) principles, culturally responsive practices, and effective strategies for engaging students with diverse needs.

2. Government should ensure the availability of a range of assistive technologies and digital learning tools that cater to various disabilities. This includes screen readers, speech-to-text software, adaptive learning platforms, and other specialized educational applications.

3. Curriculum developers should create a digital curriculum that incorporates UDL principles and is adaptable to accommodate the diverse needs of students with special needs.

4. School administrators should foster strong partnerships with parents and caregivers by offering training on digital tools, providing regular updates on student progress, and involving them in decision-making processes related to their child's education.

5. School administrators should encourage educators to adopt teaching methods that reflect the cultural backgrounds and experiences of their students.

6. Government should regularly assess the impact of digital learning initiatives on students with special needs by collecting data on their academic progress, engagement, and overall well-being.

7. Stakeholders in educational system shoulddevelop school policies that promote inclusivity and equity for students with special needs. This includes anti-discrimination policies, guidelines for inclusive teaching practices, and protocols for the use of assistive technologies.

References

Ajayi, L. (2020). Inclusion in education: the Nigerian experience. *International Journal of Educational Policy Research and Review, 7*(3), 38-43.

Alabi, A. T., & Adejumo, G. O. (2019). Digital revolution in Nigerian educational system: prospects and challenges. *Journal of Education and Practice, 10*(2), 92-97.

Alonzo, A. C., Anderson, A. A., & Wade, R. K. (2018). Supporting parents' involvement in their children's learning. *Educational Psychology, 38*(3),263-282.

Alper, S., & Raharinirina, S. (2006). Assistive technology for individuals with disabilities: A review and synthesis of the literature. *Journal of Special Education Technology, 21*(2),47-64.

Baker, S., Gersten, R., & Lee, D. (2018). A synthesis of empirical research on teaching mathematics to lowachieving students. *Elementary School Journal, 118*(3), 351-376.

Banks, J. A., & Banks, C. A. M. (2016). *Multicultural Education: Issues and Perspectives.* Wiley Press

Bates, A. W. (2019). *Teaching in a digital age: guidelines for designing teaching and learning (2nd ed.).* Tony Bates Associates.

Bulger, M. (2016). *Personalized learning: The conversations we're not having. data & society* Research

Institute.

CAST. (2018). *About universal design for learning.* http://www.cast.org/our-work/about-udl.html

Cook, L., & Friend, M. (2019). *Co-Teaching: creating effective classroom instructional partnerships* (3rd ed.). Pearson.

Darling-Hammond, L., Hyler, M. E., & Gardner, M. (2017). *Effective teacher professional development.* Palo Learning Policy Institute.

Desimone, L. M., Smith, T. M., & Frisvold, D. E. (2019). Investigating the relationship between teacher professional development and student achievement in mathematics. *Journal of Teacher Education, 70*(2), 183-195.

Edyburn, D. L. (2010). Would you recognize universal design for learning if you saw it? Ten propositions for new directions for the second decade of UDL. *Learning Disability Quarterly, 33*(1), 33-41.

Edyburn, D. L. (2020). Assistive technology and students with learning disabilities. *Learning Disability Quarterly, 43*(3), 143-153.

Ellis, K. (2017). *Disability and digital television cultures: representation, access, and reception.* Routledge.

Epstein, J. L. (2018). *School, family, and community partnerships: Your handbook for action. thousand oaks.* Corwin Press.

Epstein, J. L., & Sheldon, S. B. (2016). Improving family engagement: The organizational context and its influence on partnering with parents to promote student success. *The School Community Journal, 26*(2), 25-46.

Eynon, R., & Malmberg, L. E. (2011). A typology of parental engagement in education. British *Journal of Educational Technology, 42*(6), 1046-1060.

Eze, J., & Eya, L. O. (2018). Digital literacy skills for Nigerian educators in the 21st century. *International Journal of Education and Practice, 6*(2), 46-52.

Federal Ministry of Education. (2013). *National policy on education (*Rev. ed.). NERDC Press.

Fish, W. W. (2008). The IEP meeting: Perceptions of parents of students who receive special education services. Preventing school failure: *Alternative Education for Children and Youth, 53*(1), 8-14.

Gable, R. A., Quinn, M. M., Rutherford, R. B., & Howell, J. S. (2019). *Teaching in the Inclusive Classroom: universal design for learning (2nd ed.).* Guilford Press.

Garrison, D. R. (2017). *E-Learning in the 21st century: A community of inquiry framework for research and practice (3rd ed.).* Routledge.

Gay, G. (2018). *Culturally Responsive Teaching: Theory, Research, and Practice* (3rd ed.). Teachers College Press.

Gee, J. P. (2007). *Good video games + good learning: collected essays on video games, learning, and literacy.* Peter Lang.

Griffin, C. C., & Griffin, L. W. (2019). *Teaching students with special needs in inclusive settings (7th ed.).* Pearson.

Guzman, L. (2020). Leveraging assistive technology in education: Benefits and challenges. *Educational Technology Research and Development, 68*(4), 1737-1753.

Harry, B., & Klingner, J. (2007). Discarding the deficit model. *Educational Leadership, 64*(5), 16-21.

Hersh, M., & Johnson, M. A. (2010). *Assistive technology for visually impaired and blind people.* Springer Press

Hitchcock, C., & Stahl, S. A. (2020). *Assistive Technology for Students with Mild Disabilities: A Changing Landscape*. Routledge.

