

Remystifying Nigeria's Tertiary Education through Digital Learning

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ABSTRACT

This paper demystified digital learning, digitisation in education and digital literacy. The paper also discussed the fairs and fails of digital learning in Nigerian tertiary institutions. The doctrinal research methodology was employed, and secondary data were used in the paper. The secondary data were obtained from print and online publications. It was found that digital learning is a necessity for students in Nigerian tertiary institutions as it aligns them with contemporary global practices and realities. It was also found that Nigerian tertiary institutions are not well-equipped with the necessary infrastructure to integrate digital learning. The institutions are constantly faced with an erratic power supply, high data costs and inadequate computers, among other issues. The paper concluded that tertiary institutions should integrate digital learning into their curricula to produce skilled graduates who can compete in the workforce or thrive in a technologically driven economy. To address these problems, the paper recommended funding for higher education and the provision of a stable power supply, among others.

Keywords: *Digital learning, tertiary education, digitization, digital literacy*

INTRODUCTION

In contemporary times, technology dictates the pulse of the economy, connecting people and reshaping how we live, work and learn. Technology allows businesses to operate globally without physical boundaries. It is therefore pertinent that students in all tertiary institutions in Nigeria be digitally and technically upskilled to compete in the modern workforce. In 1990, the Education for All movement, a global movement to provide quality basic education for all children, youth and adults, was launched at the World Conference on Education by UNESCO, UNDP, UNFPA, UNICEF and the World Bank. Participants endorsed an expanded vision of learning between 2005 and 2015 to: Expand early childhood care and education; Provide free and compulsory primary education for all; Promote learning and life skills for young people and adults; Increase adult literacy by 50 per cent; Achieve gender parity by 2005, and gender equality by 2015; and improve the quality of education. The movement was reaffirmed in 2000; unfortunately, some of the endorsed visions are yet to be attained (United Nations, 1990).

Chapter II, Section 6(6) of the Nigerian Constitution recognises the right to education of her citizenry and makes it the government's obligation to provide education (CFRN, 1999) by providing: Free, accessible and compulsory elementary and secondary education; Free tertiary education; and Free adult and non-formal education and literacy programmes. Thus, according to Akpan *et al.* (2019), education is a right and not a privilege for all Nigerians, and it is the government's duty to fund, enforce and ensure a functional learning environment for all students in various institutions of learning in Nigeria. Education is indeed the foundation on which every facet of development rests (Joseph *et al.*, 2025). It drives governance, social life, economic development and stability. A nation can be considered developed when its citizenry is learned (Thomas N. & Thomas E., 2025).

In Nigeria, the COVID-19 pandemic affects how we teach, what we teach, the skills we need now and in the future as workers and learners, and the calibre of those we raise to teach and those who graduated into the labour market (Echono, 2023). Digital learning, therefore, provides school-age children and young adults alternative learning opportunities to consolidate their basic knowledge and competencies, equip them with the relevant skills needed to obtain employment, become business owners and entrepreneurs or engage in other productive work (UNESCO, 2018). Thus, the availability of information and communication technology (ICT) enables the digital learning process and accessibility of learning for children who may be inaccessible due to their location, occupation or other environmental factors (Olaniran, 2018). Digital learning, therefore, incorporates mobile learning, virtual learning, online courses, and video conferencing coverage, flexible learning at students' pace and time (Oloyede, 2025). Digital learning thus complements traditional learning. It bridges the gap between

traditional methods of teaching and modern methods using technological devices, especially mobile phones and computers for learning (Adavbiele, 2016). The emerging skills programs required to bridge the deficit, define the knowledge needed to establish business practices and career paths, are hinged on digital learning and digital literacy. The National Policy on Education defines tertiary education as the post-secondary part of the national education system, which is governed by Universities, Polytechnics, and Colleges of Technology, including courses as are given by the Colleges of Education, Advanced Teachers Training Colleges, and such institutions as may be allied to them (NPE, 2013). The objectives of tertiary education in Nigeria include: the acquisition, development and inculcation of the proper value orientation for the survival of the individual and societies; the development of the intellectual capacities of individuals to understand and appreciate the environment; the acquisition of both physical and intellectual skills which will enable individuals to develop into useful members of the community; the acquisition of an overview of the local and external environments (FRN, 1999).

