

## **Pedagogical Renewal to Achieve Peace Education Curriculum: Artificial Intelligence as Path in Nigeria**

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### **ABSTRACT**

The study investigates pedagogical renewal to achieve a peace education curriculum through the integration of artificial intelligence (AI) in Nigerian universities. Despite the critical role of peace education in fostering national stability, traditional teaching methods often struggle to engage students effectively in the digital age. This study aimed to explore how AI can serve as a transformative path for pedagogical renewal in this field. A descriptive survey research design was employed, focusing on a population of peace education lecturers. Using a purposive sampling technique, a sample size of 180 respondents was selected. Data were collected via a self-structured instrument titled "Questionnaire on Pedagogical Renewal to Achieve Peace Education: Artificial Intelligence as Path in Nigeria (QRAPEIAPN)," which utilized a four-point Likert scale. The instrument was validated by experts in measurement and evaluation, achieving a reliability coefficient of 0.72 through the test-retest method. Data were analyzed using descriptive statistics, including simple percentages, frequency counts, and mean scores. The results revealed that AI significantly enhances the efficiency of lesson planning and the delivery of peace education, offering personalized and interactive learning experiences. Consequently, it was concluded that AI is a viable tool for revitalizing the curriculum. The study contributes to the field by providing empirical evidence for digital transformation in social sciences. Based on these findings, it is recommended that universities prioritize the provision of AI infrastructure and implement mandatory AI literacy programs for educators to ensure a seamless pedagogical transition.

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## **1. INTRODUCTION**

Nigeria faces many socio-economic and political obstacles to sustainable growth (Aluko et al., 2024; Justine et al., 2012). Kidnapping, banditry, insurrection, and ritual

killings are widespread nationwide. Governments have developed policies, passed laws, and implemented many proactive measures to stop these inhumane crimes. Today's Nigerian banditry dilemma involves many interests, reasons, and actors. Banditry, terrorism, and kidnapping have drawn international condemnation. Banditry, terrorism, kidnapping, and other threats to national development have become concerns in public and private conversation and conferences (Odalonu & Egbogu, 2023; Ojo et al., 2023). These issues are old. History shows that they have occurred for decades, but not as frequently as today (Akinbi, 2015).

Several studies have linked these issues to many causes. Vices in Nigeria originate from weak government, politics, poverty, unemployment, religious divides, and more, according to Nkoro et al. (2014). Banditry, abduction, political problems, religious conflicts, human rituals, and more threaten Nigerians and businesses. There is no doubt that the nation is suffering under the Jihadists, the Islamic movement, the secessionist movement, and all sorts of crimes (Nwankwo & Odunuga, 2024). Nigeria is shamed internationally by these issues. Thus, it prompted government efforts to implement several methods to manage the crisis. One strategy is to integrate peace education into current courses and subjects in Nigerian schools from elementary to university levels (Awodojin & Emmanuel, 2024).

Peace education is vital given the nation's many problems, including wanton death and property. According to Purwanto et al. (2023), peace education can train the mentality to embrace peace for peaceful coexistence and social development. War and combat scars heal with it. It is a rational awakening of the country to ethical and normative concerns that can foster and preserve peace.

Peace education faces various obstacles, making its curriculum difficult to implement (Ndwandwe, 2024). This challenge is a pedagogical factor, as it involves using inappropriate teaching styles to meet the needs of diverse students, lack of adequate teaching materials, technology, and support for initiative strategies, teachers' weak subject knowledge, poor lesson plans and preparation, poor instructional delivery, poor teaching, poor classroom management, and technological integration. The following pedagogical challenges affecting effective teaching of all subjects and peace education: poor teacher communication skills and styles, lack of curriculum mastery, poor class control, and inability to use instructional material.

