CHALLENGES TO THE INTEGRATION OF DIGITAL TOOLS IN TEACHING AND LEARNING AT FCT COLLEGE OF EDUCATION, ZUBA-ABUJA

Abubakar Usman Zuba
Department of Hausa, FCT College of Education, Zuba-Abuja
&

Anyebe Monday Obaje
Directorate of General Studies in Education, FCT College of Education, Zuba-Abuja

Abstract
This paper, "Challenges to the Proper Integration of Digital Tools in Teaching and Learning in FCT College of Education, Zuba-Abuja," examines the role of digital tools in education and the associated challenges. The study re-echoes the transformative shift in educational practices worldwide, with a specific focus on the FCT College of Education, Zuba-Abuja. It investigates the impact of digital tools on teaching and learning, highlighting their benefits, challenges, and strategies for effective adoption. Identified challenges include inadequate infrastructure, low levels of digital literacy, resistance to change, cost constraints, and policy as well as implementation gaps. Conversely, strategies for effective integration include improving ICT infrastructure, building staff capacity, providing affordable internet facilities, and strengthening institutional networks. The paper adopts a review approach to analyze current practices and trends in the application of digital tools at the FCT College of Education, Zuba-Abuja. Findings provide insights into the availability, significance, and challenges of digital tools in enhancing teaching and learning.
Keywords: Challenges, Digital Tools, Teaching and Learning

Introduction

The evolution and adoption of technological approaches in managing all aspects of human life are so significant that nobody can live meaningfully without acknowledging and referencing them. It has become important for effective and efficient planning, coordinating, directing, controlling, and managing all activities of man at all levels of society, as observed by Ajayi, A. O. (2019). Technology is a broad concept that includes all tools, systems, and methods developed to solve problems or improve human life. Based on this development, it is now a necessity for schools to take the lead in the application of technology in society, and it is impossible for the teachers/facilitators of learning to champion it without proper usage. In line with the above concern, it became a necessity to integrate digital tools in teaching and learning in colleges of education in Nigeria, even in the face of several challenges, which can be categorized into infrastructural, human resource, policy, and societal barriers. FCT College of Education, Zuba, was founded in the year 1997. The college took off on the site of the defunct Government Teachers College Zuba, which had to be upgraded to a college of education with the abrogation of the Teachers' Grade II Colleges. Apart from the first reason, the need to train medium-level manpower for teaching in primary and junior secondary schools informed the establishment of the College, with vision "To put in place a conducive learning environment characterized by adequate human, material and infrastructural facilities that will not only facilitate the realization of its mission statement, but also ensure that the output from the system are equipped with the necessary skills and knowledge to compete favourably with their counterparts from other parts of the federation without compromising quality and standard", and mission "To provide the teacher requirements for both the primary and post primary schools within the Federal Capital Territory and its environs". Colleges of Education in the Federal Capital Territory (FCT), Abuja, play a fundamental role in sh

aping the quality of basic and secondary education by training competent and qualified teachers Their key roles include

Conceptual Clarifications

Digital Tools in Education

Digital tools are software, applications, and technologies that facilitate digital interaction, creati on, and communication. These tools leverage digital technology to enhance various activities, s treamline processes, and improve productivity across different domains. (Sanchez et al. 2011). They have transformed education worldwide, including in Nigeria, by enhancing teaching and l earning through technology-driven solutions. In Nigeria, these tools help address challenges su ch as large class sizes, limited resources, and the need for flexible learning environments. Howe ver, their adoption is still limited due to infrastructural, attitudinal, professional, and policy cons traints. Brown & Green (2017) presented digital tools as tools that play transformative roles in e ducation by enhancing teaching and learning experiences. However, their integration faces seve ral challenges that educators and institutions must navigate. Below is an overview of digital tool s in education and the factors affecting their integration.

Types of Digital Tools Used in Education

A. Learning Management Systems (LMS): These platforms facilitate online learning, conten t delivery, and assessment (Oladipo, 2020). Examples include Google Classroom (Used by teac hers and students for content sharing and assignments), Moodle (an open-source platform for o nline courses), Canvas (A widely used LMS in higher education)

B. Communication & Collaboration Tools: These tools support virtual learning, meetings, an d student collaboration. Examples are Zoom, Google Meet, and Microsoft Teams (these are use d for online lectures and virtual discussions) and WhatsApp and Telegram (popular for informal learning and communication between students and lecturers). **C. Digital Assessment Tools:** Platforms that help conduct online tests and provide instant feedback; exam ples include Google Forms (used for quizzes, surveys, and assessments), Kahoot!, Quizlet (gamified learning tools for quizzes), and Edmodo (helps track students' progress and conduct assessments; Clark & Mayer, 2017). **D. Digital Libraries & Open Educational Resources (OERs):** These provide access to textbooks, journals, and acade mic materials, like the National Open University of Nigeria (NOUN) (Digital Library), JSTOR, ResearchGate, and Google Scholar. They provide access to research articles and journals.

E. Multimedia & Content Creation To ols: These tools help teachers create interactive lessons: Canva, Prezi (for visually appealing pr esentations), YouTube, Khan Academy (video-based educational resources), and Screencast-O-Matic (for recording and sharing lectures).

Videos can be put together to explain complex topics with visuals, animations, and real-world e xamples. For instance, a physics teacher plays a simulation video to illustrate Newton's laws. T his can help to improve comprehension, especially for visual and auditory learners.

