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Transforming the Educational System through Digital Curriculum Innovation for Inclusive Development in Nigeria

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Abstract

The increased use of digital technology has led to breakthroughs and practices that are drastically altering how we teach, learn, and interact with one another. Innovation in digital curricula has enormous promise for global inclusive development. It bridges the gap in educational equity by providing easy access to teaching and learning platforms through e-learning platforms, mobile apps, virtual classrooms, and educational materials. This enables teachers to break geographical barriers and deliver high-quality education to students in remote regions. Digital curriculum innovation to change our educational system for equitable growth in Nigeria outweighs all the challenges if the correct moves are made. Nigeria is still struggling with the challenges of online literacy, limited funding, erratic power supply and poor internet connectivity. Digital curriculum innovation can therefore give equitable educational chances to all learners regardless of their place of residence through strategic investments in power supply, online literacy training programs and collaboration with stakeholders. This essay provides a pragmatic review of how an innovative digital curriculum might transform educational institutions to foster equitable development in Nigeria.

Keywords: Digital Curriculum, Educational Equity, Inclusive Development, Digital Literacy, E-Learning Nigeria.

Introduction

It is universally recognised that education is a powerful tool for social change that drives national development, social transformation and economic betterment. It is what empowers the individual with the competence in knowledge, skills and attitudes needed to make meaningful contributions and adapt to the societal demands of an increasingly digitalised world. Globally, digital innovation is now understood not merely as the adoption of technology, but as a tool for major structural, pedagogical, governance and equity of access reforms in education (Apata et al., 2025). This process, as the global technology landscape continues to undergo a major shift that is driving rapid innovations and research in digital technology, breathes life into the renewed transition in digital engagement in all aspects of life (Mbaba & Okwu, 2026), with no exception to curriculum innovations.

Curriculum innovation serves as a catalyst for educational change and progress in a country bedevilled with diverse challenges in its educational system. The requirement for the flexible adaptation of curricular frameworks to changing social demands, technological advancements and global competitiveness has been more evident than before in Nigeria (Adeleke et al., 2025). This has become a great concern for educators, policymakers, and researchers all over the world. Digital curriculum innovation in the Nigerian context refers to the manner in which curriculum planners, institutions, teachers, students and policymakers utilise information and communication technology (ICT) in the improvement of the new modes of teaching and learning that imbibe inclusivity at all levels of education.

Innovation of digital curriculum in education is widely regarded as a key component of 21st-century abilities for teaching and learning that stimulates creativity, collaboration and critical thinking (Apata et al., 2025). The development of educational results through software, hardware, computer applications and web-based applications

(Mbaba & Okwu, 2026). Innovation of digital curriculum in education is a forward step from analogue to digital approach to the application of new technology in the teaching and learning process. This has been a prevalent trend in the Nigerian curricula in recent years, especially following the advent of COVID-19 and the coronavirus pandemic that led to hasty adoption of e-learning tools by many institutions to keep up with the academic calendar. The pandemic has witnessed a renewed interest in innovative approaches like as hybrid learning, remote learning, virtual classrooms and usage of digital communication technology in our institutions, albeit implemented unevenly. This was a quick remedy to ensure continuity of schooling and resilience for future shocks (Sarumi, 2024). This article intends to examine the potential reform of the Nigerian education system via a new digital curriculum for the promotion of inclusiveness.