Pedagogical problems in peace education have led to superficial learning, stunted skill development (inability to exercise conflict transformation and empathy), and failure to establish deep-seated values for enduring peace and social cohesion. Peace-education curriculum content can be achieved through effective teaching (Cromwell, 2022). Peace-education curriculum material must be achieved by addressing numerous elements, especially teachers. This required teachers to refresh their pedagogy using AI (Masunda, 2024).

Pedagogical renewal requires learning new knowledge and understanding how it applies to practice (Goodyear et al., 2017). It radically changes the educational model by rethinking and upgrading teaching methods. It challenges old practices, empowers

teachers through professional development, fosters classroom collaboration, links education with societal demands, and emphasizes problem-solving and creativity.

A rapid change from teacher-centered to student-centered, active, and individualized learning to promote 21st-century critical thinking abilities and deeper comprehension has occurred (Scogin et al., 2023). AI enables the change. The rapid growth of technology led to AI use in many fields, including education. AI offers students chances and challenges at all levels and kinds of education, influencing their academic progress (Kamalov et al., 2023; Vieriu & Petrea, 2025). AI has revolutionized education (Rahiman & Kodikal, 2024). The researchers found that earlier peace education research had not focused on pedagogical renewal to achieve peace education curricular elements with artificial intelligence. Researchers conducted this investigation because of this gap.

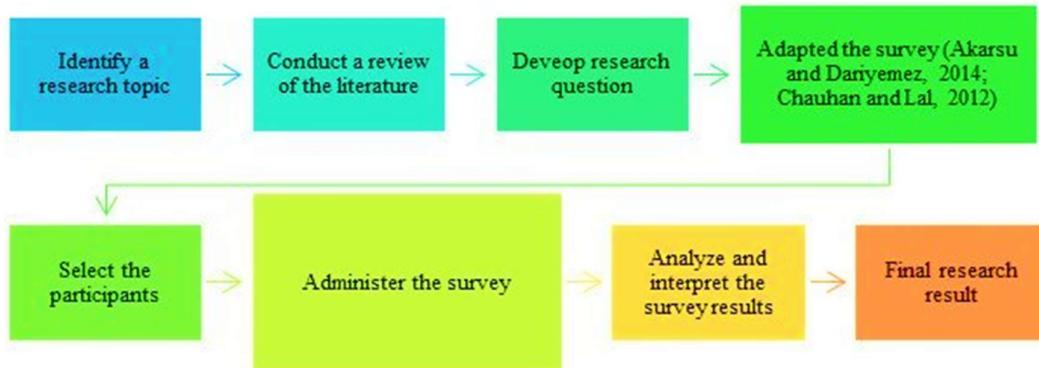
The various security challenges in Nigeria, including banditry, kidnapping, and terrorism, pose significant problems to national development. They also hinder peaceful living, affect the corporate existence of Nigeria, and contribute to its negative stigma at the international level. Among the proactive strategies that have been implemented to address these unsavory trends and phenomena is the incorporation of Peace Education into the existing subjects and courses in Nigerian schools, starting from the primary to the tertiary level. However, achieving the curriculum contents of Peace Education as expected is difficult. This difficulty has been partly attributed to factors related to teachers, specifically their pedagogical skills, which has necessitated the use of artificial intelligence (AI) for teaching and learning in Nigerian schools.

The researchers observed that the past research on peace education and allied issues, either empirical or self-report, has not been carried out on pedagogical renewal to achieve a peace education curriculum through artificial intelligence; thus, this research was necessitated. The broad purpose of the study was pedagogical renewal to achieve a Peace Education curriculum and Artificial Intelligence (AI) as a path in Nigeria. The specific objectives were to (1) ascertain the impact of AI on teachers and their activities in peace education, and (2) investigate the influence of AI on teachers' effective planning for peace education instruction. The study posed two research questions: (1) Could AI have a positive impact on teachers' activities in teaching peace education? (2) Will AI aid effective planning of peace education teaching? The research results will be important to educational stakeholders in the following ways. Firstly, the findings of the study will justify the need for governments and other education providers to invest in the procurement of AI devices and gadgets. In addition, the findings of the study will enable teachers to understand the importance of AI in achieving curriculum content for all subjects. Lastly, the study will contribute to the existing literature in its field and will be made accessible to the public through Open Educational Resources (OER).

