

# Journal of Integrative Education Studies

<https://jies.cultechpub.com/jies>

Cultech Publishing

*Review*

## Artificial Intelligence Integration and the Rising Trend of Educational Decay in Nigerian Secondary Schools: Implications for Teaching and Learning Quality

**Bassey John Okoi<sup>1,\*</sup>, Christiana Efut Okoi<sup>1</sup>, John Bassey Okoi<sup>2</sup>, Ruth Moses Onen<sup>3</sup>**

<sup>1</sup>Department of Curriculum Studies/Educational Management and Planning, University of Uyo, Uyo, Nigeria

<sup>2</sup>Physical Science Education, University of Calabar, Calabar, Nigeria

<sup>3</sup>Animal and Environmental Biology, University of Cross River State, Calabar, Nigeria

\*Corresponding author: Bassey John Okoi, [basseyjohn09079@gmail.com](mailto:basseyjohn09079@gmail.com)

### Abstract

The introduction of Artificial Intelligence (AI) in global education has brought about new opportunities in promoting teaching-learning, and administrative effectiveness. In Nigeria, however, AI integration is occurring within an already poor secondary education system caused by certain factors such as shortage of teachers, poor infrastructure, not meeting up to the learning outcomes etc. Therefore, this study aims to examine AI integration in relation with the rising trend of educational decay in Nigerian secondary schools using a conceptual and literature-based approach and assess its implications for teaching and learning quality. The study further explores AI as a transformative instrument that personalizes learning, support lesson delivery, helps in improving assessment, and as well as a potential catalyst of decay when misused or implemented without adequate safeguards. The paper point out that, over-reliance on AI, poor digital infrastructure, poor teacher capacity, widening technological inequality, and weak regulatory frameworks contribute to educational decay, reduced teacher-student interaction. The paper further argues educational decay cannot be address through AI alone but must be embedded within broader reforms aimed at improving infrastructure, teacher development, equity, governance, and ethical regulation. The study concludes with recommendations that education stakeholders should take proactive measures in AI integration that strengthens teaching and learning quality while mitigating its risks.

### Keywords

Artificial intelligence, AI integration in education, Educational decay, Teaching and learning quality

### Article History

Received: 17 December 2025

Revised: 12 February 2026

Accepted: 12 March 2026

Available Online: 20 May 2026

### Copyright

© 2026 by the authors. This article is published by the Cultech Publishing Sdn. Bhd. under the terms of the Creative Commons Attribution 4.0 International License (CC BY 4.0): <https://creativecommons.org/licenses/by/4.0/>

## 1. Introduction

The emergence of artificial intelligence (AI) has gradually reshaped educational systems globally, providing a new opportunity for teaching, learning, and administrative duties [1]. With the introduction of AI, personalized learning is made easy and streamlines administrative tasks, supports teacher development, and broadens access to educational resources aligning with global goals for inclusiveness and quality education. Certainly, with these AI-driven tools such as intelligent tutoring systems, adaptive learning platforms, and automated assessment have said to have enhanced learning outcomes and help to reduce teachers' workload [2]. These features come with negative effects if overlooked. This is why many scholars and policymakers warn that without adequate safeguard measures implemented, AI can exacerbate existing inequities, erode academic integrity, and entrench systemic bias. The rapid, sometimes unregulated adoption of AI especially generative models has raised ethical and practical concerns regarding data privacy, fairness, transparency, and the quality of educational measurement. Unregulated use of AI in school may lead to certain uncalled practices.

