POLICY DIRECTION AND MANAGEMENT OF DIGITAL LEARNING IN NIGERIA'S TERTIARY INSTITUTIONS

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Abstract

The Nigerian educational system of today is characterized by unprecedented technological advancement and digital innovation. The rapid evolution of technology, driven by the advent of the Covid-19 pandemic, has fundamentally transformed the educational landscape, necessitating a comprehensive policy direction for the management of digital learning in tertiary institutions. This paper examined policy directions in the management of digital learning in Nigeria's tertiary institutions. The policy directions should seek to create and harness an inclusive, secure, and dynamic digital learning environment, as well as, establish strategic management approaches to enhance the accessibility, quality and effectiveness of digital learning. To achieve this, the paper advocates the development of appropriate infrastructure, equitable access, teacher capacity development, and curriculum integration into digital technology. The integration of digital learning resources into curricula should aim at fostering an engaging and personalized learning experiences. The paper further addressed the benefits and challenges, concluding that the policy direction and management of digital learning in tertiary institutions should emphasize the creation of a conducive environment that promotes academic excellence, inclusivity and security through continuous monitoring and evaluation mechanisms in order to refine digital learning initiatives, thereby, preparing students for the demands of the 21st-century workforce. It suggested support for the professional development of educators and managers to ensure that they are equipped with the necessary skills to manage and utilize digital tools effectively through collaboration with Public-Private Partnerships.

***Key words**: Policy direction, management, digital learning, tertiary institution.*

Introduction

Spanning within Nigeria's educational sector for over a decade and engaging with students, educators, parents and other stakeholders, one recurring message is the urgent need to embrace the digital revolution and reshape our approach to education. Ralph, (2020), noted that the advent of the Covid-19 pandemic did not only disrupt the traditional modes of teaching and learning but also highlighted this urgent need to accelerate efforts in leveraging digital learning as an alternative means of delivering quality education. Oguchi, (2017) asserted that

education is often seen as a laggard when new technologies are being introduced because other sectors such as Health, Banking, Agriculture and Transport embraced digital technology long before the education sector.The question is: "Who taught these sectors without education – the teacher?" Today, the educational system is characterized by unprecedented technological advancement and digital innovation; but there still remains a seemingly palpable apprehension and resistance within, despite these transformative potentials. This resistance seems to stem from a fear of the unknown rather than a genuine understanding of technological and digital learning capabilities. It is pertinent, therefore, as managers in education, to dispel these misconceptions and foster a culture of openness, curiosity, and innovation. In this regard, embracing digital citizenship, as a call to transform education in Nigeria's higher education sector, involves not just mastering the latest technologies but also cultivating a mindset of adaptability, resilience, and lifelong learning, thereby, equipping students and educators with the relevant skills and competencies required to thrive in an increasingly modern digital world.

In Nigeria's tertiary institutions, therefore, the need to understand the transformative power of digital literacy requires the management of digital learning policy directions.

Conceptual clarification of terms

Policy direction: This refers to the strategic guidance and roadmaps that establish what the government, organization, institution or leader aim to achieve through its policies. It involves setting goals, identifying and prioritizing the most important issues/areas that need attention and resources. It develops strategies that can craft plans and approaches to achieve the set goals and objectives, allocate financial, human and other resources and decide how they can be distributed to support policy initiatives. It also guides the implementation, assessment and evaluation of policy directives for effectiveness and necessary adjustments. Policy direction ensures that efforts are coordinated and aligned with the broader vision and mission of the entity, helping to achieve desired outcomes efficiently and effectively, (FME, 2023).