## 2. METHOD

A descriptive survey research design was used for the study. The population of the study comprised, Lecturers that were teaching Peace Education, and other allied courses. The sample size of the study was One hundred and eight (180) respondents selected, through a purposive sampling technique. Fifteen (15) respondents were

selected from private and public universities from the states of Southwestern region (Ondo, Ogun, Oyo, Osun, Ekiti and Lagos) in Nigeria. Two research questions were raised for the study. A self structured and developed research instrument by the researchers, entitled “Questionnaires on Pedagogical Renewal to Achieve Peace Education Curriculum; Artificial Intelligence as Path in Southwestern Nigerian Universities (QRAPECAIPSNU)” Was used to generate data. It was fashioned on four likely rating scales of Strongly Agreed (SA), Agreed (A), Disagreed (D) and Strongly Disagreed (SD), rated on 4,3,2 and 1points, respectively.



**Figure 1.** A Descriptive Survey Research Design

The research instruments were validated by two expectations in Measurement and Evaluation. Its reliability was determined, through fast-retest method, and 0.72 was established as coefficient reliability. Data were analyzed using, descriptive statistics, such as simple percentages, frequency counts and mean ( $\bar{x}$ ).

### 3. RESULTS AND DISCUSSION

#### Results

**Research Question One:** Can AI positively influence teachers' activities in the teachings of Peace Education?

**Table 1.** AI Data Analysis Positively Influences Teachers' Activities in the Teachings of Peace Education

S/N	Items	SA %	A %	D %	SD %	N	Mean ( $\bar{x}$ )	Decisions
	AI did teach to provide immediate feedback to learner	133 73.88	23 12.77	5 2.77	19 10.55	180	3.5	Accepted
2.	AI has no impact on providing feedback immediately to the students by teachers	11 6.11	8 4.44	22 12.22	139 77.22	180	1.39	Rejected
3.	AI helps teachers with grading students' performance	141 78.33	31 17.22	2 1.11	6 3.33	180	3.70	Accepted
4.	AI has no significant impact on grading students' performance	3 1.66	9 5	39 21.66	129 71.66	180	1.36	Rejected

S/N	Items	SA %	A %	D %	SD %	N	Mean ( $\bar{X}$ )	Decisions
5.	AI enables teachers to adopt content for individual students' needs and style.	149 82.77	17 9.44	12 6.66	2 1.11	180	3.73	Accepted
6.	AI does not make teachers adopt content for individual student needs and styles	8 4.44	9 5	33 18.33	130 72.22	180	1.41	Rejected
7.	AI makes teachers to quickly generate and update educational materials	141 78.33	18 10	19 10.55	2 1.11	180	3.87	Accepted
8.	AI does not enable teachers to quickly generate and updated educational materials	13 7.22	11 6.11	19 10.55	137 76.11	180	1.44	Accepted
	TOTAL AVERAGE	599 41.59	126 8.78	151 10.48	564 39.16		2.55	Accepted

Keys:

N= Total Number of Respondents C= Cut-off Points

$\bar{X}$ = Mean, SA= Strongly Agreed, A= Agreed, D= Disagreed, SD= Strongly Disagreed.

