

## Trends and Challenges of the Use of Artificial Intelligence in the Teaching and Learning of Political Science Education in Ogun State

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### Abstract

There is no doubt that while the adoption of Artificial Intelligence (AI) technology in political science education shows significant promise, it has also introduced emerging challenges as its presence grows in higher education. A notable concern is the increasing reliance on AI platforms such as ChatGPT and AI Meta among students in tertiary institutions across Ogun State. This dependency has shifted students' academic focus from instructors to AI technologies. This study, therefore, seeks to determine whether this transition has enhanced or hindered students' academic achievement and identifies necessary interventions. By employing a survey research design and purposive sampling method, one hundred (100) questionnaires were administered to lecturers and postgraduate students in five (5) key universities within Ogun State to examine the issue. The data obtained were analyzed using descriptive statistics of mean and standard deviation. The results indicated that while AI technologies significantly contribute to refining traditional teaching practices and support customized learning, their excessive usage has led to a decline in classroom participation and academic performance due to inadequate user training. Hence, the study recommends continuous capacity-building initiatives for both students and educators in the effective utilization of AI tools to improve teaching and learning outcomes.

**Keywords:** Artificial intelligence, political science education, teaching, learning, tertiary institution

### Introduction

Artificial Intelligence (AI), the technology that enables machines to perform tasks typically associated with human intelligence, has increasingly influenced political science education. Over time, the expansion and accessibility of AI technologies have contributed to the enhancement of political science instruction, notably in restructuring teaching content, introducing innovative approaches, and reforming pedagogical methods (Minh, 2023). As educators work to prepare students for the complexities of the contemporary world, integrating AI into political science holds vast potential, particularly in shaping civic consciousness and transmitting societal values.

More broadly, AI has become embedded in everyday life, revolutionizing sectors like healthcare, finance, and education. Within computer science, AI refers to machines designed to mimic cognitive functions such as speech recognition, learning, decision-making, and problem-solving (Aghaziarati, Nejatifar & Abedi,

2023). These systems process enormous data sets, recognize trends, and provide insights or suggestions accordingly. The integration of Artificial Intelligence (AI) in education has also become a transformative force, with substantial implications for the teaching and learning of political science. Scholars such as Aghaziarati, Nejatifar, and Abedi (2023) highlight AI's role in enhancing personalized learning by enabling intelligent systems that adapt to individual student needs. These systems offer learners greater autonomy while improving access to tailored content. Similarly, Karimi and Khawaja (2023) emphasize AI's capacity to enrich classroom interaction by supporting dynamic and customized instruction that caters to diverse learning styles.

Numerous AI applications have emerged in political science classrooms, although many educators and students remain unfamiliar with them. According to Moreira and Hadjipieris (2024), these include:

ChatGPT for essay drafting, reading summaries, and political debates; Elicit for academic research; Scite.ai for evaluating scholarly citations; and tools from IBM Watson, Microsoft Azure ML, and Google Cloud AI for analyzing political statistics and electoral patterns. ClassFactory's tools like BeamerBot and Quiz Maker help generate slides and assessments, while Socratic serves as an AI tutor for theory-based topics. TeachFlow.AI enables simulation of electoral and legislative processes, and Polis facilitates participatory learning around democratic practices.

Both instructors and students benefit from these innovations. AI can enhance instruction, support customized content delivery, and improve understanding of political systems and civic responsibility (Pawar & Khose, 2024). It also assists in processing vast political datasets, thus aiding evidence-based teaching and research. Through adaptive features, AI encourages critical thinking and boosts student engagement by tailoring content to learning preferences (Karimi & Khawaja, 2023). The integration of Artificial Intelligence (AI) in education has become a transformative force, with substantial implications for the teaching and learning of political science. Scholars such as Aghaziarati, Nejatifar, and Abedi (2023) highlight AI's role in enhancing personalized learning by enabling intelligent systems that adapt to individual student needs. These systems offer learners greater autonomy while improving access to tailored content. Similarly, Karimi and Khawaja (2023) emphasize AI's capacity to enrich classroom interaction by supporting dynamic and customized instruction that caters to diverse learning styles.

AI enriches instruction through advanced data analytics and by enabling simulation-based learning environments where students analyze scenarios, predict outcomes, and grasp the consequences of political decisions (Mutoni, 2017). This active engagement builds problem-solving capabilities and reinforces applied learning. Ivanashko et al. (2024) assert that AI provides access to expansive data pools and supports dynamic instructional designs that sharpen students' understanding of civic structures. Tools like chatbots and NLP applications make complex political texts more digestible, answer civic-related queries in real-time, and guide users through civic processes (Pawar & Khose, 2024). These technologies can boost political awareness and democratic participation.