Globally, the programmes and activities of tertiary education are anchored on information and communication technologies and digitisation. Digital technologies such as online learning platforms, educational apps, and multimedia resources have opened up new opportunities for students and educators to access and share knowledge. Digital literacy is, therefore, a necessity for students in Nigerian tertiary institutions as it impacts not only their utilisation of the institutions' digital resources but also aligns them with contemporary global practices and realities (Bejinaru, 2019). Indeed, the integration of digital learning is supported by Article 1 of the National Policy on Education. It provides that there is a need for functional education; to this end, school programmes need to be relevant, practical and comprehensive.

Thus, tertiary education in Nigeria aims to be relevant, practical and comprehensive by contributing to national development through high-level manpower training and acquisition of digital skills, among others (Thomas, 2014). Regrettably, most of Nigeria's tertiary institutions took root in the 1950s, 60s, and 70s. Institutions established in the 90s and 2000s are modelled largely after the existing ones. The method of teaching (pedagogy) and learning of that period are now outdated and retrogressive in our modern world, being redefined by the great strides in technological development. Hence, the slow pace of digital learning in our tertiary institutions. Indeed, data indicate that 84% to 85% of Nigerian graduates lack essential digital skills and hence are not fit for the workforce (Ogunode et al., 2023).

The Nigerian government, through the Tertiary Education Trust Fund (TETFund), has taken the initiative to provide immeasurable digital infrastructure support to tertiary institutions in Nigeria. TETFund provides financial intervention/support for public tertiary institutions in Nigeria ranging from buildings to

equipping libraries with computers (Desktops and Laptops), servers smart boards, virtual simulations, educational apps, online resources and internet subscriptions, funding of solar panels to ensure steady lighting, enrolment of public lecturers and students into the Tertiary Education Research Application and Services (TERAS) Platform, as well as sponsoring workshops and conferences for lecturers and students in diverse but impactful fields of study (Ukana & Piate, 2025). The TETFund initiatives are backed by the Cognitive Load Theory and Multimedia Learning Theory. Regrettably, the management of some tertiary institutions' failure to claim the funds and initiatives offered by TETFund and/or hijacking the training of its staff by using the slots to please their friends who are the constant beneficiaries of the training, rather than spreading the opportunity to others (Sunday, 2015). Thus, at a fundamental level, one of the key outcomes of the digital age is the increased access it provides to education, particularly where education can be limited by a lack of physical infrastructure, geography, and other socio-economic factors. The evolution of the digital age bridges the gap, providing hybrid forms of learning and access. TETFund is contributing to this evolution through its digitisation roadmap and other ICT-driven projects.

Regrettably, Enyidah (2025) asserts that Nigeria continues to lag behind in digital literacy as marked by inadequate digital infrastructures, erratic power supply, an outdated curriculum, systemic educational decay, and high cost of internet data, among others, hence the reason for 85% of Nigerian graduates still lacking in digital skills. In the same vein, he states that Nigerian tertiary institutions are in dilapidated conditions and unable to make the desired impact on the nation's economic potential. The disconnect between educational output and labour market needs further hampers Nigeria's economic progress. Thus, the lack of digital skills among graduates from the poor integration of digital learning in tertiary institutions in Nigeria leads to a higher unemployment rate. The purpose of this paper, therefore, is to examine the concept of digital learning in tertiary institutions in Nigeria; the features of digital learning in tertiary institutions, the failures with the integration of digital learning in tertiary institutions in Nigeria; informed approaches undertaken by the government to strategically integrate digital learning into Nigeria's tertiary institutions were made.

The legal and policy framework for integrating digital learning into Nigeria's tertiary institutions' curriculum is primarily anchored by:

- a) The National Policy on ICT in Education (NPICE), 2019;
- b) The National Digital Literacy Framework (NITDA), 2023;
- c) The National Digital Learning Policy (NDLP) 2023; and
- d) The National Policy on Education (NPE) 2013.