N=180

C=2.5

Table 1 above indicated findings on research question one. On item (1), responses obtained were 133 (73.88), 23 (12.77), 5 (2.77), and 19 (10.25) for strongly agreed, agreed, disagreed, and strongly disagreed. On item (2), the following were also obtained as responses: 11 (6.11), 8 (4.44), 22 (12.22), and 139 (77.22) for strongly agreed, agreed, disagreed, and strongly disagreed. For items (3), 141 (78.33), 31 (17.22), 2 (1.11), and 6 (3.33) were obtained for strongly agreed, agreed, disagreed, and strongly disagreed. For item (4), the following responses were received: 3(1.66), 9(5), 39(21.66), and 129(71.66) for strongly agreed, agreed, disagreed, and strongly disagreed. For items (5), responses showed 149 (82.77), 17 (9.44), 2 (6.66), and 2 (1.11) for strongly agreed, agreed, disagreed, and strongly disagreed. On items (6), responses obtained were 8 (4.44), 9 (5), 33 (18.33), and 130 (72.22) for strongly agreed, agreed, disagreed, and strongly disagreed. For items (7), the following were obtained: 141 (78.33), 18 (10), 19 (10.55), and 2 (1.19) for strongly agreed, agreed, disagreed, and strongly disagreed. Finally, for item (8), responses obtained indicate 13 (7.22), 11 (6.11), 19 (10.55), and 137 (76.11) for strongly agreed, agreed, disagreed, and strongly disagreed.

However, the total weight of the findings shows that the average rating scale of four ( $\bar{X} = 2.5$ ) was less than the mean of the average rating scale of four ( $\bar{X} = 2.55$ ), thus indicating that AI can significantly and positively teach peace education.

**Research Question Two:** Will AI aid effective planning of lesson notes in Peace Education teaching?

**Tables 2.** AI Data Analysis Aids Effective Planning of Lesson Notes in Peace Education Teaching

S/N	Items	SA %	A %	D %	SD %	N	Mean ( $\bar{X}$ )	Decisions
9.	AI enables teaching to draft standard aligned outlines of lesson plan	139 77.22	33 18.33	2 1.11	6 3.33	180	3.69	Accepted
10.	AI does not assist teachers to draft standard aligned outlines of lesson plan	1 0.55	19 10.55	31 17.22	129 71.66	180	1.4	Rejected
11.	AI makes teachers focus on lesson plan contents.	151 83.88	18 10	9 5	2 1.11	180	3.76	Accepted
12.	AI does not make teachers focus on lesson plan contents	2 1.11	5 2.77	29 16.11	144 80	180	1.25	Rejected
13.	AI helps teachers to clarify objectives in lesson plan	153 85	16 8.88	7 3.88	4 2.22	180	3.67	Accepted
14.	AI does not assist teachers to clarify lesson plan objective	11 6.11	19 10.55	19 10.55	131 72.77	180	1.5	Rejected
15.	AI serves as a good resource for teacher in preparation of lesson plan	161 89.44	11 6.11	3 1.66	5 2.77	180	3.82	Accepted
16.	AI does not serve as a good resource to teacher whole planning lesson not.	2 1.11	3 1.66	38 21.11	137 76.11	180	1.27	Rejected
<b>TOTAL AVERAGE</b>		620 43.05	124 8.61	138 9.58	558 38.75		2.55	Accepted

Keys:

N= Total Number of Respondents, C=cut-off point  $\bar{X}$ = Mean, SA= Strongly Agreed, A= Agreed, D= Disagreed, SD= Strongly Disagreed.

N=180

C= 2-5

Table 2 above indicated the finding on research question one. For items (9), responses obtained were 139 (77.22), 33 (18.33), 2 (1.11), and 6 (3.33) for strongly agreed, agreed, disagreed, and strongly disagreed. For items (10), the following were also obtained as responses: 1 (0.55), 19 (10.55), 31 (17.22), and 129 (71.66) for strongly agreed, agreed, disagreed, and strongly disagreed. On items (12), responses obtained show 2(1.11), 5(2.77), 29(16.11), and 144(80) for strongly agreed, agreed, disagreed, and strongly disagreed. On item (13), the following responses were received: 153 (83), 16 (8.88), 7 (3.88), and 4 (2.22) for strongly agreed, agreed, disagreed, and strongly disagreed. For items (14), 11 (6.11), 19 (10.55), 19 (10.55), and 131 (72.77) responses were obtained

for strongly agreed, agreed, disagreed, and strongly disagreed. For item (15), responses indicated 161 (89.44), 11 (6.11), 3 (1.66), and 5 (2.77) for strongly agreed, agreed, disagreed, and strongly disagreed. For items (16), 2(1.11), 3(1.66), 38(21.11), and 138(76.11) were obtained as responses for strongly agreed, agreed, disagreed, and strongly disagreed.