Management: Management is the administration of organizations whether they are a business, nonprofit organization or a government body through business administration (wikipedia). In this context, refers to how organizations and institutions are involved in managing digital learning and its technological procedures. It involves overseeing and coordinating the use of digital tools and technologies in educational settings to enhance learning and teaching processes. It encompasses key areas such as strategic planning, i.e. developing a vision and plan for integrating digital learning into the educational sector, setting goals, identifying necessary resources, and establishing timelines as well as encouraging data-driven decision making. It also manages technology integration by selecting and implementing appropriate digital tools and platforms such as Learning Management Systems (LMS),(educational software, and online resources to support teaching and learning). It provides training and support for educators, students, and staff to enable them effectively use digital tools. This involves organizing workshops, tutorials, and helpdesk services. It creates content development and curation for managing digital learning content, ensuring that materials are engaging, accessible, and aligned to educational standards. It coordinates assessment and evaluation using digital tools to assess student performance and evaluate the effectiveness of digital learning initiatives by analyzing data to inform instructional decisions and improve outcomes. It establishes formulated policies and ensures compliance with legal and ethical standards, such as digital citizenship and intellectual property rights. It ensures that necessary technological infrastructure, such as hardware, software, networks, and cybersecurity are in place and maintained. It facilitates communication and collaboration among educators, students, and other stakeholders using digital platforms such as forums, virtual classrooms, and collaborative tools. In innovation, experimentation and research, it helps organizations stay informed about emerging technologies, pedagogical approaches, and conducting research to explore new opportunities for digital learning. Finally, in budgeting and resource allocation, it manages the financial aspects of digital learning initiatives for technology purchases, maintenance, and professional development, (Coursera, 2024).

Digital learning

Digital learning refers to the use of technology and digital tools to facilitate and enhance the learning process. Its aim is to make education more accessible, flexible, and personalized, often leading to improved engagement and outcome. It encompasses a wide range of educational practices and methods that leverage digital resources, such as **online courses and e-Learning programs** delivered over the internet, and often through platforms like Coursera, edX, and Khan Academy. These can be self-paced or instructor-led.

Blended Learning, a mix of traditional classroom instruction and online learning activities, combines the best of both worlds to provide a more comprehensive learning experience.

Flipped Classrooms is a method where students watch lectures or study content online at home and then engage in hands-on activities, discussions, and problem-solving exercises in class.

Educational apps and software are tools designed to aid learning through interactive exercises, games, and other engaging formats. Examples include Duolingo for language learning and Quizlet for study aids. **Virtual and augmented reality** involve the use of immersive technologies that provide interactive and experiential learning opportunities, for example, VR can simulate historical events or scientific processes for students to explore.

Digital textbooks and resources are e-books and online resources that replace or supplement traditional textbooks. They include multimedia elements like videos and interactive diagrams.

Learning Management Systems (LMS) comprises platforms like Moodle, Blackboard, and Canvas that help manage, deliver, and track learning activities and progress. They often include features for course management, assessments, and communication.

Collaborative Tools are technological tools that facilitate collaboration among students and between students and teachers, such as Google Workspace, Microsoft Teams, and Zoom.

Adaptive Learning Technologies are systems that use algorithms and data analysis to customize learning experiences based on individual student performance and needs.

Assessment and Analytical Tools are digital tools for evaluating student performance and analyzing learning data to inform instruction and improve outcomes, (Florida Virtual School, 2020).

Tertiary institution: A tertiary institution refers to an educational establishment that provides higher education, typically after the completion of secondary education. These institutions include universities, colleges, technical institutes, and vocational schools. They offer a range of programs such as undergraduate degrees, postgraduate degrees, diplomas, and certificates. Tertiary education focuses on advanced learning and specialization in various fields of study, preparing students for professional careers, research, or further academic pursuits, (World Bank, 2024).

Policy directions on digital learning

Policy directions on digital learning typically focus on enhancing access, quality, equity and an inclusive, secure, and dynamic digital learning environment in higher education through the use of technology. As stated in FRN, 2014, the policy provisions emphasize the following: -

Infrastructure and access: Ensuring that all students and educators have access to reliable internet, digital devices, and necessary software.

Digital literacy: Providing training for students and teachers to improve digital literacy skills, enabling them to effectively use technology for learning and teaching.

Curriculum integration: Integrating digital tools and resources into the curriculum to support and enhance traditional teaching methods.

Teacher professional development: Offering continuous professional development opportunities for teachers to stay updated with the latest digital learning tools and methodologies.

Equity and inclusion: Addressing the digital divide by implementing policies that ensure marginalized and disadvantaged groups have equal access to digital learning opportunities.