These legal frameworks mandate the integration of digital learning and technology-driven teaching methodologies across all tiers of the Nigerian educational system. It also provides the legal backing for e-assessments and computer-based testing (CBT) across

the country. Although the development of a National frame work on ICT Education in Nigeria, seems to be a step in the right direction for the enhancement of education through digital learning, regrettably, government have failed to translate these frameworks into functional, equitable digital learning because financing is poor; monitoring and evaluation systems to track school-level inputs and learning outcomes are weak; and electricity and internet infrastructure remain insufficient due to high cost. According to Walker (2015), with the goals of education being to obtain knowledge, develop understanding, and to grow as a person, how education is provided and how a student learns is very fundamental especially in contemporary times when the most likely starting point for a student with an assignment or task given is probably the Internet to source for a repository of materials and not the traditional library. More so, such an assignment may be typed and uploaded or submitted via email to the course lecturer. Thus, technology and the internet are used throughout the entire process of solving the assignment. Keengwe and Kidd (2010) posit that digital learning evolved from distance education and integrates web-based training, e-learning, distributed learning, internet-based learning, web-based instruction, cyber learning, virtual learning, or net-based learning using a wide range of technology applications and learning processes such as computer-based learning, web-based learning, virtual classrooms and digital Collaborations.

Thus, digital learning, according to Akinyemi et al. (2022), is the incorporation of modern technology and digital tools to assist in the process of teaching and learning and to create more room for remote learning. The National Policy on Education considered digital learning as the mode of education delivery where learners and teachers need not be in physical contact with a high range of flexible learning environments that enhance access to tertiary education and the capacity to deliver a variety of skills through the use of a variety of media and technologies for the provision of quality education for a large number of learners. The University of Edinburgh referred to digital learning as Technology Enhanced Learning (TEL) or e-Learning and defined it as “the innovative use of digital tools and technologies during teaching and learning” (UE, 2018). Garrison and Anderson (2003) assert that the utilisation of e-learning helps learners’ willingness to learn to innovate. Learners are introduced to atmospheres, where interests are stirred, creative abilities invigorated, premiums produced, perspectives developed, and states of mind changed along the lines of achieving the premise for instruction. It flows therefrom that digital learning involves the integration of digital technologies, tools, and resources into the teaching and learning process and environment. Indeed, in some tertiary institutions in Nigeria, digital technology is used in powering some ancillary administrative processes such as Computer-Based Test (CBT) Centers, admissions, registration portals, and digital repositories and libraries, where academic output is safely stored and shared.

To Thomas and Inyang (2021), the increasing use of new technologies such as the Internet of Things (IoT), Artificial Intelligence (AI), cloud computing, robotics, among others, is slowly influencing the mode of learning in tertiary institutions from the traditional face-to-face learning by a teacher to a student to digital learning pedagogy. According to Michael and Jacob (2017), digitisation in education is the process of converting educational resources from material forms to electronic forms where they can be stored and manipulated by a computer. Digitisation is conceptualised by Titus (2018) as the process of transferring traditional teaching and learning materials such as online learning platforms, educational apps, and multimedia resources online courses, online assessments, and web seminars/conferences or workshops to a digital model for deployment in the school. Bejinaru (2019) observed that digitisation is the conversion of text, pictures, video, and music into digital format utilising technologies such as a laptop computer, the internet, mobile devices, a scanner, a digital camera, a projector, and a printer, among others, that may be played by a computer. Similarly, Edet et al. (2023) state that digitalisation is the translation of all information, such as text, audio, pictures, video, and other data from multiple sources into digital language. Flowing therefrom, digitisation is the process of teaching and learning on platforms like online courses, online assessments, and web seminars/conferences or workshops. It is the process of transforming physical teaching and learning resources into packages, platforms or electronics, where they can be stored and manipulated by a computer for the implementation of teaching and learning programmes in school.