The total weight of the finding shows that the average rating scale of four ( $\bar{X} = 2.5$ ) is less than the mean ( $\bar{X}$ ) of the average rating scale of four ( $\bar{X} = 2.55$ ). It means that it can effectively bring affections pluming from lesson notes for the teaching of peace education.

## **Discussion**

The integration of Artificial Intelligence (AI) in education is no longer just a technological trend, but rather a pedagogical necessity to address the complexities of teaching Peace Education in the digital age.

### **Transforming Teacher Activities through Artificial Intelligence**

The findings in Table 1 consistently demonstrate that AI has a significant positive impact on lecturers/teachers' activities in Peace Education. With an average score ( $\bar{x}$ ) of 2.55, exceeding the cut-off value of 2.5, this data confirms that AI is accepted as an effective pedagogical partner.

- Personalization of Learning: The highest score on item 5 ( $\bar{x} = 3.73\$$ ) indicates that AI enables instructors to adapt content to students' individual needs and learning styles. In the often affective and situational context of Peace Education, AI's ability to personalize material is crucial for better understanding the values of peace within students.
- Assessment and Feedback Efficiency: Data shows that AI helps instructors provide instant feedback ( $\bar{x} = 3.5$ ) and simplifies student performance assessment ( $\bar{x} = 3.70$ ). This reduces the administrative burden on instructors, allowing them to focus more on value interactions and critical discussions about conflict resolution rather than getting bogged down in routine tasks.
- Rapid Material Updates: With a score of  $\bar{x} = 3.87$  on item 7, AI has been shown to make it easier for instructors to produce and update educational materials quickly. Given the ever-changing dynamics of conflict and global peace issues, AI's ability to present up-to-date data is an invaluable asset for a relevant curriculum.

### **AI as a Catalyst in Effective Lesson Planning**

The results in Table 2 reinforce the argument that AI significantly assists in planning lesson notes. The overall mean score ( $\bar{x} = 2.55$ ) again indicates strong acceptance of this technology.

- Standardized Planning: AI helps teachers develop lesson plan frameworks aligned with curriculum standards ( $\bar{x} = 3.69$ ). This ensures that Peace Education learning objectives remain measurable and systematic.

- Focus and Objective Clarification: Teachers felt that AI helped them stay focused on the lesson plan content ( $\bar{x} = 3.76$ ) and clarified the instructional objectives to be achieved ( $\bar{x} = 3.67$ ). In education, aimed at changing behavior like Peace Education, clarity of objectives is key to success.
- Superior Preparation Resource: The most striking finding was in item 15 ( $\bar{x} = 3.82$ ), where most respondents agreed that AI serves as an excellent resource in lesson preparation. AI not only provides data but also creative ideas for more inclusive and engaging teaching methods.

Overall, this study demonstrates that pedagogical renewal in Nigerian universities can be achieved through AI integration. AI does not replace the role of lecturers but rather strengthens their capacity to provide more responsive, efficient, and modern instruction. The success of this integration, as implied by the data demonstrating a rejection of negative statements (items 2, 4, 6, 8, 10, 12, 14, 16), confirms that academics in Nigeria are ready and optimistic about the introduction of AI as a primary pathway for strengthening the peace education curriculum.