Data privacy and security: Establishing clear guidelines and policies to protect the privacy and security of students' and teachers' data.

Monitoring, evaluation and research: Encouraging ongoing research and evaluation of digital learning initiatives to understand their impact and effectiveness through monitoring.

Support systems: Creating support systems, such as help desks and tech support, to assist educators and students in using digital tools. This includes public-private partnerships (PPPs) between institutions, private sector, and international organizations for the provision of adequate funding, and sustainable funding models. **Quality assurance standards and accreditation:** Ensures that institutions promote a culture of continuous improvement for quality education and meet established standards through accreditation, (FRN, 2014)

Aims and Objectives of policy direction in the management of digital learning

The following aims and objectives guiding policy directions in the management of digital learning enable institutions create a supportive environment for digital learning, enhance the student experience and promote academic excellence. The aims include to: -

- Improve learning outcomes to enhance student achievement and success through effective use of digital technologies.
- Increase access and equity to ensure equal opportunities for all students to access digital learning resources and opportunities
- Enhanced teaching and learning to support educators in using digital technology to improve teaching practices and student engagement
- Institutional efficiency and effectiveness to streamline process, reduce cost and increase institutional performance through digital solutions
- Innovation and competiveness to foster a culture of innovation, entrepreneurship and continuous improvement in digital learning

The operational objectives to guide the management of digital learning include to: -
Develop a clear vision and strategy for digital learning aligned with institutional goals

- Ensure accessibility, inclusivity of digital learning resources and environment
- Provide professional development opportunities for educators to enhance their digital literacy and digital skill

- Implement effective digital learning platforms, tools and resources that support teaching, learning and research
- Monitor and evaluate effectiveness of digital learning initiatives and make data- driven decisions
- Foster collaboration and partnership among stakeholders, including educators, industry partners and other institutional partners
- Ensure digital citizenship, online safety and security for all stakeholders
- Develop and implement policies and procedures that support digital learning, including acceptable intellectual property and privacy use
- Allocate resources and funding to support digital learning, digital initiatives and infrastructure
- Stay up-to-date with trends and resources in digital learning to inform policy direction, (FME, 2023)

Strategic management approaches for digital learning

Agencies that aid the management of digital learning

The National Policy on Education (NPE, 2023) advocated the adoption and robust integration of ICT in education, emphasizing the need for digital literacy and the incorporation of technology into teaching and learning processes. Some Agencies have been established to formulate polices that will guide and direct the implementation and management of digital learning activities for effective achievement of these policies.

The National Information Technology Development Agency (NITDA) sets standards and provides guidelines for the implementation of ICT in educational institutions. Their initiatives often focus on technological infrastructural development, capacity building, and the promotion of digital literacy.

The National Broadband Plan (2020-2025)aims to improve broadband penetration across the country, plans targets for better connectivity in urban and rural areas, ensuring that students and institutions access reliable internet services.

The Open and Distance Learning (ODL) is government oriented. It sees to the increase of access to higher education and encourage institutions to adopt e-learning platforms and develop online courses to cater to the diverse needs of students.

Educational Technology Adoption (ETA)focuses on the adoption of educational technologies such as Learning Management Systems (LMS), digital libraries, and virtual laboratories to enhance learning experience and also facilitate remote learning.

Training and Professional Development emphasizes continuous professional development of educators for effective implementation of digital learning, through training programs and workshops organized to improve the digital competencies of academic staff.

Public-Private Partnerships (PPPs) advocate for collaborations between the government, private sector, and international organizations to encourage the provision of the necessary resources, infrastructure, and expertise required for digital learning initiatives.

Quality Assurance and Accreditation regulates bodies such as the National Universities Commission (NUC) and the National Board for Technical Education (NBTE) to set standards and guidelines to ensure quality digital

learning programs and accreditation processes that evaluate the effectiveness of e-learning platforms and course content.

Funding and Investment ensure that government provides adequate funds through collaboration with PPPs, providing financial support for technological infrastructural development, training, and the procurement of digital tools and resources.

Inclusivity and Accessibility ensure that digital learning is inclusive, catering to the needs of all students, including those with disabilities by creating accessible content and providing necessary support services, (FME,2023).