In the context of Nigeria, many challenges are faced in the educational system such as structural deficit which predate AI underfunding, inadequate infrastructure, teacher shortages, poor teaching preparation, unequal access, and systemic disparities. These challenges are seen in both in urban and rural schools. These problems have led to what maybe describe as educational decay (decline in learning outcomes, high dropout rates, huge numbers of out-of-school children, and an overall weakening in the quality and equity of education). Against this backdrop, there is increasing interest in leveraging AI to reverse some of these challenges. Studies demonstrate that with the integration of AI and conducive learning environment teaching and learning could be enhanced in Nigerian institutions [3]. However, scholars have emphasized that sustainable improvements in educational effectiveness require greater attention to teachers' welfare, which in turn improves learning outcomes and the overall quality of student performance [4]. Beyond teacher-related factors, there is a growing need for AI integration in education. Research indicates that AI enhances personalized learning, enables adaptive assessment and feedback, and promotes more efficient administrative practices [5]. Furthermore, AI has been utilized to automate grading and feedback mechanisms, helping to reduce delays and inconsistencies often prevalent in traditional assessment systems within the teaching profession [6].

Nevertheless, adoption remains limited and uneven. According to recent reviews, major constraints include poor digital infrastructure, data privacy and security, cost constraints limited internet and electricity access, lack of devices, inadequate digital literacy among educators [7]. In most cases, even with the adoption of AI is used, many implementations remain experimental or localized. The fast spread and integration across levels of education is yet to be fulfilled. Furthermore, many scholars warn that unguided reliance on AI most especially in poorly regulated contexts is most likely to deepen existing inequities. For example, students from urban areas, wealthy schools, are likely to benefit from AI tools, while those in rural or poor school environment remain marginalized. Concern is also drawn to the increased academic dishonesty, over-reliance on AI for academic activities such as assignments, report and project writing etc, result in no longer having critical thinkers and original work. All of this could further decay and degrade educational quality rather than improve it.

Therefore, while AI is seen as a transformative potential, its role in addressing Nigeria's educational decay need be understood as effective only if implemented alongside investments in infrastructure, trained teachers, equity-driven access, and ethics/governance frameworks. As some researchers conclude: AI can bring improvements in pedagogy, assessment, and access but only when its deployment is thoughtful, context-sensitive, and anchored in systemic reform.

## 2. Methodology and Research Design

This study adopted a conceptual and literature-based research design, drawing on a narrative (non-systematic) literature review approach to examine the relationship between AI integration and the rising trend of educational decay in Nigerian secondary schools. A conceptual design was considered appropriate because the study does not seek to generate primary empirical data but rather to synthesize existing scholarly evidence, policy documents to provide a critical understanding of an emerging and complex educational phenomenon.

### 2.1 Literature Search Strategy

Relevant literature was identified through searches conducted across reputable academic databases and sources, including Google Scholar, ERIC, Scopus-indexed journals, ResearchGate, UNESCO reports, World Bank publications, and peer-reviewed education and technology journals. Keywords and search phrases used included combinations of "Artificial Intelligence in education," "AI integration in secondary schools," "educational decay," "academic decline," "teaching and learning quality," and "Nigeria education system."

### 2.2 Inclusion and Exclusion Criteria

#### 2.2.1 Inclusion Criteria

To ensure relevance and quality, the following inclusion criteria were applied:

- (1) Peer-reviewed journal articles, scholarly books, conference papers, and authoritative policy reports.
- (2) Publications focusing on AI in education, educational quality, academic decline, or related systemic challenges.
- (3) Studies published primarily between 2015 and 2025, with selected earlier foundational works included for conceptual grounding.
- (4) Literature addressing Nigeria, Sub-Saharan Africa, or comparable developing education systems.

### 2.2.2 Exclusion Criteria

- (1) Non-scholarly opinion articles lacking academic rigor.
- (2) Publications without clear relevance to education, AI integration, or educational quality.
- (3) Studies focused exclusively on higher education or corporate training without transferable insights to secondary education.

## 2.4 Data Analysis and Synthesis

The selected literature was analyzed using thematic content analysis. Key themes were identified, compared, and synthesized across studies, including: AI-driven personalization, assessment automation, teacher capacity, infrastructure deficits, ethical concerns, technological inequality, and implications for teaching and learning quality. Rather than statistical aggregation, the study employed analytical reasoning and comparative interpretation to integrate findings and develop a coherent conceptual argument.

