

BRIDGING GAPS IN NIGERIAN EDUCATION SYSTEM THROUGH CUTTING-EDGE TECHNOLOGY AND INNOVATION IN A CHANGING SOCIETY

Chuks Emmanuel Ezedum, PhD
Professor of Health Education, UNN
Former Vice-Chancellor, Madonna University, Nigeria
Elele, Rivers State

Abstract

The key message of this paper is that there exist gaps in Nigerian education system requiring bridging through cutting-edge technology and innovation. The paper traces the evolution of the Nigerian education system from 1960 to date, ending with the premise that while progress has been made, the education system is not yet where it ought to be in the 21st century. The paper also compares Nigerian current education system with current global education standard, concluding that the global trend towards inclusive education, which accommodates diverse learning needs, remains inadequately addressed in Nigeria. Furthermore, the paper pinpoints gaps in Nigerian education system requiring cutting-edge technology and innovation intervention. It also presents the relevant technology and innovation for 21st century education. Finally, the paper presents recommendations for bridging identified gaps in the Nigerian education system through cutting-edge technology and innovation.

Keywords: Bridging gaps, Nigerian education system, cutting-edge technology, innovation

Evolution of the Nigerian Education System from 1960 to Date

The Nigerian education system has undergone significant transformations since the country gained independence in 1960. Initially modeled after the British system, the education framework was characterized by a focus on formal education, with an emphasis on subjects such as English, Mathematics, and Science (Adamu, 2019). The introduction of various policies, such as the National Policy on Education (NPE) in 1977, aimed to address educational disparities and promote a more inclusive system. However, despite numerous revisions, including the 2004 and 2013 policies, the education system still faces challenges in adapting to the demands of the 21st century, such as technological advancements and globalization (Ogunyemi & Ojo, 2020).

Today, the Nigerian education system is still grappling with issues such as inadequate infrastructure, poor funding, and a lack of qualified teachers. These shortcomings hinder the system's ability to meet global educational standards and prepare students for the challenges of a rapidly changing society (Ogunleye, 2021). Thus, while progress has been made, the education system is not yet where it ought to be in the 21st century.

Comparing Nigerian Current Education System with Current Global Education Standard

The current Nigerian education system significantly lags global standards in several areas. Globally, education systems are increasingly focusing on skill development, critical thinking, and creativity, while the Nigerian system remains predominantly examination-oriented (Mokhtar & Zain, 2020). For instance, countries like Finland and Singapore emphasize holistic education, integrating technology and innovative teaching methods, which contrasts sharply with Nigeria's traditional rote learning approaches (Adeyemi & Bolarinwa, 2019). Moreover, the global trend towards inclusive education, which accommodates diverse learning needs, remains inadequately addressed in Nigeria.

The United Nations Sustainable Development Goal (SDG) 4 emphasizes quality education for all, yet Nigeria struggles to provide equitable access to educational resources, particularly in rural areas (UNESCO, 2021). Thus, bridging this gap requires a concerted effort to align Nigeria's education system with global standards through innovative practices and policies.

Gaps in Nigerian Education System Requiring Cutting-Edge Technology and Innovation Intervention

The Nigerian education system exhibits significant gaps across various levels that necessitate the implementation of cutting-edge technology and innovative solutions. The gaps are seen at the primary, secondary, tertiary, and online sectors of the education system. For instance, it is no news that primary education in Nigeria suffers from a lack of qualified teachers and inadequate teaching materials. The integration of digital learning platforms could enhance access to quality educational resources (Nwafor & Okeke, 2022).

On the other hand, secondary schools often lack essential laboratory facilities and practical training opportunities. Utilizing virtual laboratories and simulations can bridge the gap in practical skills acquisition (Omar & Ismail, 2020). Higher education institutions also have their gaps yearning to be bridged. Basically, higher education institutions face challenges such as outdated curricula and limited research opportunities. Online platforms can facilitate knowledge sharing and collaborative research, fostering innovation (Abubakar et al., 2021). Incidentally, while online education has gained traction, issues of internet access and digital literacy hinder its effectiveness. Targeted training programs and infrastructure improvements are crucial for maximizing online learning potential (Adebayo & Osunade, 2021). Gaps also exist in various areas of the Nigerian Education System including equity and inclusion, technological innovation in teaching and learning, education policy and leadership, education and employability, and sustainability of the Nigerian education system.

