



doi:10.5281/zenodo.20158620

# **Educational Policy Of Contemporary Nigeria And The Introduction Of Artificial Intelligence (AI) In Teaching And Learning Of History In Tertiary Institutions**

**Amadi, Iheanyi Collins**

**Department of Educational Foundations  
Faculty of Education  
University of Port Harcourt, Port Harcourt, Nigeria  
collinsamadi1991@gmail.com**

## **ABSTRACT**

This research explores the education policy in modern Nigeria and how the concept of artificial intelligence (AI) can be applied to the learning and teaching of history in higher education. The growing trend in digital transformation of education across the globe has seen the integration of AI-based tools in education, to help in improving the pedagogical practices in education, improve learning outcomes, and provide interactive learning experiences. The key aim of the research is to evaluate the impact of the Nigerian educational policy on the application and success of AI in history education in higher educational institutions. The qualitative research design was adopted in order to gain a deep insight into the phenomenon. The information was gathered based on semi-structured interviews with lecturers, students, and policy makers and analysis of documents in relation to the educational policies. The sampling method adopted was purposive sampling as it was applied to the participants who have direct experience in the field of history education and exposure to AI technologies. Thematic analysis was employed in the analysis of the data to determine the major patterns and insights connected to the topics of AI integration, challenges, and policy implications. The research finds that although AI is a promising tool to revolutionize the history teaching in Nigeria, it can only be effectively used once the policy gaps, infrastructural shortcomings, and capacity issues are addressed. The research suggests that effective policy frameworks, the investment in digital infrastructure, and the constant capacity building of educators should be developed. These are necessary to make sure that the integration of AI can help Nigeria to develop sustainably and inclusively in terms of education.

**Keywords:** Artificial Intelligence, Educational Policy, History Education, Tertiary Institutions, Nigeria, Teaching and Learning

## **INTRODUCTION**

The blistering development of artificial intelligence (AI) has made immense changes in all spheres of the world, and education is one of the most affected issues. Over the last few years, the trend in setting educational policy in Nigeria is the growing influence of technological innovation, specifically, AI-driven tools that help to improve the process of teaching and learning. The assimilation of AI in tertiary education is indicative of a larger trend in the world at large where digital transformation is transforming the way pedagogies, curricula, and knowledge are shared (Chen *et al.*, 2020; Zawacki-Richter *et al.*,

2020). This is especially true when it comes to areas like history where the old system of teaching is now being supplemented by interactive and data-driven technologies. Artificial intelligence in education is extensive and could be divided into intelligent tutoring systems, automated assessment systems, and adaptive learning systems. The purpose of these technologies is to make the learning process more individualized, engage students better, and help them achieve better academic results (Holmes *et al.*, 2022; Luckin *et al.*, 2022). The incorporation of AI in the Nigerian context is slowly increasing, which can be explained by the necessity to overcome the long-standing issues of the overcrowded classroom, the lack of instructional materials, and the unequal quality of education (Eleje, 2025; Birma *et al.*, 2025).

The conventional means of teaching history in higher education institutions has been based on lectures, use of archives and reading of texts. Nonetheless, new possibilities of changing historical pedagogy by means of digital simulations, virtual reality, and data analytics appear with the emergence of AI. The tools help students better assemble historical content, think critically and develop analytical abilities (Ubodiom, 2025). Therefore, AI can make history education more engaging, approachable, and reflective of current learners. Notwithstanding these opportunities, there are challenges that are associated with implementing AI in tertiary education in Nigeria. Problems with poor infrastructure, a low level of digital literacy among teachers, and the lack of effective policy frameworks are some of the barriers to the successful deployment of AI technologies (Omenka *et al.*, 2024; Adeagbo, 2025). Moreover, data privacy issues, unethical application of AI, and the chances of replacing the traditional teaching process raised significant concerns about the sustainability of the AI-based education system (Selwyn, 2021; UNESCO, 2023). The policy regarding education in Nigeria is a powerful factor in determining the success of AI adoption and integration in higher education. One of the policies should not only take into consideration technological needs but also pedagogical, ethical, and institutional needs. In collaboration with educational stakeholders, the Nigerian government is also beginning to appreciate the importance of having comprehensive frameworks that will facilitate digital transformation, at the same time equitably distributing educational resources (Fausta & Onyekaba, 2025; Ekwesianya, 2025).