Digital literacy is the ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills. Similarly, Aderinoye et al. (2007), Ereh & Thomas (2018) conceptualizes digital literacy as a person's ability to perform various tasks in a digital environment using technological tools or gadgets such as computer, mobile or smartphones, tablets, internet and other portable devices to deliver educational contents, facilitate learning experiences, and empower learners anytime, anywhere leveraging on accessibility, flexibility and versatility of mobile technology. However, to Thomas (2024), while digital literacy at first instance focused on digital skills and computers, the advent of the internet and use of social media, has resulted in the use of mobile devices for learning, for Ojelade et al. (2019) digital literacy is now evaluated as an individual's ability to communicate information through typing skills and ability to produce text, images, audio, and visual interactions using digital platforms and technologies. Therefore, being digitally literate means being able to adapt to the changes brought about by digital technology in ways that make learning easy and accessible, and ultimately accomplish educational goals.

The Cognitive Load Theory, developed by John Seller, explains how the brain processes and stores information. According to the Theory, there are three types of

cognitive load: intrinsic, extraneous and germane. The intrinsic load relates to the difficulty of the content and reflects the student's prior knowledge and the topic's complexity. The extraneous load relates to how unnecessary or irrelevant information can distract learners and interfere with the learning process, whilst the germane load refers to productive and beneficial information that helps learners understand and absorb new knowledge. Visual learning elements, like diagrams, infographics, illustrations and videos, can help students easily integrate new knowledge (Clark and Kimmons, 2023).

The Cognitive load theory affects the digital learning environments. It helps teachers understand how to design and deliver eLearning programmes that sync with how we learn. Hence, the goal is to minimise the intrinsic and extraneous cognitive load and maximise the germane cognitive load. Thus, in optimising online courses, educators must take steps to reduce cognitive load. Overloading students reduces their ability to focus and impairs comprehension and retention, which ultimately leads to frustration and low motivation (Shibli and West, 2026).

The multimedia learning theory was developed in 2001 by Richard Mayer. The Multimedia Theory states that students learn better from a combination of words and pictures than from text alone. The theory comprises different principles, to wit: Multimedia Principle, which states that multimedia narration is more effective than a text-only document; Contiguity principle, which posits that learners learn best when words and pictures are presented closely on the screen; the Modality principle, which states that learning outcomes are enhanced when words are presented as speech rather than on-screen text; Coherence principle which is to the effect that people learn better when irrelevant material is excluded; and the Personalization theory which states that the learning experience is enhanced when information is presented in a daily conversational style rather than a formal tone (Mayer, 2002).

It can therefore be deduced from the theoretical framework that digital learning helps students absorb new information more quickly, assisting with retention and increasing germane cognitive load. Digital learning captures students' interest and engages their emotions, powering up their learning abilities (Yue et al. 2013).

Benefits of Digital Learning in Tertiary Institutions

Panji O'g'li (2023) outlined the benefits of digital learning in tertiary institutions to include:

- i. Change and flexibility in teaching style: The implementation of digital learning in tertiary institutions affects the way teachers teach and students learn. The principal benefit of digital learning is increased access to knowledge. Digital learning platforms can provide students with access to educational resources from other libraries in the world. This is beneficial for students who are unable to attend

- traditional classroom learning due to financial, geographical, or personal constraints. Digital learning can also provide students with more flexible learning opportunities, allowing them to study at their own pace and on their own schedule (Okorie & Thomas, 2016).
- ii. Tailor learning experiences to meet individual needs: Digital learning provides students with personalised learning experiences, allowing them to tackle areas where they are academically deficient and challenge themselves in areas where they excel. For example, educational apps can provide students with interactive and engaging learning experiences tailored to their individual needs and interests, while also enhancing the quality of education. According to Moffat et al. (2023) & Thomas (2017), digital learning also provides students with access to a wide range of educational materials, including videos and interactive simulations, which help to bring complex concepts to life and make learning more engaging and interactive. Indeed, Garrison and Anderson assert that integration of digital learning encourages students' willingness to learn to innovate. Students are introduced to environments where interests are stirred, creative abilities are invigorated, perspectives are developed/broadened, and states of mind are changed.
 - iii. Improved ability to meet special needs: Individuals possess different needs or abilities. While some students function effectively in the traditional classroom settings, some may not. Thus, digital learning improves an institution's ability to meet the needs of all types of students, including those with busy schedules or those who are largely housebound or distant. According to Itighise and Thomas (2022), digital learning can also meet the needs of students with intellectual, social, or developmental disabilities by creating learning environments that work for all. According to McNulty (2014), curricula delivered in a digital learning environment improve learning and innovation skills, information, media and technology skills, life and career skills. Thus, digital learning provides a chance for learners to establish a cognitive resource-based mechanism and enhance their abilities, as well as to engage in lifetime learning and continuous education that may be transmitted in a variety of ways, for instance, teacher- directed, joint teacher-and-learner-directed, and learner-directed (Abdullahi & Tijani, 2019).
 - iv. Makes for global connectivity: Digital learning interconnects students from different schools, intra-state and globally, in academic-related matters, which broadens the academic horizon of many students (John et al., 2024). Ding (2000) also notes that the advantages of digital learning include: the absence of need for new buildings; improvement in information sharing of academic materials; leads to the upgrade of the Internet in institutions; digital materials can be transmitted,

