https://doi.org/10.68071/drpkbeyr

ORIGINAL RESEARCH
Kakanchi Multidisciplinary Journal of COEASU
Vol. 1, Issue 1, 1-08, July 2026
OPEN ACCESS
E-ISSN 3156-397X

Digital Play and Media Use in Early Childhood Education: Challenges and Strategies for Nursery Schools in Adavi, Kogi State

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Highlights:
Emphasizes on the benefits of digital play such as increased engagement, creativity, language development, and cultural awareness.

Risks include excessive screen time, reduced physical activity, limited social interaction and effective integration requires teacher training and use of open-ended, interactive digital tools.

Recommends digital play complements traditional hands-on play for holistic development.

Received date: 7 May 2026
Revised date: 13 June 2026
Accepted date: 20 July 2026

Citation: Dele, O.A. (2026). Digital Play and Media Use in Early Childhood Education: Challenges and Strategies for Nursery Schools in Adavi, Kogi State. 1(01),1-08.

Abstract: The rapid integration of digital technologies into daily life has reshaped how young children engage with their environment. Early childhood, a critical period for cognitive, emotional, and social development, is now significantly influenced by digital play, media, and interactive technologies. This shift has blurred the boundaries between traditional play and digital play, presenting both opportunities and challenges for educators, parents, and researchers. This paper examines the role of digital play in nursery education and its implications for learning and development. Digital play, including video games, educational apps, and interactive media, provides opportunities for creativity, problem-solving, engagement, and personalized learning. Media consumption through educational television and digital platforms also broadens children's exposure to diverse content, supporting cultural awareness, language acquisition, and emotional intelligence. However, technology integration raises concerns about excessive screen time, reduced physical activity, diminished social interaction, and exposure to inappropriate content, which may affect developmental outcomes. The study discusses both benefits and challenges of digital play in early childhood settings. It concludes that intentional use of digital play fosters engagement, 21st century skills, and access to learning. To address challenges, the paper recommends training teachers in digital systems, prioritizing quality and interactivity over quantity of screen time, and using digital tools that are open-ended, creative, and responsive to child input. The paper advocates a balanced approach where technology complements rather than replaces traditional hands-on play, and calls for age-appropriate digital content guided by caregivers and educators.

Keywords: Digital play, Media use, Early childhood Education, Challenges and Strategies

Introduction

In an increasingly digitized world, the integration of technology in education is becoming vital to enhance teaching and learning practices. Digitalization of educational contents play crucial roles in transforming Nigeria's educational system, enhancing learning outcomes, and inciting young learners in the classroom. In recent years, digital play, media, and technology have become integral parts of early childhood experiences. As digital devices such as tablets, smartphones, and interactive screens become more prevalent, they are reshaping the way young children engage with the world around them. From educational apps and games to online videos and interactive learning platforms, children's exposure to digital media is increasing at an unprecedented rate. In Early Childhood Care and Education (ECCE), play is recognized not as a luxury or a diversion, but as a pedagogical tool. It is the primary medium through which children aged 0 to 8 years acquire knowledge, develop skills, and form their identity. In an ECCE setting, play is intentional. Educators design environments that encourage "Guided

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Play," where the child leads the activity, but the environment is carefully curated to meet specific learning objectives. The influence of digital play among nursery school children in Adavi, Kogi State is a complex and multifaceted topic. On one hand, digital media can provide enriching opportunities for learning and cognitive development. Educational games and apps can help children enhance literacy, numeracy, and problem-solving skills, while interactive videos and online content can foster creativity, social interaction, and curiosity. On the other hand, there are concerns about excessive screen time, potential impacts on attention spans, and the role of digital media in shaping children's social and emotional development.

Digital play refers to any form of play that involves the use of digital technologies such as games, applications, and multimedia tools. Unlike traditional play, which generally involves physical objects, digital play allows children to engage with virtual environments and media. Digital play can foster creativity, problem-solving skills, and even early literacy. According to Dancsa (2023), digital play provides and actively engages young learners with skills that can improve their problem-solving and critical thinking abilities. As the use of technology continues to evolve, it is essential for parents, educators, and caregivers to navigate the potential benefits and risks associated with digital media. Understanding how children engage with digital play and its impact on their development can guide the creation of balanced approaches that foster healthy digital habits while promoting well-rounded growth. This exploration into digital play, media, and technology in nursery school children aims to delve into the opportunities and challenges that come with the integration of technology in the early years, offering insights into how it can be leveraged for positive developmental outcomes.

However, the quality and type of digital play matter. Interactive activities that involve active engagement are more beneficial than passive consumption, such as watching television or videos. Research has suggested that interactive digital experiences promote better developmental outcomes, especially when guided by educators or caregivers (Zhao, 2014). The significance of this research lies in its potential to address the growing concerns regarding the role of digital media and technology in the lives of young children. As screen time continues to increase in nursery school settings, understanding the impact of digital play on various developmental domains is critical. This study seeks to provide clarity on the complexities of how digital media influences cognitive, social, emotional, and physical development during a formative period of a child's life.