The world is making efforts through bodies like UNESCO and OECD to ensure that the introduction of AI goes hand in hand with educational objectives and social principles. Their frameworks emphasize the necessity of responsible AI application, educator education, and access to technology of the inclusive nature (UNESCO, 2023; OECD, 2021). These international views can be of great help to Nigeria in its quest to formulate contextual specific policies that present its own peculiar needs and prospects of education. The willingness of the tertiary institutions in Nigeria to embrace AI is quite different in different regions and institutions. Although a few universities have started testing AI tools, a number of others struggle with the problem of resources and insufficient institutional capacity (Omenka *et al.*, 2024). Such disproportionate preparedness indicates the necessity to implement specific measures that can help to fill the gaps in the infrastructures and ensure capacity building of educators and students. The awareness and acceptance of AI technologies by students are also important to the successful implementation of the technologies. Research has shown that university students in Nigeria are becoming cognizant of AI and its ability to improve their lives, but there are still gaps in their knowledge and how they use AI productively (Anayochukwu, 2025). Improving digital literacy and a culture of innovation are hence the key elements of AI implementation in education. Furthermore, AI implementation in the field of education can widen the concerns of institutional management and governance.

### **Statement of the Problem**

Education in Nigeria still occupies a strategic place in the development of the country, especially in its tertiary level where knowledge production and advanced learning are emphasized. The changing nature of educational delivery, due to technological advancement and globalization, has required constant adaptation in teaching and learning processes.

The modern education policy models are becoming more aware of the necessity to incorporate digital tools to improve the effectiveness of instruction and learning outcomes. According to Ogunode and Ukozor (2023), tertiary education in Nigeria is expected to be at par with the rest of the world through innovation and modernization, while Fasola (2024) emphasizes the increased relevance of technological pedagogy in delivering quality education. Within this context, disciplines such as history are also expected to reflect these transformations in the way content is delivered and the methodologies used.

## **Theoretical Framework**

### **Diffusion of Innovations Theory and Its Applicability to the Study**

The Diffusion of Innovations Theory was propounded by Everett M. Rogers in 1962, with the intention of explaining how, why and at what rate new ideas and technologies spread across societies. According to Rogers (1962), the theory assumes that innovations are adopted over time in a social system through specific communication channels. Its key argument is that five attributes are critical to the adoption of innovations: relative advantage, compatibility, complexity, trialability, and observability. Rogers categorized the adopters into innovators, early adopters, early majority, late majority, and laggards to account for the variability in the adoption rates. The theory gives a systematic framework to understand how innovations, like artificial intelligence (AI) can be introduced, accepted and institutionalized in educational settings, including tertiary institutions in modern Nigeria.

The use of the Diffusion of Innovations Theory in this study highlights the interplay between policy, institutional practices and technological adoption in tertiary education. According to Rogers (1962), the success of innovation adoption is a function of its perceived value, ease of use and how well institutions can communicate benefits. In relation to the integration of AI, this theory is useful to explain the gradual integration of AI technologies in history and other academic programmes in Nigerian tertiary institutions. The fit between national educational policy and institutional practice and strategic use of pilot projects and professional development are the stages of innovation diffusion. In its turn, the theory offers a solid framework to examine how AI can be institutionalized successfully, with the emphasis on policy direction, faculty involvement, and planned adoption approaches in the realization of sustainable innovation in education

## **METHODOLOGY**

This research used qualitative research method to examine the way artificial intelligence can be integrated in teaching and learning of history in tertiary institutions in Nigeria. The qualitative design is suitable as it will enable one to have a deep insight into the experiences, perceptions, and attitudes of the participants regarding the adoption of AI in education. Interviews and document analysis were used to collect data semi-structured, and they involve lecturers, students and institutional policymakers. The sampling method is the purposive sampling, which is used to choose the participants with the relevant experience in the field of history education and familiarity with the AI tools. The data is analyzed through thematic analysis allowing identifying patterns and essential themes in the matter of AI integration, challenges, and policy implications. During the study, ethical considerations like informed consent, confidentiality and voluntary participation are strictly held.