## 2.5 Justification of Methodological Approach

A narrative literature-based methodology was appropriate given the exploratory and policy-oriented nature of the study, as well as the limited availability of large-scale empirical data on AI implementation in Nigerian secondary schools. By grounding the discussion in existing empirical studies, policy analyses, and theoretical frameworks, the study moves beyond opinion to provide a structured, evidence-informed conceptual contribution to debates on AI and educational reform in developing contexts.

## 3. Conceptual Clarification

### 3.1 Artificial Intelligence

AI is describe as the capability of machines particularly computer systems to perform basic and complex tasks which maybe require by human intelligence. These tasks include but not not limited to learning, reasoning, problem-solving, perception, language understanding, and decision-making [8]. AI as a field design system that can interpret external data, learn from such data, and apply acquired knowledge flexibly to achieve specific goals. AI is rooted in computer science, cognitive science, mathematics, linguistics, and engineering. It originate from the idea that human thought processes could be viewed in such a way that machines can simulate [9]. In the early days of AI, its major focus was concerned on symbolic reasoning, where computers are used to manipulate symbols using predefined rules. Over time, AI has evolved to include machine learning, where systems improve their performance through exposure to data and experience [10].

A major part of AI is machine learning, which enables algorithms to detect patterns in data and make predictions without being explicitly programmed [11]. The application of AI now spread different sectors including education, healthcare, finance, agriculture, transportation, and governance. For example, in education, AI supports adaptive learning, personalize learning, automated assessment, virtual tutoring, and analytics that enhance teaching and learning processes [12]. Generally, the concept of AI focuses on creating systems that augment or replicate intelligent human behavior. AI represents the display of intelligence by machines rather than by humans [13]. It encompasses the study of software and robots capable of thinking, learning, gathering information, communicating, operating, and perceiving objects [13].

### 3.2 AI Integration in Education

AI integration in education is believed to refers to the embedding artificial-intelligence systems (algorithms, machine learning, intelligent tutoring, generative models, etc.) into educational activities such as teaching, learning, assessment, and administrative processes in schools, universities, or other educational settings. This involves using AI to support or augment human-led education—not necessarily to replace teachers—by providing adaptive, data-driven, and scalable educational experiences [3]. Common AI applications include personalized learning platforms, intelligent tutoring systems, automated feedback and grading, virtual teaching assistants or chatbots, adaptive learning analytics, and 24/7 support for students outside traditional class hours. From a theoretical perspective, AI aligns well with educational theories such as constructivism (learning as active knowledge construction) and connectivism (learning as forming and navigating networks of information), because AI can facilitate adaptive, interactive, and networked learning

environments. There has been a tremendous transformation in education system through AI. The use of AI tools has helped to improve teaching and learning, as it offers dynamic assessment strategies and supports personalized learning [14]. AI tools in the classroom, like automated grading and intelligent tutoring systems, enable teachers to better meet the needs of each individual student, creating a more personalized learning environment. AI makes learning environments more dynamic and interactive. It influences students' academic performance as it encourages personalized learning [15].

### 3.3 Educational Decay/Academic Decline

Educational decay is defined as the gradual deterioration in the quality, relevance, effectiveness, and outcomes of an education system over time necessitated by certain factors. It is seen as a decline in teaching standards, weakened learning outcomes, poor school infrastructure, erosion of educational values, and diminishing public confidence in formal schooling. Scholars describe educational decay as a systemic crisis that results when schools fail to perform their core functions of knowledge transmission, character development, and skill formation [16].

Educational decay is usually caused by failure arising from a combination of structural, economic, administrative, and socio-cultural factors. These include inadequate funding, shortage of qualified teachers, poor policy implementation, weak school governance, infrastructural collapse, and the rising influence of disruptive social vices [4]. When these factors persist, they reduce the school system's ability to meet contemporary learning needs, thereby producing learners who are poorly prepared for global competitiveness and national development and in most case leads to decline youths' declining interest in tertiary education. Although the failure to implement these factors may contribute to declining educational interest, socioeconomic factors—including economic, social, and school-related issues—may also lead to educational decay [17]. This may as well often reflects the ineffective delivery of curriculum and limited learning resources. Studies show that persistent decline in student achievement is an early indicator of deeper structural breakdown, poor teachers' welfare implementation within the education system [3,18]. Another area is the decline in teacher quality, where insufficient professional development, low motivation, and brain drain lead to compromised teaching standards [19].