The result of research is one that shows that AI can influence positively the teaching of people. Education corroborated with the opinion of [Khurramov et al. \(2025\)](#) that AI has a significant impact on teaching and learning by revolutionizing education through personalized learning, reducing planning time for teachers, and improving assignment methods, as well as reducing the potential of election. Further, AI supports teachers in instruction delivery. [Huang et al. \(2023\)](#) opinion also buttressed the result that AI can help teachers to analyze students' progress and adjust the content and learning pace dynamically according to individual student needs there, increase their engagement, and facilitate and improve their intention rate. Furthermore, the result on research question two was also aligned with the submission that AI is a good lesson planning resource ([Park et al., 2023](#)). Further, AI significantly impacts lesson planning by streamlining administrative tasks and enhancing instructional design through personalization. By and large, AI usage in education is of benefit to both the teachers and learners.

#### 4. CONCLUSION

This study concludes that the integration of Artificial Intelligence (AI) is a highly effective pathway for pedagogical reform in Peace Education curricula at Nigerian universities. AI significantly enhances the effectiveness of lecturers' activities in teaching peace education. This includes the ability to provide instant feedback to students, simplify performance assessments, and dynamically update teaching materials in line with evolving global peace issues. AI enables instructors to adapt and adapt learning content based on students' individual needs and learning styles, which is key to values and behavior education. The use of AI has been shown to assist lecturers in developing more structured lesson plans (lesson notes) aligned with curriculum standards. AI serves as a powerful resource in helping lecturers clarify learning objectives and maintain focus on the content during the teaching preparation process. Overall, the findings indicate that the mean respondent perception score ( $\bar{x} = 2.55$ )

consistently remains above the cutoff point ( $C = 2.5$ ), indicating widespread acceptance of the positive role of AI in the peace education ecosystem.

As a recommendation, universities and the government should ensure that schools and campuses are equipped with AI tools and adequate internet access to support the implementation of this technology. Lecturers and educators should be encouraged and facilitated to participate in certification training or workshops to become proficient in operating AI-based tools (AI-compliant). Peace education curricula need to be periodically reviewed to integrate AI tools into their delivery methods to maintain relevance to students' needs in the digital age. Furthermore, formal policies governing the use of AI in academic settings are needed to ensure that this technology is used ethically and effectively to achieve peace goals.

## REFERENCES

Akinbi, J. O. (2015). Examining the Boko Haram insurgency in Northern Nigeria and the quest for a permanent resolution of the crisis. *Global Journal of Arts, Humanities and Social Sciences*, 3(8), 32-45.

Aluko, O. A., Odewale, A. T., Taiwo, K., & Adefeso, H. (2024). Unlocking inclusive growth and sustainable development in Nigeria: A roadmap through challenges and opportunities. *African Journal of Applied Research*, 10(1), 201-223. <https://doi.org/10.26437/ajar.v10i1.683>

Awodoyin, F. O., & Emmanuel, J. (2024). Reconceptualization Of Education In Basic Schools In Nigeria: Integrating Peace And Security Studies In Colleges Of Education For Teachers'pedagogical Subject Knowledge. *Advance Journal of Education and Social Sciences*, 9(12), 171-183. <https://doi.org/10.5281/zenodo.17276628>

Cromwell, A. (2022). Peace education as a peacemaking tool in conflict zones. In *Contemporary Peacemaking: Peace Processes, Peacebuilding and Conflict* (pp. 507-532). Cham: Springer International Publishing. [https://doi.org/10.1007/978-3-030-82962-9\\_24](https://doi.org/10.1007/978-3-030-82962-9_24)

Goodyear, V. A., Casey, A., & Kirk, D. (2017). Practice architectures and sustainable curriculum renewal. *Journal of Curriculum Studies*, 49(2), 235-254. <https://doi.org/10.1080/00220272.2016.1149223>

Huang, A. Y., Lu, O. H., & Yang, S. J. (2023). Effects of artificial Intelligence-Enabled personalized recommendations on learners' learning engagement, motivation, and outcomes in a flipped classroom. *Computers & Education*, 194, 104684. <https://doi.org/10.1016/j.compedu.2022.104684>

Justine, I. I. C., Ighodalo, A., & Okpo, O. C. (2012). Poverty and sustainable socio-economic development in Africa: the Nigerian Experience. *Asian economic and financial review*, 2(2), 367.