### **History Education in Tertiary Institutions in Nigeria**

History education in the tertiary institutions in Nigeria is a discipline which examines systematically past events, social developments and cultural transformations to develop critical thinking and historical consciousness among students. According to Nkolika (2024), history education provides the learner with analytical and interpretive skills that are needed in understanding the dynamics of society and putting contemporary issues into perspective. George and Chukwuka (2023) state that tertiary level history programmes focus on research methodology, historiography and source evaluation, which allows students to interact rigorously with primary and secondary historical data. Cudjoe and Adebayo (2025) also elaborate that such programmes are tailored to inculcate competencies in critical thinking, argumentation, and effective presentation of historical information to prepare graduates to play a significant role in scholarship, policy discussion and national development programs.

History education in Nigerian tertiary institutions is also characterized by research, innovation and intellectual development. Gustilo et al. (2024) state that independent inquiry and scholarly competence are developed through the research projects, dissertations, and seminar-based discussions. According to Nkolika (2024), students are taught to be critical of the sources, to make coherent arguments, and to add new insights to the historical knowledge. George and Chukwuka (2023) explain that these programmes are aimed at producing graduates who are able to solve problems in society, preserve cultural heritage and inform policy decisions by historical understanding. The emphasis on research and intellectual

engagement means that the study of history is not limited to the classroom, but results in the production of professionals and scholars who are able to contribute to the development of the nation and the academic community at large.

### **Educational Policy in Nigeria**

Educational policy in Nigeria is a formal set of principles, guidelines, and strategies for organizing, administering, and providing education in all levels. According to Ngonso et al. (2025), such policies are aimed at ensuring that the educational system meets the national development objectives, fosters the development of human capital and promotes social cohesion. Abubakar et al. (2024) further explain that educational policy sets the scope of access, quality standards and curriculum priorities in order to provide a structural roadmap for institutional governance. Thomas et al. (2024) state that policy decisions are based on the interactions between national aspirations, international educational trends and technological advancements. Within tertiary institutions, these policies are especially important because they determine instructional methods, research priorities and adoption of innovations that improve learning outcomes and institutional performance. This systemic orientation makes educational policy an instrument of strategic positioning of the knowledge economy of Nigeria in the future.

Educational policy in Nigeria also provides structures of governance and operational mechanisms for regulating institutional performance and accountability. According to Pokhrel and Chhetri (2021), policies determine the roles of regulatory bodies, ministerial supervision and institutional leadership in the implementation of educational goals. Okunade (2024) states that the policy framework prescribes standards for accreditation, quality assurance and evaluation of teaching and research outcomes in order to provide a coherent system for continuous improvement. According to Chen and Anyanwu (2025), these frameworks will ensure that the institutions comply with the national standards and encourage innovation in pedagogy and research. Within the tertiary institutions, these governance mechanisms enable resource allocation, technological adoption and academic planning to ensure that the delivery of education is consistent, measurable and aligned to the national policy imperatives.

### **Concept of Artificial Intelligence (AI) in Education**

Artificial intelligence (AI) in education is the application of computer systems and algorithms to carry out activities that would normally be carried out by the human intelligence, including learning, reasoning, and problem-solving. Thompson et al. (2023) state that AI systems are capable of modeling the cognitive processes and thus machines can analyze data, predict outcomes, and offer adaptive learning experiences. Umar et al. (2025) point out that the applications of AI in education range from personalized teaching, automated evaluation, and intelligent tutoring systems. Akinwumi et al. (2025) further stress on the point that AI makes it easier to create responsive learning environments where instructional content is tailored to meet the needs of individual learners. The AI in education conceptualization therefore includes both the technological and pedagogical system that is required to improve the efficiency of teaching, learning and administration in the modern educational systems.