Conceptual Analysis

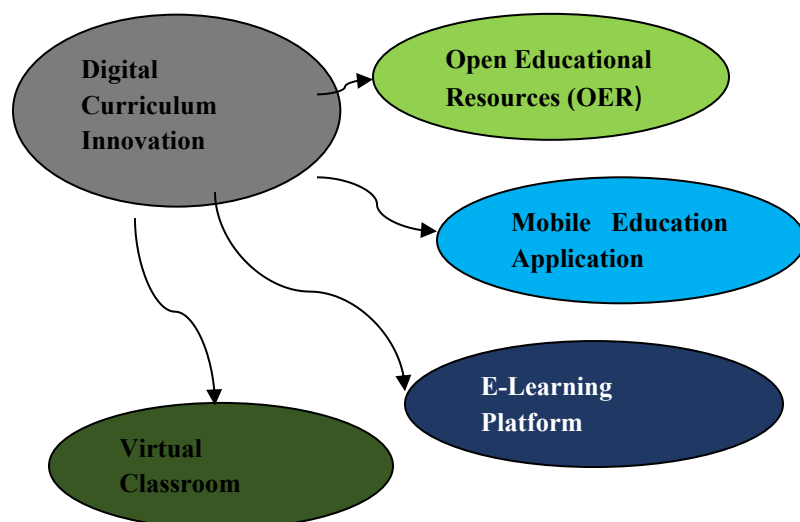
The Concept of Curriculum: The term ‘curriculum’ is derived from the Latin word ‘currere’, which means ‘race course’ and refers to the sequence of events and experiences that children go through in their development from childhood to adulthood (Adeleke et al, 2025). The curriculum of a school is all of the courses and what is taught in them. It is the total of all educational possibilities supplied to students across the educational system. Similarly, It is the most important component of any educational endeavour which encompasses not only what is taught but also how it is taught, assessed and experienced by the learner (Ochoma, 2020).

Curriculum Innovation: Innovation is the process of improving or upgrading a product or service by the use of new techniques or the introduction of new ideas that create value. Adeleke et al. (2025) opined that curriculum innovation is the process of updating or renewing the existing curriculum thru new value-adding education/schooling concepts or new techniques. They also said that curricular innovation includes the deployment of new and improved teaching methods. It covers a wide spectrum of stakeholders, including students, teachers, parents and education professionals, and deals with both planning and implementation stages. Curriculum innovation is a response to the belief that education needs to change so that it can meet the needs of an ever-changing global world in order not to prepare students for a future that will never be. The contemporary Nigerian curriculum needs to be inventive in order for it to be able to adjust to the sociocultural idiosyncrasies of our country and the changing demands of the global community.

Digital Curriculum Innovation: This is the process of digitising courses to ensure all students are able to achieve their learning outcomes. Besides digital content, it can also include technological tools used to deliver the curriculum, for example YouTube, artificial intelligence and digital platforms, and organisational features and formats used to articulate curriculum content, for example e-textbooks, online materials and repositories (OECD, 2021). Digital curriculum innovation is the process of repackaging and provision of educational knowledge through technologically enhanced platforms, including e-learning platforms, mobile applications and virtual classrooms. Zack (2023) therefore referred to it as our teaching content, in a digital form. Includes text, photographs, music, video, and literary modules. It may be more resources, our core curriculum or both. What makes digital curriculum stand out is its capacity to increase the effectiveness of our current standard-aligned content in serving the needs of the educational system.

Inclusive Development: This is a growth strategy that attempts to offer a fair chance for all individuals, especially for those from marginalised communities. It puts a major emphasis on social justice, dealing with issues like racism and inequality, and encourages participation in societal changes. The theory is relevant for a more inclusive society and can be applied in some fields such as social sciences, technology ethics and sports management. Inclusive development aims to establish a society in which everyone is included and marginalised and disadvantaged groups have equitable access to resources, opportunities and representation. This is based on the concept that the 21st-century curriculum should include every learner. The core elements of inclusive development are poverty eradication, equal opportunities, human capital development (health and education), financial inclusion, women’s and youth empowerment and good governance. To summarise, it is about economic development for the benefit of all parts of society and to ensure equitable opportunities and outcomes for individuals irrespective of their situation or socio-economic status (Gaurav, 2025).

Digital Curriculum Innovation in Education



Open Educational Resources (OER): These are teaching, learning and research resources in any format or medium that are in the public domain or are released under an open license that permits free use, reuse, repurposing, modification and redistribution of the resources. According to UNESCO (2019), an open licence preserves the rights of the intellectual property of the copyright owner, while allowing the public to access, reuse, repurpose, alter and redistribute educational content. Open educational resources (OER) are useful for restructuring the educational system for equitable growth because they provide high-quality, flexible material that can be adapted to any environment and educational demands (Dumbuya, 2024).