sorted and retrieved easily and quickly; digital learning materials can be linked and made interactive and improve the retrieval of more information.

Factors Militating Against the Adoption of Digital Learning in Tertiary Education in Nigeria

It has been observed that most tertiary institutions in Nigeria still employ traditional (face-to-face) teaching and learning approaches, even when most students are perceived to be digital natives with potential for technological adoption. In a study conducted by Otunla et al. (2020), on ‘Tertiary Institution Students’ Perceived preparedness to adopt mobile-learning technology (MLT) Innovation in South Western Nigeria, findings showed high self-efficacy on the use of mobile technology and a very high rate of mobile phone ownership, especially the use of smartphones. The study concludes that tertiary education students in are highly prepared to adopt mobile-learning technology in South Western States of Nigeria. Regrettably, there are many factors militating against the adoption of digital learning in tertiary education in Nigeria. Some of these problems include:

1. Poor funding of digital learning: According to Ozurumba and Thomas (2014), inadequate financing and allocation for digital learning at tertiary institutions have resulted in an insufficient supply of digital facilities, equipment, and materials. Okorie and Thomas (2016) observed that funds are a critical component to lowering the cost of operating educational institutions, paying teachers’ salaries, allowances, pensions, and purchasing teaching and learning equipment such as textbooks, laboratories, multimedia, and computer equipment, internet subscriptions among others. As a result, public tertiary institutions of learning expenditures are primarily reliant on federal account allocation, making its educational aims vulnerable to national mobilization and expenditure management issues. Unfortunately, the annual allocation for the administration and management of universities in Nigeria is small and is affecting the development of infrastructural facilities in the institutions. Although the TETFund grants have been most helpful, access to them has proven difficult for some institutions. Anene et al. (2014) studied the problems and prospects of digital learning in Nigerian Universities by specifically examining the availability of facilities for e-learning and the availability of e-learning materials, and to ascertain if students make use of e-learning in their studies. They found that one of the obstacles to the use of ICT was infrastructure deficiencies; the students lamented an inadequate e-learning library domain, online seminars or discussions with lecturers, online examinations, and limited bandwidth.