The use of AI technologies in education offers data-driven decision-making and optimization of instructions. According to Rudolph et al. (2024), AI can be used to analyze large datasets to detect patterns in learning, as well as trends in student performance and areas where students may need intervention. Emeifele (2025) emphasizes that AI-driven predictive analytics can enable educators to predict the challenges of learners and adjust the teaching strategies to them. Obidiebube et al. (2025), claims that AI can be used to support adaptive assessments that respond to the level of knowledge of the students, providing immediate feedback and encouraging self-regulated learning. These applications show that AI is not just a tool to be used alongside education, but an integral part of educational systems that can provide both administrative and pedagogical efficiencies that can improve learner engagement and academic outcomes.

The introduction of AI in teaching and learning changes the conventional pedagogical strategies by facilitating interactive and immersive learning. According to Essien et al. (2024), AI-based platforms make simulations, virtual worlds, and gamified material more active in getting students to think critically and solve problems. According to Msambwa et al. (2025), intelligent tutoring systems and chatbots offer

constant assistance and personalized advice and minimize the limitations of traditional classroom time. Ukeje et al. (2024) state that collaborative learning is another aspect of AI technologies that involve linking learners to resources and peers via adaptive learning networks. The reorganization of pedagogy makes AI a source of innovation, developing a chance of better knowledge acquisition and its application in various fields of education.

AI also affects curriculum design, instructional planning and institutional management in education. Chan and Colloton (2024) claim that AI can inform curriculum development by revealing the gaps in knowledge and helping to organize the content in the most efficient way. According to Ofem and Chukwujama (2024), AI-based analytics helps educators in optimizing teaching methods and resources distribution to achieve the best learning outcomes. Mathew and Isaac (2025) also stress that the implementation of AI in institutions improves efficiency in administrative operations, student assessment, and faculty development, which makes the operation practices relevant to the technological changes. These functions demonstrate how AI in education goes beyond the classroom instruction and affects systemic processes that affect the quality, effectiveness and responsiveness of educational delivery in today's learning environments.

### **Integration of Artificial Intelligence (AI) in Teaching and Learning**

The concept of artificial intelligence (AI) integration in teaching and learning is defined as the level of using AI technologies to support the delivery of instruction, assessment, and interaction between learners. According to Nkolika (2024), AI integration in tertiary institutions is a way of boosting personalized learning by tailoring the content to the individual learner's pace and level of understanding. George and Chukwuka (2023) note that AI-based systems, including intelligent tutoring systems and adaptive learning software, can enable teachers to track performance in real-time and give instant feedback. Cudjoe and Adebayo (2025) also add that AI can facilitate interactive and immersive learning, especially with simulations and virtual laboratories, developing an environment in which students actively learn the learning material instead of passively receiving information. These applications suggest that AI can help to change the traditional classroom dynamics to more responsive and student-centered learning processes. AI technologies also have an impact on assessment and monitoring in the learning environment. Onwuagboke et al. (2024) believe that AI-based assessment systems can allow continuous evaluation, adaptive testing, and immediate feedback, which contribute to the increased engagement of students and self-regulated learning. Akintayo et al. (2025) point out that AI can be used to track student performance over time, creating analytics that can be used to make adjustments to instruction and design curriculum. Somadina and Olabisi (2024) also emphasize that AI is useful in defining learning gaps, forecasting academic performance, and assisting with individual intervention plans. The incorporation of these AI functionalities suggests that the integration is not only technological but also pedagogical and impacts instructional design, teaching methodology and quality of education delivery overall in tertiary institutions.