Educational decay also entails moral and value fading among learners. When schools become ineffective in character formation, society witnesses increasing indiscipline, examination malpractice, truancy, and loss of academic integrity [20]. These behaviours reflect the weakening cultural and ethical foundation of the educational system. Furthermore, educational decay has broader national implications. It contributes to youth unemployment, reduced human capital development, weakening of national institutions, and slowed socio-economic growth. As pointed out by scholars [21], no nation can rise above the quality of its educational system, and therefore sustained decay poses a major threat to societal development [17]. Educational decay is the cumulative outcome of long-term neglect, systemic weaknesses, and societal pressures that undermine the effectiveness of teaching, learning, and educational governance. Addressing it requires strategic reforms, investment in school infrastructure, strengthening teacher capacity, and ensuring accountability in policy implementation.

### 3.4 Teaching and Learning Quality

Quality refers to the extent to which services or product attain certain standards relatively superior compared to alternatives not just in its final output but in its processes too. Quality in regard to education is multidimensional. It covers all functions and activities of the educational system, teaching and academic programmes, research and scholarship, staffing, facilities, environment, services to community, and more often with attention to local cultural/international standards [22]. Hence, teaching quality concern the characteristics of instructing that make education effective, meaningful, and capable of fostering deep understanding and development. Majorly, teaching quality revolves around the following components

**Pedagogical knowledge and skills:** Teachers are expected to have mastery knowledge of the subject content and understand effective methods to convey that content.

**Effective instructional practices and methods:** Using appropriate teaching strategies (not just teaching) engaging students, encouraging critical thinking, discussion, interaction.

**Alignment of teaching, learning activities, and assessment to learning goals:** Ensuring that what is taught, how it is taught, and how students are assessed all aim at the intended learning outcomes (a principle often referred to as Constructive alignment).

**Student-centeredness, inclusivity, and responsiveness:** Quality teaching takes into consideration certain factors such as students' backgrounds, needs, and learning styles; designs learning experiences tailored to them; supports diversity, fosters collaboration, autonomy, and active learning.

**Supportive learning environment/classroom climate:** Creating a classroom culture of respectful interaction, high expectations, social and emotional support enabling students to engage, participate, and learn meaningfully.

**Assessment, feedback, and continuous improvement:** Incorporating assessment and feedback practices that promote learning; reflecting on teaching practices, adapting and improving over time.

Implementation of these components sees to teaching quality. On the other hand, quality learning refers to the nature of the learning process and what students actually gain such as knowledge, skills, values, dispositions and how meaningful and sustainable those gains are. Most important areas that makes learning quality include:

**Learning processes and engagement:** Quality learning implies students are deeply engaged, carried along, motivated, stay active, performing meaningful tasks, thinking critically, collaborating not passively receiving information.

**Learning outcomes and competence:** The results of learning should go beyond rote memorization learners should gain competencies: conceptual understanding, problem-solving skills, creativity, ability to apply knowledge, social-emotional skills, critical thinking, lifelong learning dispositions.

**Inclusivity, relevance, and personal development:** Quality learning should be inclusive and adapt to learners' contexts, backgrounds, needs; it should contribute to their holistic development intellectual, personal, social.

**Sustainability and transformation:** Quality learning should not just produce short-term gains, but support long-term knowledge retention, continuous growth, the ability to adapt to change, and produce sound minded people to the society with their creative ideas.

Quality learning is essential for equipping individuals with knowledge, skills, and values necessary to navigate and contribute to an increasingly complex and interconnected Society.

#### **4. Factors Contributing to Educational Decay**

Educational decay is seen as the gradual decline in the quality, effectiveness, and relevance of teaching and learning systems as a whole. It manifests in many ways such as low student performance, poor teacher output, weak infrastructure, and reduced societal trust in schooling. Several interrelated factors contribute to this decay.