- **Equity and Inclusion:** Despite policies aimed at promoting inclusivity, disparities in access to quality education persist, particularly for marginalized groups, including girls and children with disabilities (UNICEF, 2021).
- **Technological Innovation in Teaching and Learning:** Limited access to modern teaching tools and inadequate teacher training in technology use result in ineffective learning environments (Obi & Okwudili, 2020).
- **Education Policy and Leadership:** Weak governance structures and lack of coherent policies undermine effective implementation of educational reforms (Ogunyemi, 2021).
- **Education and Employability:** There's a disconnect between educational outcomes and job market requirements, leading to high unemployment rates among graduates (Ogunbanjo & Adeyemi, 2021).
- **Sustainability of the Nigerian Education System:** Inconsistent funding and political will limit the sustainability of educational programs and innovations (Eze & Okafor, 2020).

Relevant Technology and Innovation for 21st Century Education

In the context of 21st-century education, several technologies and innovations capable of bridging the existing gaps in Nigerian education system are particularly relevant. These include e-learning platforms, mobile learning, and artificial intelligence. Others include virtual reality, and collaborative tools. Let us briefly highlight these briefly.

1. E-Learning platforms provide flexible learning opportunities and access to a wide

range of resources, enhancing educational reach (Johnson et al., 2020).

2. Regarding mobile learning, it would be apt to note that with the increasing prevalence of smartphones, mobile learning enables students to access educational materials anytime and anywhere (Almaiah et al., 2020).
3. Artificial Intelligence (AI), on the other hand, can personalize learning experiences by adapting content to meet individual student needs, thereby improving engagement and outcomes (Luckin et al., 2016).
4. Virtual Reality (VR) technologies can create immersive learning environments, particularly beneficial in fields such as medicine and engineering (Cochrane & Bateman, 2010).
5. Collaborative Tools like Google Classroom and Microsoft Teams facilitate group work and communication, essential for developing teamwork skills (Hwang & Chang, 2018).

Bridging Identified Gaps in the Nigerian Education System Through Cutting-Edge Technology and Innovation

To bridge the identified gaps in the Nigerian education system, a multifaceted approach is necessary. These include infrastructure development, teacher training, policy reform, partnerships, and community engagement.

1. Infrastructure Development: Investing in digital infrastructure will facilitate access to e-learning and other educational technologies, particularly in rural areas (Okebukola, 2020).
2. Teacher Training: Implementing comprehensive training programs focused on integrating technology into teaching will enhance educators' effectiveness (Akinpelu et al., 2021).
3. Policy Reform: Revising educational policies to prioritize inclusivity, technology integration, and alignment with labor market needs will create a more responsive education system (Ogunyemi, 2021b).
4. Partnerships: Collaborating with tech companies and NGOs can foster innovation and provide resources necessary for implementing new educational technologies (Nwafor et al., 2022).
5. Community Engagement: Involving communities in decision-making processes ensures that educational interventions are contextually relevant and sustainable (Alabi & Dada, 2021).

Conclusions

In conclusion, the Nigerian education system faces numerous challenges that hinder its ability to meet the demands of the 21st century. By embracing cutting-edge technology and innovative practices, Nigeria has the potential to bridge existing gaps and enhance educational quality. Addressing issues of equity, technological integration, policy coherence, and employability will require concerted efforts from government, educators, and communities. Ultimately, a transformed education system will not only empower individuals but also drive national development and competitiveness in a globalized world.

Several of the references provided appear incomplete, unverifiable, or not fully compliant with APA 6th Edition standards. Below is the corrected APA 6th Edition formatting based on the information supplied:

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