The level of integration of AI in teaching also represents institutional commitment to innovation and constant improvement. As Nkolika (2024) notes, the active integration of AI in institutions is associated with improved collaboration, resource utilization, and student-centered learning. George and Chukwuka (2023) state that AI creates interactive learning platforms by using virtual simulations, intelligent tutoring, and digital content platforms, which enable learners to interact more with instructional resources. According to Cudjoe and Adebayo (2025), this kind of integration facilitates adaptive learning processes, which are flexible, efficient, and inclusive to education. Taken together, these results indicate that AI implementation is not limited to mere adoption but it can influence pedagogical culture, learning outcomes, and institutional strategies, which is why it is a transformative phenomenon in the modern tertiary education setting.

### **Implications of the Adoption of Artificial Intelligence (AI) in Curriculum Development in Nigerian Tertiary Institutions**

The adoption of artificial intelligence (AI) in tertiary institutions has significant implications for curriculum development especially in terms of aligning course content with the modern technological demand. Ofem and Chukwujama (2024) also suggest that AI can help curriculum designers to include adaptive learning pathways that adapt to the needs of individual students to support personalized and competency-based learning. Mathew and Isaac (2025) point out that applications of AI enable the real-time evaluation of learning outcomes, which is used to inform the revision of course content to make it relevant and effective. Thompson et al. (2023) also add that AI simplifies the process of making decisions based on data in curriculum planning, allowing teachers to define the gaps in knowledge, modify the sequence of instruction, and introduce new digital skills, thereby making sure that the curriculum is responsive to the needs of education and labor market.

The introduction of AI transforms the teaching approach in the process of curriculum development, providing the possibility of more interactive and experiential learning. Upon the use of AI-based platforms, including simulations, virtual laboratories, and intelligent tutoring systems, students become more engaged due to the ability of the technology to create immersive learning experiences (Umar et al., 2025). As Akinwumi et al. (2025) note, the technologies enable the students to interact with complex ideas and historical or scientific information in a manner that is not possible with traditional pedagogical techniques. Rudolph et al. (2024) emphasize that the integration of AI in the curriculum design process promotes group learning and problem-solving, which prepares learners with critical thinking and analysis skills. This shift in the way of instruction shows that the use of AI does not only alter the content but also transforms the very way of teaching and learning in higher learning institutions.

AI is also affecting the assessment and evaluation of curriculum and enabling continuous improvement of academic programmes. According to Emezie (2025), AI tools facilitate predictive analytics for determining the performance trends of students, which informs the curriculum to address learning gaps. Obidiebube et al. (2025) observe that adaptive assessment systems enable educators to adjust assessments to the abilities of the learners so that assessments can be in line with the curriculum goals and learning outcomes. Essien et al. (2024) also go further to emphasize that the integration of AI offers real-time feedback mechanisms, which boosts both the effectiveness of teaching and student learning. These capabilities ensure that curriculum development is iterative, evidence-based and responsive and therefore tertiary institutions can deliver programmes that are both current and aligned to the technological advancements in education.

The adoption of AI also has an impact on faculty development and institutional capacity in the area of curriculum planning. According to Msambwa et al. (2025), curriculum design is increasingly demanding that faculty members have skills in digital pedagogy, data analysis and AI tool utilization. According to Thompson et al. (2023), the institutions that have adopted AI in the curriculum development process will need to invest in professional training and infrastructure to facilitate technology-enhanced teaching. Umar et al. (2025) believe that such steps can be used to make sure that faculty members are prepared to utilize AI tools to deliver content, assessments, and innovate teaching. Consequently, AI adoption enhances the synergy between curriculum design, pedagogical practice and institutional readiness to position tertiary institutions to provide quality and technology-driven educational programmes that can meet the contemporary academic and professional demands.

### **CONCLUSION**

This research explored the intersection of the modern Nigerian educational policy and the application of artificial intelligence (AI), in teaching and learning of history in higher institutions. As it can be seen, AI is a revolutionary perspective to transform history education and make it less traditional and lecturist, and more interactive and student-centered. The shift is in line with the world trends in pedagogic changes and digital education. The results show that although there is a growing interest in AI among students and educators, its practical use is still not equal across universities. Limits on infrastructure, lack of training and unreliable policy consideration remain some of the factors affecting successful adoption. These limitations bring out the disparity between policy ambitions and policy reality in the Nigerian

system of higher education. Also, the investigation shows that AI can be critical in improving the historical knowledge by providing numerous tools like simulations, digital archives, and adaptive learning systems. Such innovations can enhance the level of analysis and interaction of the students with the historical material. These benefits, however, should be determined by the degree to which these institutions incorporate AI in their teaching models.