Holmes, W., Anastopoulou, S., Schaumburg, H., & Mavrikis, M. (2018). *Technology-enhanced Personalised Learning: Untangling the Evidence*. Robert Bosch Stiftung GmbH.

Hoover-Dempsey, K. V., Walker, J. M. T., Sandler, H. M., Whetsel, D., Green, C. L., Wilkins, A. S., & Closson, K. (2005). Why do parents become involved? Research findings and implications. *The Elementary School Journal, 106*(2), 105-130.

Hornby, G., & Lafaele, R. (2011). Barriers to parental involvement in education: An explanatory model. *Educational Review, 63*(1), 37-52.

Howard, T. C. (2003). Culturally relevant pedagogy: Ingredients for critical teacher reflection. *Theory Into Practice, 42*(3), 195-202.

Hwang, G. J., & Tsai, C. C. (2011). Research trends in mobile and ubiquitous learning: A review of publications in selected journals from 2001 to 2010. *British Journal of Educational Technology, 42*(4), 65-70.

Jones, B. D., & Higbee, J. L. (2010). Using universal design to meet students' needs. Change: *The Magazine of Higher Learning, 42*(2), 18-24.

Kim, S. Y., & Bryan, J. (2017). Exploring the relationship between parental involvement and academic achievement of African American students in urban schools. *Journal of Educational Research and Practice, 7*(1), 15-22.

Kluger, A. N., & DeNisi, A. (1996). The effects of feedback interventions on performance: A historical review, a meta-analysis, and a preliminary feedback intervention theory. *Psychological Bulletin, 119*(2), 254284.

Ladson-Billings, G. (1995). But that's just good teaching! The case for culturally relevant pedagogy. *Theory into Practice, 34*(3), 159-165.

Mayer, R. E. (2009). *Multimedia learning* (2nd ed.). Cambridge University Press.

Meyer, A., Rose, D. H., & Gordon, D. (2014). *Universal design for learning: Theory and practice*. CAST Professional Publishing.

Milner, H. R. (2015). *Start where you are, but don't stay there: Understanding diversity, opportunity gaps, and teaching in today's classrooms*. Harvard Education Press.

Nevels, R. A., & Gray, A. L. (2019). Using multimedia learning modules to support students with disabilities in postsecondary education. *Journal of Postsecondary Education and Disability, 32*(1), 5-20.

Nieto, S. (2010). *The light in their eyes: creating multicultural learning communities (10th Anniversary ed*.). Teachers College Press.

Omotayo, A. (2019). Accessibility and universal design in Nigerian higher education institutions: A Case Study of Obafemi Awolowo University. *Journal of Education and Practice, 10(*7), 31-38.

Onyekwere, C. & Chinedu, A. (2020). Policy formulation and implementation in Nigeria: An overview. *Journal of Public Administration and Policy Research, 12*(3), 45-60.

Paris, D., & Alim, H. S. (2017). *Culturally sustaining pedagogies: teaching and learning for justice in a changing world*. Teachers College Press.

Parsons, S., & Mitchell, P. (2002). The potential of virtual reality in social skills training for people with autistic spectrum disorders. *Journal of Intellectual Disability Research, 46*(5), 430-443.

Pittman, C. N., & Gaines, C. B. (2021). Enhancing accessibility in online learning environments. *Journal of Educational Technology Systems, 49*(4), 467-486.

Rao, K., & Meo, G. (2016). Using Universal Design for Learning to design standards-based lessons. *SAGE Open, 6*(4), 1-12.

Rose, D. H., & Meyer, A. (2002). Teaching every student in the digital age: Universal design for learning. Association for Supervision and Curriculum Development (ASCD).

Sánchez, J., Salinas, J., Mora, C. E., Pascual, P., & López, A. M. (2012). Virtual environments for social skills training: The relevance of contextual cues. *Computers & Education, 59*(3), 821-833.

Scruggs, T. E., & Mastropieri, M. A. (2013). The effectiveness of peer tutoring interventions for students with disabilities: A meta-analysis. *Learning Disability Quarterly, 36*(2), 74-88.

Selwyn, N. (2017). Education and Technology: Key Issues and Debates (2nd ed.). Bloomsbury Academic.

Skiba, R. J., Poloni-Staudinger, L., Gallini, S., Simmons, A. B., & Feggins-Azziz, R. (2008). Disparate access: *The disproportionality of African American students with disabilities across educational settings. exceptional Children,74*(4), 411-424.

https://doi.org/10.1177/001440290807400403](https://doi.org/10.1177/001440290807400403)

Stoner, J. B., Bock, S. J., Thompson, J. R., Angell, M. E., Heyl, B. S., & Crowley, E. P. (2005). Welcome to our world: Parent perceptions of interactions between parents of young children with ASD and educational professionals. Focus on Autism and Other Developmental Disabilities, 20(1), 39-51.

Turnbull, A. P., & Turnbull, R. (2012). *Families, Professionals, and Exceptionality: Positive outcomes through partnerships and trust* (6th ed.). Pearson.

UNESCO. (2021). *Education in the digital age: policy dialogue series.*

https://en.unesco.org/themes/education-digital-age/dialogue-series

Villegas, A. M., & Lucas, T. (2002). Preparing culturally responsive teachers: Rethinking the curriculum.

Journal of Teacher Education, 53(1), 20-32.

[https://doi.org/10.1177/0022487102053001003](https://doi.org/10.1177/002248710205300100)

Zirkel, P. A. (2018). Peer-mediated instruction and intervention: An update. *Intervention in School and Clinic, 54*(4), 207-211.