BENEFITS OF DIGITAL TOOLS IN NIGERIAN EDUCATION

i. **Improved Accessibility:** Enables remote learning, bridging educational gaps. ii.**E nhanced Engagement:** Interactive tools make learning more engaging. iii. **Efficient Assessment & Feedback:** Digital grading tools save time. iv**. Co llaboration & Flexibility:** Supports blended learning and teamwork. v**. Lifelon g Learning Opportunities:** Promotes self-paced learning through MOOCs and online course s.

Challenges of Using Digital Tools in Nigeria

i. **Poor Infrastructure:** There is a lack of adequate technological resources and systems need ed to effectively support teaching and learning in a digital environment. Adewole, (2018) p osited that this issue of poor digital infrastructure is especially prevalent in many developin g countries can significantly hinder the integration of digital tools in education. Mostly, the institutional based issues are unstable electricity, devices such as computers, tablets, project ors and internet connectivity. In some cases, infrastructure may be available; however, the a bsence of IT personnel to maintain equipment, address technical challenges, and support tea chers in the effective integration of technology constitutes an additional dimension of the pr oblem.

ii. **Limited Digital Literacy:** This is one of the major barriers to effective integration of techn ology in education. According to DeSanctis (2019), digital literacy refers to the lack of skill s, knowledge, and confidence required to use digital tools and platforms effectively for lear ning, teaching, and administrative tasks. Many educators and students lack ICT skills.

iii. **Cost Constraints:** The high cost of digital devices, coupled with expensive data charges, cr eates significant barriers to access. Many students and teachers are unable to afford the nece ssary tools or sustain the recurring expenses of internet connectivity, thereby limiting effecti ve participation in technology-enhanced learning.

iv. **Resistance to change:** This represents a major challenge in the introduction and adoption o f digital tools and technologies in education. EFInA (2020) sees resistance as the reluctance or refusal of individuals, especially educators, administrators, or institutions, to adopt new methods, tools, or systems due to various personal, cultural, or systemic reasons. Some educ ators and learners prefer traditional teaching and learning methods.

v. **Policy & Regulatory Gaps:** Lack of clear government policies on digital education and the absence, inadequacy, or outdated nature of laws, frameworks, and guidelines needed to sup port the effective use of digital tools in teaching and learning is a clog on the wheel of progre ssion. Alordiah, Osagiede, Omumu, Okokoyo, Emiko-Agbajor, Chenube, and Oji (2023) ar gued that without strong policy direction, the adoption and implementation of educational t echnology can be inconsistent, ineffective, or even harmful.

Strategies for Effective Integration of Digital Tools in teaching and learning

i. **Improving ICT Infrastructure:** Improving ICT Infrastructure in education is critical for e nhancing teaching, learning, and administration in today's digital age. The Federal Ministry of Communications and Digital Economy (2020) referred to the improvement of ICT facilities as the development and provision of the necessary physical and digital systems—s uch as devices, internet access, power supply, and support services—that enable the effectiv e use of Information and Communication Technology (ICT) in schools and other learning e nvironments.

ii. **Capacity Building for Teachers:** There is a need to organize training programs to enhance digital literacy. Capacity-building programs are a crucial component of enhancing educatio n in the digital age. It refers to the ongoing process of developing teachers' skills, knowledge and confidence to effectively use Information and Communication Technologies (ICT) for teaching, assessment, and classroom management.

iii. **Affordable Internet & Devices:** It is essential to make provisions for affordable internet ac cess and digital devices. Affordable internet access and digital devices are fundamental to e nsuring equitable access to digital education, especially in developing countries where man y learners and teachers are excluded from online learning due to cost barriers.

iv. **Adoption of Blended Learning:** Integrating traditional face-to-face teaching with digital o r online learning methods is recommended, as it enhances flexibility, effectiveness, and eng agement. This approach is increasingly recognized as a sustainable model for modern educa tion and is commonly referred to as the hybrid method of teaching and learning.

Recommendations

To address resistance to change and the reluctance of teachers and learners toward the integration of digital tools in teaching and learning, the following measures are recommended (Fullan, 2001):

1. **Engage Stakeholders:** Actively involve teachers, students, and parents in the planning and decision-making process to foster ownership and commitment.
2. **Communicate Benefits Clearly:** Provide clear explanations of how digital integration enhances teaching effectiveness and improves learning outcomes.
3. **Provide Training and Support:** Offer regular training and continuous professional development to equip users with the skills and confidence needed.
4. **Start Small and Scale Up:** Introduce digital innovations gradually by piloting in phases rather than implementing them all at once.
5. **Celebrate Small Wins:** Recognize and reward early adopters and highlight positive outcomes to encourage wider acceptance.
6. **Offer Technical Support:** Establish readily accessible technical assistance to address challenges promptly and reduce frustration.
7. **Gather Feedback Continuously:** Collect and respond to feedback from stakeholders to adapt, refine, and improve the integration process.

Conclusion

Digital tools have immense potential to transform education in Nigeria, making it more accessible, eng aging, and effective. However, overcoming challenges like poor infrastructure, digital literacy gaps, and high costs is essential for successful adoption and requires a holistic approach involvi ng policy reform, infrastructural investment, capacity building, and inclusive stakeholder engag ement. With coordinated efforts, the vision of a digitally inclusive and effective education syste m can be realized.

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