**Poor Teacher Quality and Lack of Professional Development:** Teacher quality is one of the most critical determinants of educational outcomes. In many developing countries, including Nigeria, low teacher competence, poor motivation, and limited training contribute significantly to educational decay. Many teachers lack modern pedagogical skills required to teach 21st-century learners. They are not up-to-date due to lack of regular professional training.

**Weak Curriculum Implementation and Outdated Content:** Even when curricula are well designed, ineffective implementation results from insufficient teaching materials, weak supervision, and inadequate teacher preparation. Outdated curriculum content that fails to reflect contemporary skills such as digital literacy, problem-solving, and critical thinking also accelerates educational decay.

**Poor School Leadership Qualities:** Leadership plays a fundamental role in ensuring school discipline, resource management, and instructional supervision. Schools with weak leadership often suffer from mismanagement, teacher absenteeism, and lack of accountability. Most school leaders lacks the competency to command respect among their subordinates.

**Technological Gaps and Limited ICT (information communication technology) Integration in most Schools:** Limited access to technology, insufficient digital training, and lack of ICT infrastructure hinder modern teaching practices. Schools without ICT labs, internet access, or digital teaching tools are unable to compete with the global standard for educational delivery. This widens the skills gap and contributes to learning losses.

**Insecurity and Social Instability:** In countries like Nigeria faced with terrorism, kidnapping, cultism, and community conflicts, schools face disruptions, closures, and reduced enrollment. Insecurity in many Nigerian regions has resulted in prolonged learning interruptions and reduced teacher willingness to work in affected areas.

**Cultural Attitudes and Declining Value for Education:** A societal shift in attitudes toward formal education due to quick wealth, cybercrime, or informal economic opportunities reduces students' commitment to learning. When society places little value on academic achievement, motivation declines.

#### **5. AI Integration and the Rising Trend of Educational Decay**

The integration of AI in education has brought a significant transformation to instructional process, personalized learning, and administrative efficiency. Around the globe, AI tools such as intelligent tutoring systems, automated grading software, predictive analytics, and adaptive learning platforms are increasingly used to enhance teaching and learning [23]. Recent educational technology initiatives in Nigeria show that AI tools are already being introduced into learning environments, though adoption remains uneven. Platforms such as M-Shule use AI to personalize learning via SMS (short message service), while Edves harnesses AI for school administration and student engagement, and PrepClass uses AI to match learners with tutors, illustrating concrete applications of AI in the Nigerian educational context. Additionally, research from the Federal College of Education (Technical) Bichi found substantial awareness and use of ChatGPT among academic staff, suggesting that generative AI tools are present in teaching and learning practices related to secondary education. From a study conducted in the Ogun Central Senatorial District investigated how AI-based instructional materials influenced geometry teaching and learning in secondary schools, providing direct

evidence of AI integration at that level [5]. However, infrastructure constraints in many public schools limit widespread adoption, and reports from educators and students highlight concerns about over-reliance on AI tools potentially affecting critical thinking and academic integrity. These examples provide empirical grounding for discussions on how AI use may interact with educational quality in Nigerian secondary schools. In Nigeria, the adoption of AI in secondary schools is still in process but gaining attention as educational stakeholders seek to find solutions to improve learning outcomes and reduce teachers' workload. However, alongside these benefits, scholars have raised concerns about the rising trend of educational decay, referring to the gradual decline in teaching quality, students' academic engagement, moral standards, assessment credibility, and school effectiveness. This decay manifests in poor learning outcomes, examination malpractice, low teacher productivity, and students' dependence on shortcuts for academic success. Below are AI integration factors responsible for educational decay.

**Over-reliance on AI tools:** Unguided use of AI among students causes them to rely excessively on automated solutions instead of developing critical ideas and problem-solving skills. For example, plagiarism-based misuse of chatbots and automated homework tools increases academic dishonesty, thereby lowering academic standards. This dependency contributes to educational decay by weakening students' cognitive engagement and reducing teachers' influence in the learning process.