2. Lack of digital infrastructure: According to Akpan et al. (2016), the integration and sustenance of digital learning in tertiary institutions hinged on the availability of up-to-date and adequate digital infrastructure. The availability of digital infrastructure makes the digital learning process easy and adaptable. Ogunode et al. (2021) observed that many tertiary institutions in Nigeria faced a shortage of digital facilities that enable them to fully integrate digital learning into their curriculum. The absence of these digital infrastructures, such as computers, the internet, or a sufficient number, has prevented students and lecturers in higher institutions from fully integrating technology into their teaching, researching and other academic activities. Atsumbe et al. (2012) investigated the availability and utilisation of e-learning infrastructures in a Nigerian University. Their specific objectives were to investigate the adequacy of e-learning infrastructures for effective teaching and learning; the proficiency of e-learning infrastructures to facilitate enhanced lecturer-student teaching and learning interactions; and the factors that inhibit the use of e-learning infrastructures. The findings revealed inadequate facilities, specifically directed toward teaching and learning, and the e-learning infrastructure available is largely for administrative use. Although lecturers and students have access to computers or laptops with internet facilities, they are not used for teaching and learning. Panji O'g'li (2023) stressed that one of the key challenges to the integration of digital learning is access to digital facilities. While online learning platforms can provide students with increased access to education, they can also exacerbate existing inequalities. Thomas (2024) further stressed that poor funding, poor implementation of ICT policies, corruption, poor maintenance culture, poor forecasting, and lack of data and high cost of ICT facilities were identified as factors responsible for the non-integration and/or sustenance of digital learning in tertiary institutions in Nigeria.
3. Unstable power supply: It is reported that West Africa has one of the lowest rates of electricity access in the world, with only about 42% of the total population and 8% of rural residents having access to electricity, yet only three countries are on track to provide access to electricity by 2030 (This Day, 2022). It was also reported that Nigeria has the lowest access to electricity globally, with about 92 million persons lacking access to power, which consequently clogs the country's industrial growth (World Bank Group, 2022). Thus, the state of power supply in Nigeria inhibits the efficient use of information and computer technologies (ICT) among Nigerian tertiary institutions and consequently the sustenance of digital learning.
4. Poor internet service: According to Thomas (2014), the Internet is key to the sustenance of digital learning. Availability and stable internet services make digital learning efficient and effective in all institutions of learning. Regrettably,

in Nigeria, internet coverage, accessibility and stability remain a source of concern. An unstable internet connection is a core problem in Nigeria. The inability of the government to ensure a meaningful internet connection across all the states in Nigeria affects digital learning in academic institutions. In in-depth research conducted on the availability of internet services, it was claimed that only 12.1 per cent of the Nigerian population currently enjoys stable Internet services in the country, with only 6.6 per cent of the rural population and 16.4 per cent of the urban population having good Internet service. This is at a time when broadband penetration in Nigeria hits 42.3 per cent and users increased to 80.7 million (Jegade & Abashi, 2019). Thus, it is apparent that many parts of Nigeria do not have access to quality and reliable internet services to enable them to fully integrate digital learning. This clog has limited the opportunities of many tertiary institutions (lecturers, administrative staff and students) from reaping the benefits of digital learning in their respective institutions.

5. High cost of digital facilities: Another major deterrent on the integration of digital learning in tertiary institutions is the high cost of digital infrastructures, such as the high cost of internet data, computers, and projectors. The high cost affects the deployment and full utilisation of information and communication technologies (Tongia, 2004). Ogunode (2020) notes that most Nigerian tertiary institutions lack basic technologies like computers, printers, faxing machines, photocopiers, and projectors as a result of underfunding and the high cost of the infrastructure. Similarly, Aboderin (2015) investigated the challenges and prospects of e-learning at the National Open University of Nigeria and while the study recognised that e-learning influences students' ICT competence, it found that the major challenges included a lack of enough computers, shortage of internet facilities, students' lack of access to e-learning facilities and tools, high cost of software and erratic power supply.
6. High cost of digital infrastructural maintenance: The sustainability of digital technologies depends on constant maintenance culture from users. The maintenance of this technological infrastructure is very expensive to carry out. Ogunode submitted that the cost implication required for maintaining Information Communication Technology is high and has caused many administrators to limit the time allocation for internet services within the university environment. Thus, inhibiting lecturers and students' access to the use of computers for school learning activities.
7. Poor lecturer and students' digital skills: Lecturers and students alike are required to be digitally literate to make for easy integration of digital learning in tertiary institutions. Unfortunately, some lecturers and students are found wanting in efficiently utilising the digital and online environment, thereby hindering the