As digital media and technology continue to permeate daily life, there is growing concern about their impact on Nursery school children development. While digital play, media, and technology offer new opportunities for educational enrichment and engagement, there is a lack of consensus on how much screen time is appropriate, what types of content are beneficial, and how digital interactions influence a child's cognitive, social, emotional, and physical development. The problem lies in the balance between harnessing the potential of technology for positive developmental outcomes and mitigating the risks associated with excessive screen time, poor-quality content, and reduced face-to-face interaction. For example: Educational apps boost Cognitive and Academic Development (CAD) in child’s early literacy, numeracy, and problem-solving skills (Neumann, 2018). Studies by Doron (2017) and Guellai (2022) debated whether screen time directly affects thinking skills in

young children. Most studies can only show a link, not a cause-and-effect relationship. This is because it's difficult to do experiments where some children watch screens and others don't. Screen media use may have both beneficial and detrimental effects on a child's holistic development, which takes into cognizance cognitive, psychomotor, socio-emotional, mental, and even physical development.

Also, early childhood is a critical period for social-emotional development, the increased use of digital devices may affect children's social skills, as face-to-face interaction with peers and caregivers while often limited (Radesky, Silverstein, Zuckerman, and Cristakis, (2014). The physical health and well-being of the children is paramount concerned when discussing digital play. The rise in sedentary screen time is linked to concerns about physical health, including childhood obesity, eye strain, and disrupted sleep patterns (Twenge and Campbell, 2018). There is a lack of clear, universally accepted guidelines for digital media usage in early childhood. Parents, caregivers, and educators often find themselves uncertain about how much screen time is appropriate, how to curate content, and how to balance digital play with traditional forms of play that are known to support healthy child development.

Concept of Digital Play, Media and Technology in Nursery Education

Digital play, media, and technology have become increasingly integrated into early childhood education and development in recent years. As digital devices, such as tablets, smartphones, and computers, become more accessible, young children are engaging with media and technology in diverse and profound ways. This digital interaction influences their cognitive, social, and emotional development, and shapes the way they interact with the world around them. Digital play refers to any form of play that involves the use of digital technologies such as games, applications, and multimedia tools. Unlike traditional play, which generally involves physical objects, digital play allows children to engage with virtual environments and media. Digital play foster's creativity, problem-solving skills, and even early literacy. For instance, many educational apps are designed to encourage children to learn numbers, letters, and even basic coding skills through play.

Media in childhood education refers to digital content and tools used to support learning and engagement, such as educational videos and animations, interactive e-books and digital stories, online resources and learning platforms, child-created media projects (e.g., digital arts, podcasts). Technology refers to digital tools and devices that support learning and teaching, such as:

- tablets and smartphones
- interactive whiteboards and displays
- educational software and apps
- digital cameras and audio recorder.

Furthermore, technology offers children the opportunity to connect with peers, whether through collaborative games or social platforms designed for young children. These social interactions—albeit virtual—can aid in developing important social skills such as communication, empathy, and teamwork (Parker, 2013).

The integration of digital media and technology into early childhood environments has rapidly expanded over the past decade, raising important questions about its potential benefits and risks. While the use of technology offers many exciting opportunities for enhancing children's cognitive, social-emotional, and physical development, it also presents challenges that must be addressed thoughtfully. In this discussion, we will

https://doi.org/10.68071/drpkbeyr

reflect on the key findings of the study, relate them to existing literature, and explore the implications for practice and policy.

Educational Benefits of Digital Play and Media Use in Early Childhood Education

The study revealed that educational digital content, such as interactive apps and games, positively influences children's cognitive development. According to Radesky (2020), digital media can improve early literacy, numeracy, fostering creativity, developing decision-making skills, and problem-solving skills. Children who engages with age-appropriate, educational apps showed improvements in recognizing letters, numbers, and basic shapes, suggesting that interactive digital media can serve as effective supplementary tools in early education. Neumann (2018) specifically researched on the benefits of digital play and media use, which are presented as follows:

1. **Enhanced Cognitive and Academic Development**: Educational apps and interactive games help build early literacy, numeracy, letter/number recognition, and problem-solving skills. Active digital play that involves making choices and solving puzzles is especially beneficial for cognitive growth.

2. **Improved Creativity and Decision-Making Skills**: Digital play exposes children to virtual environments where they can experiment, create, and make decisions. Research cited in your work shows it can foster creativity and decision-making skills.

3. **Language Acquisition and Communication Skills**: Educational videos, interactive e-books, and digital stories broaden children's exposure to language and storytelling. When guided by adults, digital media can support language development.

4. **Social Interaction and Teamwork Opportunities**: Technology allows children to connect with peers through collaborative games and child-friendly platforms. These virtual interactions can help develop communication, empathy, and teamwork skills.

5. **Accessibility and Engagement in Learning**: Digital play makes learning more engaging and accessible. Tablets, educational software, and interactive media can present concepts in visual and interactive ways that capture nursery children's attention and keep them motivated to learn.