**Technological inequality and learning gaps:** AI integration requires stable electricity, digital devices, and internet connectivity, which many Nigerian secondary schools lack. This digital divide widens learning gaps between privileged and under-resourced students, thereby worsening educational inequalities and contributing to systemic decay.

**Reduced teacher-student interaction:** AI-based learning systems can unintentionally limit face-to-face interaction, which is essential for nurturing values, discipline, and emotional support. The decline in human-centered pedagogy may weaken teacher influence and reduce opportunities for personalized mentorship. As teacher-learner interaction declines, behavioural issues, lack of motivation, and moral decay become more pronounced.

**Ethical issues and poor regulation:** The absence of clear policies on AI use in Nigerian schools has led to misuse, such as automated essay generation, cheating during online assessments, and unregulated use of AI-enabled devices in classrooms. These unethical practices erode educational integrity and accelerate decay in academic standards.

AI integration has the potential to improve teaching and learning in Nigeria's secondary schools, but it also presents challenges that may worsen educational decay if not addressed immediately. Issues such as over-reliance on technology, digital inequality, poor policy regulation, inadequate teacher training, and declining academic integrity make the education system vulnerable. Strategic investment in digital infrastructure, teacher capacity development, and strong ethical frameworks are necessary to enable AI to support not undermine quality education.

## 6. Implications of AI Integration in Teaching and Learning Quality

The following are implications of AI integration in teaching and learning quality.

**Personalized Learning:** With the help of AI adaptive learning systems that tailor educational content to the individual needs of students is achieved. Students can learn at their own pace, revisiting topics they struggle with and advancing quickly through areas they master. Conversely, over-reliance on AI might reduce opportunities for collaborative learning and critical thinking if not balanced with traditional methods.

**Enhanced Teaching Efficiency:** AI can automate administrative and routine teaching tasks such as grading, attendance tracking, and content generation. Teachers have more time to focus on instructional design, mentoring, and addressing complex student needs. Alternatively, excessive reliance on automation may lead to a depersonalized learning environment, where students feel less connected to educators.

**Data-Driven Insights:** AI collects and analyzes vast amounts of educational data to provide insights on student performance, engagement, and learning gaps. Teachers can make informed decisions to improve learning outcomes and identify at-risk students early.

**Development of 21st-Century Skills:** AI integration encourages the use of digital tools that develop critical thinking, problem-solving, and technological literacy among students. Students become better prepared for modern workplaces and higher education.

**Innovation in Teaching Methods:** AI can support interactive simulations, virtual labs, and gamified learning experiences. Learning becomes more engaging and practical, improving knowledge retention. Conversely, teachers may require additional training to effectively integrate AI tools into pedagogy.

## 7. Challenges of AI Integration in Nigerian Secondary Schools

There are several factors posing as challenges to AI integration in Nigerian secondary schools, few of which are discussed below:

(1) **Infrastructure Deficit:** Many secondary schools in Nigeria are lacking the basic technological infrastructure such as stable electricity, internet connectivity, and modern computer labs needed for AI integration. Without this infrastructure, AI tools and learning platforms cannot function effectively, limiting the benefits of AI.

(2) **High Cost and Limited Funding:** One of the many challenges faced in education generally in Nigeria is poor funding. Kowning AI technologies and associated hardware (computers, servers, software licenses) are expensive, most schools, especially public ones, cannot afford them due to limited budgets. High costs lead to unequal access, with only a few elite schools able to implement AI, widening the digital divide.

(3) **Government Policy Issues:** Weak policies, poor planning, and inconsistent support from educational authorities make AI integration difficult. Policies may exist on paper but lack effective implementation or funding. Without clear guidelines and support, schools may adopt AI inconsistently or abandon projects midway.

(4) **Teacher Resistance and Lack of Training:** In most cases, many teachers are resistant to AI due to fear of job displacement, unfamiliarity with technology, or low digital literacy. Without proper training and motivation, AI tools cannot be fully utilized, and pedagogical quality may decline.