Kamalov, F., Santandreu Calonge, D., & Gurrib, I. (2023). New era of artificial intelligence in education: Towards a sustainable multifaceted revolution. *Sustainability*, 15(16), 12451. <https://doi.org/10.3390/su151612451>

Khurramov, A. J., Axmedshaeva, M. A., Mukhittdinova, F. A., Xudayberdiyeva, G. A., Almossova, S. S., Makhamatov, M. M., & Khayitov, S. R. (2025). Artificial Intelligence in Education: Analysis and Assessment of Legal Knowledge Using AI Tools. *Qubahan Academic Journal*, 5(3), 264-293. <https://doi.org/10.48161/qaj.v5n3a2022>

Masunda, O. C. (2024). Artificial Intelligence and Peace Education in Zimbabwe: A Curriculum Perspective. *African Journal of Information Science, Fine Arts & Speech Studies (AJISFASS)*, 1(2). <https://doi.org/10.31920/2753-3166/2024/v1n2a1>

Nkoro, A. E., Emoruwa, F. O., & Erinsakin, M. O. (2014). The Prospects and Challenges of Multigrade Teaching Approach in Secondary Schools in Nigeria. In *International Conference on Arts, Economics and Management* (Vol. 5, No. 14, pp. 22-23).

Ndwandwe, N. D. (2024). Barriers to implementing peace education in secondary schools in South Africa. *Journal of Peace Education*, 21(2), 164-184. <https://doi.org/10.1080/17400201.2024.2367966>

Nwankwo, S. C., & Odunuga, J. O. (2024). Boko Haram insurgency in Northern States and challenges of national security for sustainable development in Nigeria. *NIU Journal of Humanities*, 9(4), 29-36. <https://doi.org/10.58709/niujhu.v9i4.2046>

Odalonu, B. H., & Egbogu, D. U. (2023). Implications of escalating banditry on national security in Nigeria. *African Journal of Humanities and Contemporary Education Research*, 10(1). <https://publications.afropolitanjournals.com/index.php/ajhcer/article/view/409>

Ojo, J. S., Oyewole, S., & Aina, F. (2023). Forces of terror: Armed banditry and insecurity in North-west Nigeria. *Democracy and Security*, 19(4), 319-346. <https://doi.org/10.1080/17419166.2023.2164924>

Park, J., Teo, T. W., Teo, A., Chang, J., Huang, J. S., & Koo, S. (2023). Integrating artificial intelligence into science lessons: Teachers' experiences and views. *International Journal of STEM Education*, 10(1), 61. <https://doi.org/10.1186/s40594-023-00454-3>

Purwanto, Y., Suprapto, Munaf, D. R., Albana, H., Marifataini, L. D., Siregar, I., & Sumarni. (2023). The peace education concept and practice at universities: A systematic review. *Cogent education*, 10(2), 2260724. <https://doi.org/10.1080/2331186X.2023.2260724>

Rahiman, H. U., & Kodikal, R. (2024). Revolutionizing education: Artificial intelligence empowered learning in higher education. *Cogent Education*, 11(1), 2293431. <https://doi.org/10.1080/2331186X.2023.2293431>

Scogin, S. C., Dorantes, M., Couwenhoven, A., Vander Kolk, J., Schuen, A., Grimmer, C., ... & Bowers, S. (2023). The relationship between pre-service teachers' ideologies and learner-centered approaches in STEM classrooms. *Journal of Science Teacher Education*, 34(2), 181-200. <https://doi.org/10.1080/1046560X.2022.2039344>

Vieriu, A. M., & Petrea, G. (2025). The impact of artificial intelligence (AI) on students' academic development. *Education Sciences*, 15(3), 343. <https://doi.org/10.3390/educsci15030343>