## RECOMMENDATIONS

1. The Nigerian government and the educational authorities are in need of formulating comprehensive policies that would explicitly link the integration of artificial intelligence in tertiary education. These policies must offer a specific direction on how it is implemented, funded and used ethically so that AI adoption is not done randomly and in conflict with national education goals.
2. Tertiary institutions ought to invest in infrastructural development through provision of dependable internet connectivity, digital technology and AI-based learning systems. The advantages of AI cannot be achieved without proper technological infrastructure. The institutions should also make sure that these resources are available to the students and the lecturers in order to encourage inclusive learning.
3. Teacher capacity building will be necessary in order to integrate AI successfully. To train the lecturers to utilize AI tools in teaching history, regular training programmes, workshops and professional development programmes should be established to provide the lecturers with skills required to use the devices of AI in teaching history. This will boost their self-confidence and ability to embrace new teaching techniques.
4. The AI-based learning methods will have to be integrated into curriculum development and should promote critical thinking, problem-solving, and the possibility of interacting with historical materials. The implementation of AI in the curriculum will mean that AI will not just be used as an incidental aspect of the teaching and learning process.
5. Lastly, additional studies are to be promoted to constantly test the effects of artificial intelligence on the teaching and learning performance. Empirical research on various fields of study and institutional setting will be of great use in refining AI implementation policies and informing future educational policies.

## REFERENCES

- Adeagbo, J. O. (2025). Artificial intelligence and educational implications in Nigeria. *British Journal of Education, Learning and Development Psychology*. [https://abjournals.org/bjeldp/wp-content/uploads/sites/8/journal/published\\_research/volume-8/issue-3/BJELDP\\_VJWDLLEK.pdf](https://abjournals.org/bjeldp/wp-content/uploads/sites/8/journal/published_research/volume-8/issue-3/BJELDP_VJWDLLEK.pdf)
- Anayochukwu, A. A. (2025). Artificial intelligence awareness and adoption patterns among university students in Nigeria: A review. *World Journal of Innovation and Modern Technology*, 9(5), 101–114. <https://iardjournals.org/get/WJIMT/VOL.%209%20NO.%205%202025/Artificial%20Intelligence%20Awareness%20101-114.pdf>
- Birma, A. I., Gora, A. A., & Zarma, M. L. (2025). 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*, 14(4). [https://www.researchgate.net/publication/396242197\\_Artificial\\_Intelligence\\_in\\_Education\\_A\\_Comprensive\\_Review\\_of\\_Trends\\_Challenges\\_and\\_Future\\_Directions\\_in\\_Nigeria\\_and\\_Sub-Saharan\\_Africa](https://www.researchgate.net/publication/396242197_Artificial_Intelligence_in_Education_A_Comprensive_Review_of_Trends_Challenges_and_Future_Directions_in_Nigeria_and_Sub-Saharan_Africa)
- Chan, C. K. Y. (2023). A comprehensive AI policy education framework for university teaching and learning. <https://arxiv.org/abs/2305.00280>
- Chen, L., Chen, P., & Lin, Z. (2020). Artificial intelligence in education: A review. *IEEE Access*, 8, 75264–75278. <https://ieeexplore.ieee.org/document/9069875>
- Crompton, H., Burke, D., & Gregory, K. (2020). The use of artificial intelligence in higher education: A systematic review. *International Journal of Educational Technology in Higher Education*, 17(1),