## 8. Recommendations

**Adoption of Offline and Lightweight AI Solutions:** Given persistent challenges such as unstable electricity supply, limited internet access, and inadequate ICT infrastructure, schools with limited resources should prioritize offline or low-bandwidth AI models rather than cloud-dependent systems.

**Phased and Modular Implementation Strategy:** Rather than attempting full-scale AI deployment, schools should adopt a phased and modular approach to AI integration: Phase 1: AI use for administrative efficiency (attendance management, basic assessment processing, record keeping). Phase 2: Teacher-facing AI tools for lesson planning, formative assessment, and instructional support. Phase 3: Limited student-facing AI applications, introduced only after teacher capacity and ethical guidelines are established. This staged approach reduces financial burden, allows gradual capacity building, and minimizes disruption to teaching and learning processes.

**Teacher-Led AI Integration and Capacity Building:** AI integration must remain teacher-centered. Schools should prioritize professional development focused on: Understanding AI as a supportive pedagogical tool, not a replacement for teachers. Designing assessments that emphasize reasoning, oral presentation, project-based learning, and classroom interaction to reduce over-reliance on AI-generated outputs. Identifying and managing inappropriate AI use by students. Low-cost strategies such as peer mentoring, school-based workshops, and collaboration with teacher training institutions can be adopted to enhance digital competence without heavy financial investment.

**Proposed Ethical Framework for AI Use in Nigerian Secondary Schools:** This study proposes a practical, school-level ethical governance framework for AI integration, consisting of the following components: (a). **Acceptable Use Policy (AUP)** Clear guidelines defining: When and how students may use AI tools for learning support, Prohibited uses, such as AI-generated assignments submitted as original work. (b). **Academic Integrity Framework;** A structured distinction between: AI-assisted learning (acceptable use for understanding, practice, and feedback), AI-generated academic work (unacceptable substitution for student thinking). This framework should be reinforced through assessment redesign and classroom supervision. (c). **Human-in-the-Loop Principle.** Teachers must retain final authority over: Assessment, grading, and feedback, Instructional decisions, Interpretation of AI-generated recommendations. AI should inform, not replace, professional judgment. (d). **Data Privacy and Child Protection Guidelines:** Schools should limit: Collection of student data to essential educational purposes, Use of third-party AI platforms that store or commercialize student data. Where possible, locally hosted or offline tools should be preferred to reduce data exposure.

## 9. Conclusion

AI presents numerous opportunities for strengthening teaching and learning in Nigerian secondary schools. It can enhance instructional efficiency, personalize learning, support assessment, and equip students with modern skills required for global competitiveness. However, the paper demonstrates that AI integration also contributes to the rising trend of educational decay when mismanaged manifesting in academic dishonesty, technological inequality, weakened teacher-student relationships, and reduced cognitive engagement. The challenges of poor infrastructure, inadequate teacher preparation, weak governance, and lack of ethical regulation further expose the school system to risks associated with indiscriminate AI use. Therefore, AI alone cannot reverse educational decay; its benefits can only be realized when accompanied by strong systemic reforms, adequate funding, clear policies, teacher capacity development, and equitable access.

A balanced approach that integrates AI responsibly while reinforcing human values, ethics, and pedagogical best practices offers the most viable path to improving teaching quality and restoring educational standards in Nigeria. With coordinated efforts from government, schools, teachers, students, ICT regulators, and other stakeholders, AI can become a transformative force rather than a contributor to further decline.

## Conflicts of Interest

The authors declare no conflicts of interest related to this publication.

## Generative AI Statement

The authors declare that no Gen AI was used in the creation of this manuscript.