Mobile Education Application: Mobile apps are software programs specifically designed for mobile devices like smartphones and tablets. You may get them from app marketplaces like Google Play and Apple’s App Store. Mobile applications enable users to undertake several activities such as ordering food, playing games, streaming music, reading news, etc. (Venkataraman et al., 2022). With mobile education apps, students can access educational resources, take online courses, and communicate with classmates and instructors. Students are increasingly going to mobile apps since it’s easier to access and connect with material. The applications are particularly flexible, as they allow students to download lectures and resources at any time they have access to the internet and complete assignments without the need to be online continually. This can be quite helpful for those who are unable to attend lectures or seminars in person. This boosts the efficacy, efficiency and engagement of learning.

E-Learning Platform: To put it simply, e-learning is electronic education. It combines computer technology with teaching theory to enable students to finish their courses via a computer network (Mohammed et al., 2021). It is a quick and effective method of imparting knowledge to students throughout the globe. It is being used more and more to refer to any open, remote learning that makes use of ICTs. An e-learning platform is a piece of software that unites the three primary users of a device (teachers, students, and administrators) with the goal of facilitating remote consultation of educational materials and customising learning to accommodate distant learning. With this platform, inclusivity is ensured in achieving the educational outcome because it can function synchronously and asynchronously.

Virtual Classrooms:

A virtual classroom is a digital space for learning. Students can get great instruction from teachers anywhere in the world, as long as they have a reliable internet connection. The digital platform allows teachers and students to connect, interact and share information in real time, irrespective of geographical constraints. The diversity of learners has extended the intellectual offerings of the school by providing a variety of perspectives that enhance understanding (Luberger, 2024). One of its importance for improving inclusive development is the possibility of virtual learning to access a wide range of audiences and register students from all over the world. Another advantage of virtual learning is that it offers the best education since it utilises the latest technology and teaching methods such as group projects, interactive simulations, and multimedia information. Virtual classrooms are more accessible, effective and economical ways to learn, and we can expect them to keep on growing.

This allows students to take part in real-time interactive classes with the instructor from any remote location without any restriction. A video conferencing platform allows teachers to deliver instructions, monitor student progress, and provide real-time feedback. Additionally, kids are able to collaborate with peers from other geographic areas, providing a feeling of community and connection across distances.

Role of Digital Curriculum Innovation in Transforming Education for Inclusive Development

Digital curriculum innovation plays many roles in transforming our educational system for inclusive development. As outlined by Zack (2023), these include:

1. It improves learning experiences that are more adaptable because, with only a few clicks, it can be readily modified, changed, and customised. It can also be sent instantaneously without the need for paper, printing, staples, or anything else.
2. It closes the achievement-learning gap. Before national tests are administered, administrators can predict their school's performance. Teachers can immediately see where each kid stands in their class. They can put the students in groups and take corrective action before performance deteriorates since they can determine exactly where the pupils stand in reference to the standards.
3. It can be instantaneously delivered without the need for paper, printing, stapling, or anything else; it improves more customisable learning experiences.
4. Students may find studying more fascinating and enjoyable thanks to the dynamic and captivating nature of digital curricular innovations. It gives students access to a greater variety of instructional resources, including interactive modules, audio, and videos, which can enhance their comprehension of the subject matter (Zack, 2023).
5. As mentioned in the second point above, improvements in digital curricula can assist educators in identifying pupils who are not meeting their learning objectives. Additionally, pupils do better academically when they have a deeper comprehension of the previously described learning resources.
6. Teachers' shortage of time is addressed by digital curricular innovation, which lessens their burden. In addition to spending their days in the classroom with kids, teachers are already overworked and overburdened because they must attend meetings, design lessons, grade assignments, handle administrative duties, or conduct research during their free time. Teachers spend less time preparing classes and generating materials due to improvements in digital curricula. Additionally, it assists educators with an automated grading system that spares them the time and effort of going through papers and recording grades.
7. Innovations in digital curricula provide access to precise, trustworthy, and perceptive data that has the potential to revolutionise school performance. Every instructor has firsthand knowledge of each student's academic performance and may take corrective action as needed.
8. Innovation in digital curricula reduces expenses both now and throughout time. It is less expensive and simpler to update and maintain. Additionally, it is simple to distribute across instructors, which lowers printing costs, waste, and inefficiencies in operations.