integration of digital learning. Olatunde-Aiyedun et al. (2021) argued that poor digital skills and knowledge of lecturers in Nigerian higher institutions have affected the development of digital learning. In their study, Nbina et al. (2011) found that some lecturers have no knowledge of ICT facilities and thus, shun away from utilising them for teaching activities. Similarly, Asogwa (2011) found that the major challenges for optimizing e-learning is lack of requisite skills, the teachers are not as skilled and thorough in the understanding, operation and applications of the packages as they are supposed to be. Many lecturers are still not good at powering their laptops, composing and sending e-mails, accessing mails, attaching files and those other peripheral issues. In the same vein, Ogunode did a study and discovered that the challenges preventing students of educational administration and planning from using ICT for learning include poor computer literacy of the lecturers, unstable power supply, lack of personal laptop or computer system, unstable ICT Network services, high cost of ICT services and poor infrastructural facilities of ICT in higher institutions. Ogunode et al. (2021) observed that many higher education students have mobile internet and other ICT facilities, and universities have internet facilities, yet many students cannot use these internet facilities for their learning. The inability of these students to use the internet facilities effectively will limit their usage of ICT for learning.

8. Resistance to change: Many stakeholders in various institutions of learning across Nigeria are resistant to integrating digital learning into their curriculum. This is because it involves huge sums of money, planning, time, organizational changes, among others. Thomas and Inyang (2021) observed that teachers frequently struggle to adjust to new digital solutions. Learning new digital platforms, where to find papers, and who to seek assistance from often lead to an overworked employee and a poor learning experience, which ultimately leads to the poor integration and adoption of digital learning in tertiary institutions.
9. Poor implementation of digital policies: The National Universities Commission (NUC) in Nigeria has prescribed that there should be at least one computer for every four students and one PC for every two lecturers below the grade of lecturer I, one PC per senior lecturer and one notebook per reader/professor. The poor implementation of these ICT and digital policies is a major challenge to the development of digital education in higher education in Nigeria (Obisike et al, 2025).

Implications of the Study

The implication of this study is that the adoption and integration of digital learning is a complex process, requiring significant attention and interaction among various internal

and external stakeholders (Moffat et al. 2023). The study also shows the various factors influencing the adoption of digital learning and how it will improve if tertiary institutions recognise the social dimensions of digital learning adoption, such as interest and needs, academic and professional goals, and social network (Singh and Hardaker, 2014). Thus, the adoption of digital learning presents several core implications for institutions, students, and the broader educational framework. For example, it equips graduates with 21st-century skills necessary to compete in the global marketplace, expands access to learning, bridges geographical gaps, and allows flexible learning schedules.

CONCLUSION

The education system must redefine both content and pedagogy, and shift from transmission to transformation, stimulating innovation, promoting creativity, and encouraging critical thinking as weapons for relevance in the new world of daily life and work. The findings of this study reveal that while some tertiary institutions are gradually embracing information and communication technologies (ICT) in teaching and learning through the internet, the level of integration remains very low. It suggests that many tertiary institutions still depend heavily on traditional teaching methods. This situation brings to bear the many infrastructural and financial limitations that tertiary institutions are confronted with, such as inadequate technological infrastructure, high cost of internet facilities, low levels of digital literacy among students and lecturers, thus restricting the potential benefits of digital learning. In spite of these limitations, the study shows that digital learning expands students' access to learning, bridging geographical distance and enabling flexible learning schedules. Furthermore, platforms such as social media and online discussion forums have become alternative spaces for learning, fostering interactive and participatory learning experiences. Accordingly, digital learning, when properly harnessed, can transform the academic landscape by promoting inclusive, flexible, and learner-centred approaches to knowledge dissemination.

RECOMMENDATIONS

The following recommendations are made:

1. Universities, through adequate government funding, should invest in reliable internet connectivity, information communication technologies, and learning platforms to ensure seamless integration of digital learning into their institution's curriculum.
2. Alternatively, the Nigerian government should make available adequate ICT infrastructure and internet services to all public tertiary institutions to enable them to deploy ICT facilities for teaching and learning in the classroom.

3. The government should ensure that institutions of learning in the country, particularly tertiary institutions, are provided with constant power supply (electricity generation or solar panels) and subsidised internet services.
4. Regular training and workshops should be organised for lecturers and students to improve their digital knowledge and competence in using educational technologies effectively, because remystifying traditional teaching methods to digital lies greatly in the lecturer's ability to use and apply digital technologies in teaching.
5. Public institutions should seek ways to access the Tertiary Education Trust Fund (TETFund) to maximise the funds for the benefit of students and advancement of their academic objectives.

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