With the knowledge of these policy directions and their agencies, the management of digital learning directs, develops strategic vision and pursues policy co-ordination related to digital education. This coordination highlights the implementation strategies for providing and improving strategic development, coordination, alignment, and adaptability in the higher education system. These approaches include ensuring robust ICT infrastructural development, policy formulation and implementation, training and capacity building, integration of policy into curriculum, establishing standards and benchmarks for digital learning to ensure quality and effectiveness, providing student support services, establishing PPPs to provide funds/grants for digital learning initiatives, ensuring equity and inclusion in the provision of access to digital tools and resources for all learners including those from disadvantaged background, encouraging research and innovation in digital learning to explore new methodologies, tools, and technologies relevant to digital content, and establishing community engagement in the development and implementation of digital learning policies. By focusing on these strategies, management of digital learning policies in tertiary institutions can effectively foster the integration and growth of digital learning.

Digital learning and key components

Sudenshon, (2020), opined that managing digital learning makes use of digital technologies and tools to facilitate and enhance the educational experience. It encompasses a wide range of learning activities, from traditional classroom-based education that incorporates digital tools to fully online learning environments. Institutions and organizations, are mandated to use the following digital learning components in the technological transformation of the higher education sector.

Chu and Tsai, (2009) posited that these components are: **E-Learning Platforms** such as Learning Management Systems (LMS) like Moodle - an opensource e-learning software that provides a platform for online teaching and learning initiatives; Blackboard, and Canvas, and Content delivery systems such as Coursera -an online global learning platform that offers access to online courses and degrees from leading universities (Wilson, 2012).

Another digital platform is **edX,** It offers jobs and relevant online courses that empower students to use start a fresh-programmes in various subjects including law, history, leading to complete master's degree and professional certificate that focuses on job-ready skills and guided projects that are short and targeted training similar to tutorials; it uses the knowledge and skills gained to find the right programme for learning and expertise. The Khan Academy is a non-profit organization that offers free online lessons on any subject in a wide range of subjects.

Digital Content is another digital learning component. Examples are e-books, online articles, and research papers and multimedia resources like videos, podcasts, interactive simulations as well as online assessments and quizzes.

Technology Tools that aid self-learning include computers, tablets, smartphones, internet connectivity, networking infrastructure, educational software and apps.

Communication and Collaboration Tools are **v**ideo conferencing platforms like Zoom, Microsoft Teams, and Google Meet, Social media, discussion forums and collaborative tools such as Google Docs, Slack, and Trello.

Interactive Learning Environments consist of virtual classrooms and labs, gamified learning experiences and simulations, including Augmented Reality (AR) and Virtual Reality (VR) applications.

Types of Digital Learning

There are different types of digital learning. They include;

Synchronous Learning i.e. real-time online classes and webinars, live discussions and instant feedback, and virtual office hours with instructors.

Asynchronous Learning are pre-recorded lectures and tutorials, self-paced learning modules and courses, and online discussion boards and peer reviews.

Blended Learning is a mix of traditional face-to-face instruction and online learning activities and flipped classrooms where students review content online before in-class activities.

Benefits of digital learning

Digital learning is transforming education by making it more accessible, engaging, and personalized. It requires careful consideration of technological, pedagogical, and equity issues to ensure it benefits all learners effectively. These benefits include:

Accessibility and Flexibility: Learning materials are available anytime. anywhere. Different learning paces and schedules are accommodated.

Enhanced Engagement provides interactive and multimedia content to keep learners engaged, and also opportunities for active learning through quizzes, simulations, and games.

Personalization ensures the provision of adaptive learning technologies that tailor content to individual needs and data-driven insights to monitor progress and adjust learning strategies.

Collaborations are easy sharing resources and collaborative projects for peer-to-peer interaction and networking opportunities.

Student Engagement and Motivation overcome the lack of face-to-face interaction, encourage self-discipline and time management.

Challenges

Though digital learning transforms education, it faces some challenges that disrupt the digital learning process. They include: -

Technological infrastructure: Oguchi, (2014), posited that there are few internet access and accessibility to digital learning. This means that technological infrastructure such as high-speed internet, modern computer labs, and reliable power supply, essential for effective digital learning, are inadequate. Haruna (2018), affirmed of this view.