Why Digital Curriculum Innovation?

The following are some ways that advances in digital curricula might help reduce equity gaps:

1. Permitting pupils to continue their education outside of school or in isolated, rural locations as long as an internet connection is guaranteed.
2. Encouraging students to continue their education in the event of a pandemic or natural disaster.

3. Using assistive technology to remove certain obstacles for learners with physical impairments.
4. Using games and interactive technologies to encourage pupils who don't appear interested in learning.
5. Giving immigrant students more access to digital dictionaries and translated educational resources
6. Assisting students who are having difficulty learning by giving them real-time feedback via AI tutors in addition to their professors, allowing them to advance at their own speed according to their past knowledge, skill levels, and learning requirements.

Challenges of Digital Curriculum for Inclusive Development in Nigeria Educational System

Despite the enormous impact of digital curriculum innovation for inclusive development in our educational system in Nigeria, some challenges still exist, including:

- i. **Low Digital Literacy:** Teachers and students must have the fundamental digital literacy abilities for digital curriculum innovation to be effective. Many teachers in today's schools oppose digital innovation because they lack the digital literacy to incorporate it into the classroom; as a result, they choose analogue teaching methods. Due to their lack of digital skills, some people still find it extremely difficult to participate in digital activities at school.
- ii. **Inadequate funding:** Despite the long-term cost-effectiveness of digital technological instruments, several educational systems find it difficult to afford the initial investment in technology infrastructure and training.
- iii. **Epileptic power supply:** One of the main obstacles to implementing innovative digital curricula for inclusive development is the absence of dependable, steady electricity. Access to technical tools may be hampered by frequent power disruptions.
- iv. **Poor Internet connectivity:** The adoption of innovative digital curricula for inclusive development is also adversely affected by a lack of internet connection. Quality access to digital platforms and services is hampered by problems like inadequate bandwidth and spotty internet availability.
- v. **Digital inequality:** There is an unequal distribution of digital transformation along socioeconomic and geographic boundaries (Zack, 2023).
- vi. **Policy implementation gap:** Despite Nigeria's development of frameworks like the National Digital Economy Policy and Strategy (NDEPS), the full implementation of advances in digital curricula is hampered by lax regulatory enforcement, bureaucratic bottlenecks, and inadequate oversight. Adelabu and Asojwa (2021) argued that policies frequently exist in theory but lack institutional coordination, quantitative indicators, or sustainable finance. This disparity hinders the methodical reform of Nigeria's educational system.

Conclusion

The discussion thus far highlights the immense potential of innovative digital curricula for inclusive development globally. It bridges the gap in educational equity by providing easy access to teaching and learning platforms through the use of e-learning platforms, mobile applications, virtual classrooms, and educational materials. This enables teachers to overcome geographical barriers and offer quality education to kids in remote regions. Digital curriculum innovation in transforming our educational system for equitable growth in Nigeria, despite challenges like online literacy, insufficient funding, erratic power supply and poor internet connectivity, outweighs all the hurdles if the correct steps are taken. Thus, digital curriculum innovation has the potential to provide equitable educational opportunity for all children regardless of where they are located by making wise investments in power supplies, online literacy training programs, and working with interested parties.

Way forward

This paper proposes the following course of action in light of the problems mentioned above:

1. To guarantee simple access to digital advances, the government and educational institutions must invest in enhancing digital infrastructure, such as power supplies and broadband connections.
2. To enable all educators to use digital learning platforms without hindrance, our educational system must support comprehensive, continuous digital literacy training programs for teachers.
3. Collaboration with other educational stakeholders is essential to supply the funds and resources needed to implement innovative digital curricula.
4. Policies should give underprivileged areas priority by providing subsidies for digital gadgets, reasonably priced data plans, and offline-compatible solutions. This will lessen the disparity in access.

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