Challenges of Digital Play and Media Use in Early Childhood Education

Balancing Screen Time and Traditional Play: One of the most prominent challenges is finding a balance between screen time and other forms of play that are essential for young children's development. Traditional, hands-on play (such as outdoor activities, imaginative play, or creative building with toys) supports motor skill development, social interactions, and cognitive flexibility. However, digital devices often provide highly engaging experiences that can quickly consume children's time, potentially displacing important forms of physical activity and face-to-face socialization.

Quality and Age-Appropriateness: The quality and age range should be appropriate for children, high-quality digital content. With the explosion of educational apps, games, and videos available online, it can be overwhelming for parents and educators to choose resources that align with children's developmental needs. Not all content is designed with educational goals in mind, and

much of the media children are exposed to especially on platforms like YouTube may be either too advanced for their developmental stage or lacking in meaningful educational value.

Overexposure to Screen Time: Excessive screen time remains a significant concern for children's health and development. Research has shown that overexposure to screens, particularly before bedtime, can lead to sleep disturbances, eye strain, and difficulties with attention (Radesky, 2020). Moreover, excessive screen time has been linked to an increased risk of childhood obesity due to reduced physical activity. The sedentary nature of screen-based activities can contribute to long-term health issues.

Social and Emotional Development Concerns: Digital media consumption can have negative effects on children's social and emotional development. Young children rely on face-to-face interactions with caregivers and peers to develop essential social skills, such as empathy, communication, and emotional regulation. However, extended screen time may reduce opportunities for meaningful social interaction and limit emotional growth. When children engage with digital content, they may miss out on learning how to read social cues, share experiences, or handle conflict in person.

Parental Control and Monitoring: Parents face significant challenges in monitoring and regulating what their children access online. The wide variety of digital platforms ranging from video games to social media and streaming services can make it difficult for parents to keep track of the content children are exposed to. Even with parental control tools, children often find ways around restrictions, leading to concerns about inappropriate content or excessive screen time.

Teacher Training and Professional Development: Many teachers may lack the necessary training or resources to effectively use digital tools in the classroom. Professional development in technology integration is often limited, and teachers may not be fully aware of how to use technology in a way that enhances learning without over-relying on it.

Innovative Strategies to Overcoming the Challenges

Implement a Digital-Traditional Play Timetable in nursery schools: Schools and parents can adopt a daily schedule e.g., 30 minutes guided digital play, followed by 60 minutes outdoor/hand-on play. This ensures digital tools complement, not replace, motor skills and social play.

Create a vetted list of approved educational apps/games for nursery level: School management and ECCE teachers can curate 10-15 age-appropriate, interactive apps that focus on literacy, numeracy, and problem-solving. Prioritize quality and interactivity over quantity as suggested in the abstract.

Enforce No Screens 1 Hour before Bedtime and movement breaks: Parents and teachers should set device time limits and include 5-minute movement/stretch breaks during digital activities to reduce eye strain, sleep disturbance, and sedentary behaviour linked to obesity.

Use Co-engaged Digital Play with caregivers/teachers present: Instead of solo screen time, adults should guide children during digital play, asking questions and linking it to real-life

interaction. This preserves opportunities to read social cues and practice empathy.

Monthly Parent-Teacher Digital Literacy Workshops: Schools can run short trainings on using parental controls, identifying age-appropriate content, and understanding online risks. This addresses the gap where many parents may lack the digital literacy needed.

Conclusion(s)

Digital play is now a defining feature of 21st-century early childhood, but its value in ECCE depends on how it's used, not just whether it's used. Research from Hirsh-Pasek. 2015, Linebarger & Vaala 2014, and the The American Academy of Pediatrics (AAP) 2016 shows that interactive, co-engaged digital play can support language, creativity, and problem-solving when it is active, meaningful, socially interactive, and guided by adults. Passive, non-contingent screen time, by contrast, is linked to reduced language input, displaced sleep and physical activity, and weaker self-regulation. The consensus across ECCE literature is that technology should complement, not replace, hands-on play, outdoor time, and responsive adult-child interaction. Frameworks like the "4 pillars" and the Encyclopedia on Early Childhood Development entry on digital play emphasize that educators play a critical role in selecting high-quality apps, scaffolding play, and mediating children's experiences.

Recommendations

School management should ensure to train teachers adequately in digital and Technology Systems needed for professional development. Schools should choose apps where priority will be placed on quality, interactivity and open-ended tools, which will enable children to make choices, solve puzzles, and to create relevant educational contents. The Ministry of Education and school management should provide simple screen-time and content guidelines tailored for nursery schools in Nigeria. This will address the challenge that there is a lack of clear, universally accepted guidelines

Teachers should promote intentional and mindful integration of digital tools early learning with developmentally appropriate digital contents that gear towards specific learning objectives, like in guided play.

Acknowledgements: The authors acknowledge the institutional support provided by Federal College of Education (FCE) Okene. The research infrastructure and academic environment facilitated the successful execution and completion of this study.

Funding Statement: This work was supported by personal effort.

Data Availability: The analyzed data are included within the article.

Declaration: The authors declare no potential conflicts of interest, financial or otherwise, that could be perceived as influencing the objectivity or integrity of the research presented herein.

Disclosure: The AI-assisted visual output has been verified, with the authors taking final responsibility for the intellectual content.

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