## References

- [1] Nkedishu VC, Okonta V. Artificial intelligence and future of secondary education in delta state: Implications for educational administration. *Journal of Asian Scientific Research*, 2024, 14(3), 277-288. DOI: 10.55493/5003.v14i3.5073
- [2] Birma AI, Gora AA, Zarma ML. Artificial intelligence in education: A comprehensive review of trends, challenges and future directions in Nigeria and Sub-Saharan Africa. *International Journal of Academic Research in Progressive Education and Development*, 2025, 14(4), 238-254. DOI: 10.6007/IJARPED/v14-i4/26686
- [3] Okoi BJ, Okoi CE, Salvation UE. Influence of school environment on academic performance of secondary school students in Calabar Metropolis, Cross River State, Nigeria. *Journal of Social Sciences and Management*, 2022, 1(3), 12-16. DOI: 10.56556/jssms.v1i3.96
- [4] Okoi BJ, Akpan EC, Ifiok OT, Ikot DJ. Socioeconomic factors influencing youths' declining interest in tertiary education: The case of Cross River State, Nigeria. *Public Management and Service*, 2025, 1(2), 30-34. DOI: 10.64229/gynha760
- [5] Akintade CA, Olaore FA. Effect of integrating artificial intelligence (AI) on the teaching and learning of geometry within secondary schools in ogun central senatorial districts, Nigeria. *International Journal of Research and Innovation in Social Science*, 2025, 9(9), 198-209. DOI: 10.47772/IJRIS.2025.909000018
- [6] Ekwesianya AA. Towards effective integration of artificial intelligence in teaching profession in Nigeria: Issues and the way forward. *African Journal of Educational Management, Teaching and Entrepreneurship Studies*, 2025, 14 (1), 182-195.
- [7] Dahiru A, Zaitawa MA. Integration of artificial intelligence in improving secondary school education in Nigeria. *Kashere Journal of Education*, 2024, 7(2), 361-369.
- [8] Zhang CM, Lu Y. Study on artificial intelligence: The state of the art and future prospects. *Journal of Industrial Information Integration*, 2021, 23(1), 100224. DOI: 10.1016/j.jii.2021.100224
- [9] Nilsson NJ. *Principles of artificial intelligence*. Morgan Kaufmann, 2014.
- [10] Mitchell T. *Machine learning*. McGraw-Hill, 1997.
- [11] LeCun Y, Bengio Y, Hinton G. Deep learning. *Nature*, 2015, 521, 436-444. DOI: 10.1038/nature14539
- [12] Agbola AM, Solomon I. An analysis of the role of artificial intelligence in Nigeria's educational system. *African Journal of Theory and Practical of Educational Research*, 2023, 11, 1-13.
- [13] Mustapha AG, Jolaoluwa GT, Oga O, Adigun HO, Salami SA, Oluwagbemi ER. Impact of integrating artificial intelligence into science education: A systematic review of current literature and practices. *Faculty of Natural and Applied Sciences Journal of Computing and Applications*, 2025, 2(2), 66-75.
- [14] Okeke, C. (2019). *Contemporary issues in education management in Africa*. Enugu: Academic Frontier Press.
- [15] Adebayo, J., and Ogunyemi, B. (2020). *Systemic challenges in Nigerian secondary education*. Lagos: Greenfield Publishers.
- [16] Okoi BJ, Okoi JB, Onen RM. Academic staff welfare and job performance in federal universities in south-south geopolitical zone of Nigeria. *Sustainable Development Today*, 2025, 1(1), 30-35. DOI: 10.64229/mjnr7h06
- [17] *Global education monitoring report*. Paris: UNESCO, 2022.
- [18] Eze, U., and Ogbodo, C. (2020). Teacher quality and declining learning outcomes in West African schools. *International Journal of Pedagogy*, 8(1), 77-89.
- [19] Aina, S. (2020). Education and national development: A critical appraisal. *Journal of Educational Reform*, 15(2), 45-58.
- [20] Wittek L, Habib L. Quality teaching and learning as practice within different disciplinary discourses. *International Journal of Teaching and Learning in Higher Education*. 2013, 25(3), 275-287.
- [21] *Education sector financing in Sub-Saharan Africa*. World Bank, 2021.
- [22] Jekayinfa, A., and Omoyeni, G. (2018). Curriculum relevance in Nigeria's secondary schools. *International Journal of Curriculum Studies*, 5(3), 110-125.
- [23] Nwachukwu, A. (2022). Understanding moral decay in contemporary Nigerian schools. *African Journal of Social Values*, 4(3), 112-130.