Digital Divide gives inequities in access to technology and high-speed internet as well as economic and geographical disparities affecting students' ability to participate.

Technical issues such as software and hardware malfunctions and cybersecurity and privacy concerns. **Inadequate pedagogical adjustment-procure needs** for instructors to adapt teaching methods to online environments to ensure academic integrity in online assessments.

Poor funding in higher institutions as multiple effects on other factors as it affects the purchase and provision of essential facilities for full adaptation to digital learning.

Technical-support personnel/technical units to support both lecturers and students in higher institution is inadequate, and hitches that disrupt the digital learning process often occur.

Significant gap in digital literacy: While digital tools and platforms are increasingly available, the ability to use these technologies effectively varies widely. Many educators are not sufficiently trained to integrate digital tools into their teaching methodologies, and students often struggle to navigate and utilize these tools for learning purposes.

Fragmented and inconsistent approaches to digital learning: Across institutions, digital learning approaches are often disjointed and lack the necessary support and coordination to ensure effectiveness.

Solutions:

The following solutions are advocated for effective management of digital learning. For digital divide, there should be equitable access to technology and high-speed internet connectivity devoid of geographical disparities through the assistance of the broadband agency. as well as address the economic imbalance affecting students' ability to participate.

For technical issues, institution should ensure that there is constant power supply via the provision of alternative energies, adequate data and internet availability

For inadequate pedagogical adjustment-procure needs, institutions should provide the needed digital instructional materials for instructors to adapt teaching methods to online environments to ensure academic integrity in online assessments.

For poor funding in higher institutions, government should allocate dedicated funding for digital learning initiatives, and institutions that demonstrate innovative and effective use of digital learning should be incentivized through grants and recognition programs. Akuh, (2016) supported this view by adding that investment and adequate funding will enable higher institutions purchase and provide essential facilities for full adaptation to digital learning as well as aid cost effectiveness.

For technical support personnel/technical units, institutions should train the needed number of technical support personnel and establish technical support units to address issues of technical disruptions. This will guarantee adequate support for both lecturers and students in the digital learning process.

For Significant gap in digital literacy, a unified strategy is advocated to close the gaps in order to enhance digital learning

Fragmented and inconsistent approaches to digital learning: Across institutions, digital learning approaches are often disjointed and lack the necessary support and coordination to be effective.

Conclusion

In conclusion, the successful management and integration of digital learning into the higher education system demands the prioritization of equity, accessibility, student-centered design that address digital divides, teacher capacity development, and curriculum relevance to ensure that digital learning benefits all students. Values such as flexibility, innovation and inclusivity must be embraced in order to harness the potentials of digital learning benefits, thereby, creating a more just and equitable higher education system.

Commitment to ongoing evaluation, collaboration and innovation to enable the navigation of the complexities of the digital age towards creating a future where every learner has access to high-quality is required, as well as inclusive and effective digital learning opportunities.

Investment in research and development on digital learning practices and technologies, institutions should be supported in conducting studies to identify best practices, challenges, and solutions specific to the Nigerian context. With this, Nigeria can position its higher education sector at the forefront of digital learning, ensuring that students are well-prepared for the demands of the modern world.

Suggestions

To address the lagging nature of the higher education system in adopting new technologies, the professional development programme should provide continuous training and workshops to enhance digital literacy and technological skills.

Furthermore, to address teachers' palpable apprehension for technological issues, gradual steps should be taken to incorporate technology into the curriculum starting with small management steps. Implementation should be flexible to allow teachers adopt technologies at their own pace. Incentives should be offered to teachers who successfully integrate technology into practices. A policy should be formulated to address noncompliance.

Institutions should establish technical support system teams and units to assist teachers in technology related issues. They should also develop comprehensive technology plans, outlining goals, strategies and timelines. Students should be involved in technology integration, leveraging their digital native skills to support teachers. Curriculum should be regularly updated to reflect emerging technologies such as AI, gamification, block-chain and digital portfolio, etc. and their applications to prepare students for future career.

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