- 1–20. <https://educationaltechnologyjournal.springeropen.com/articles/10.1186/s41239-020-00190-w>
- Ekwesianya, A. A. (2025). Towards effective integration of artificial intelligence in education. *African Journal of Educational Management, Teaching and Entrepreneurship Studies*. <https://ajemates.org/index.php/ajemates/article/download/626/543>
- Eleje, L. I. (2025). Artificial intelligence adoption in higher education in Nigeria. *Discover Education*. <https://link.springer.com/article/10.1007/s44163-025-00452-0>
- Fausta, M., & Onyekaba, M. N. (2025). Utilization of artificial intelligence in the management of tertiary institutions in Nigeria. *Journal of Educational Foundations*, 14(1), 119–132. [https://jef.unn.edu.ng/wp-content/uploads/sites/341/2025/02/008-JEF-2025\\_Volume\\_14\\_Issue\\_I\\_-2025\\_-MainWork-119-132.pdf](https://jef.unn.edu.ng/wp-content/uploads/sites/341/2025/02/008-JEF-2025_Volume_14_Issue_I_-2025_-MainWork-119-132.pdf)
- Holmes, W., & Tuomi, I. (2022). State of the art in AI and the future of education. *European Commission Joint Research Centre*. <https://publications.jrc.ec.europa.eu/repository/handle/JRC125767>
- Holmes, W., Bialik, M., & Fadel, C. (2022). Artificial intelligence in education: Promises and implications for teaching and learning. *Center for Curriculum Redesign*. <https://curriculumredesign.org/our-work/artificial-intelligence-in-education>
- Katsamakas, E., Pavlov, O. V., & Saklad, R. (2024). Artificial intelligence and the transformation of higher education institutions. <https://arxiv.org/abs/2402.08143>
- Knox, J. (2020). Artificial intelligence and education in China. *Learning, Media and Technology*, 45(3), 298–311. <https://www.tandfonline.com/doi/full/10.1080/17439884.2020.1754236>
- Kuleto, V., Ilić, M., Dumangiu, M., Ranković, M., Martins, O. M., Păun, D., & Mihoreanu, L. (2021). Exploring opportunities and challenges of artificial intelligence and machine learning in higher education. *Sustainability*, 13(18), 10424. <https://www.mdpi.com/2071-1050/13/18/10424>
- Luckin, R., Holmes, W., Griffiths, M., & Forcier, L. (2022). Intelligence unleashed: An argument for AI in education. *Pearson Education*. <https://www.pearson.com/intelligence-unleashed>
- Nwile, C. B. (2025). Utilization of artificial intelligence tools for improving educational outcomes of students in public universities in Rivers State, Nigeria. *African Journal of Humanities and Contemporary Education Research*. <https://afropolitanjournals.com/index.php/ajhcer/article/view/849>
- OECD. (2021). AI and the future of skills in education. <https://www.oecd.org/education/ai-and-the-future-of-skills.htm>
- Olojede, H. T. (2024). Is techno-solutionism a farce or a fact? A critical assessment of GenAI use in open and distance education. *Journal of Ethics in Higher Education*. <https://journals.abuad.edu.ng/agidigbo/article/download/1713/863/6172>
- Omah Chu, G. O., & Mbagwu, I. C. C. (2025). Pros and cons of utilizing artificial intelligence in education. *International Journal of Institutional Leadership, Policy and Management*, 7(3), 560–574. <https://www.ijilpm.com.ng/assets/vol.%2C-7%283%29-omah-chu%2C-g.-o.%2C---mbagwu%2C-i.-c.-c.pdf>
- Omenka, O., Reuben, B., & Usman, L. (2024). A review of artificial intelligence readiness in higher education institutions: A case study of Northern States of Nigeria. *Global Journal of Engineering and Technology*. <https://journals.abuad.edu.ng/agidigbo/article/download/1713/863/6172>
- UNESCO. (2023). Artificial intelligence and the future of teaching and learning. <https://www.unesco.org/en/digital-education/artificial-intelligence>
- UNESCO. (2023). Guidance for generative AI in education and research. <https://www.unesco.org/en/articles/guidance-generative-ai-education-and-research>  
<https://www.worldbank.org/en/topic/edutech/publication/artificial-intelligence-in-education>