Despite these benefits, concerns about overreliance on AI tools have emerged. Fowler (2023) warns that students may develop an excessive dependence on AI, potentially undermining critical thinking and reducing the educator's influence in shaping ideological understanding. Pawar and Khose (2024) also express concern over AI's tendency to promote uniform learning experiences, potentially neglecting learners' individual values and participation. Furthermore, Do and Nguyen (2023) point to the ethical dilemmas that arise, such as algorithmic bias, insufficient institutional preparedness, and limited access to reliable digital infrastructure, especially in under-resourced contexts.

To overcome these challenges, Shalevska (2024) underscores the need for theoretical frameworks and practical guidelines to regulate AI's role in education. She identifies unresolved issues such as determining the extent of AI's involvement in curriculum delivery and assessing its impact accurately. Moreover, Ho (2024) cautions against the risks of data misuse in AI-powered learning environments, stressing the importance of strong privacy protections. Ayeni et al. (2024) further contend that human-centered learning must remain a priority, warning that a fully AI-dominated approach could reduce meaningful teacher-student interactions and undermine the emotional and psychological dimensions of political education.

Moreover, adaptive AI learning systems is expected to adjust to student strengths and learning gaps, thereby increasing motivation and improving comprehension of political science ideas (Kadaruddin, 2023). These tools promote quantitative skills and facilitate students' navigation of data-centric political contexts. Despite these benefits, several challenges persist. In the present context, AI use in political science education contends with diverse learner needs, individual values, and varying cognitive styles (Do & Nguyen, 2023). Specifically, in Ogun State, heavy student dependence on tools like ChatGPT and AI Meta has led to decreased instructor interaction and weakened learning outcomes. Addressing how AI can enhance instructional quality and stimulate student interest in ideological and political learning is now a critical concern. This study investigates these issues, focusing on trends and obstacles to AI integration in political science instruction within Ogun State's tertiary institutions.

### Research Questions

1. What is the trend of the use of Artificial Intelligence in the teaching and learning of political science education in Ogun state?
2. What are the challenges militating against effective use of Artificial Intelligence in the teaching and learning of political science education in Ogun state?

### Methodology

#### Research Design

This study adopts descriptive survey method to investigate the trends and challenges of the use of artificial intelligence in the teaching and learning of political science education in Ogun state. Survey method was adopted because it usually carried out to describe situations events and institutions. It therefore becomes pertinent for the researcher to adopt survey research method in order to rely heavily on responses from the entire ogun state.

#### Population and Sampling

The population of the study comprises of selected universities in Ogun state. This was done with the intention of eliciting information through the use of questionnaire. A total of one hundred (100) lecturers/postgraduate students of political science in Ogun state universities formed the population of the study. These are members of staff/students who have adequate knowledge on the use of AI in the teaching and learning of political science. This sample size was drawn through purposive sampling technique from the five major universities engaged in the study and learning of political science education in the state. The choice of purposive sampling technique is to enable experts to participate in the exercise. These institutions include Olabisi Onabanjo University Ago-Iwoye, Tai-

Solari University of Education Ijebu-Ode, Macpherson University, Babcock University and Covenant University Ota. The distribution process targets 20 respondents from each university.

#### Data Collection Instrument

Questionnaire was used to obtain data from the respondents. The questions were designed in line with the objectives of this study, and they were structured in a likert scales format of Strongly Agreed (SA), Agreed (A), Disagreed (D), and Strongly Disagreed (D). The questionnaires were distributed by hand to a total of one hundred (100) lecturers/postgraduate students of political science in Ogun state universities which formed the population of the study..

#### Validity/Reliability of the Instrument

To ensure the validity of the instruments, pilot testing was carried out. Pilot survey of the study was carried out among lecturers/postgraduate students of political science in Ogun state universities, where fifty questionnaires were initially distributed. For the reliability of the study, test-Retest reliability method was adopted. By implication, the same test (pilot survey) was conducted over time to ensure the stability of the instrument. The feedback during the entire process shows that the instrument is reliable, as it is consistent with the outcome of the study.

#### Method of Data Analysis

The available data obtained were analyzed through descriptive statistics of frequency count, mean and standard deviation. The mean of each item was calculated separately. A mean of 2.5 and above was tagged as agreed while 2.49 and below were tagged as disagreed. This decision rule was applied throughout the entire analysis.

## Results of Data Presentation and Analysis

**Table 1: Mean responses on the trend of the use of Artificial Intelligence in the teaching and learning of political science education in Ogun state**

| S/N                         | Item                                                                                                                                                                                      | SA<br>(4)    | A<br>(3) | D<br>(2) | SD<br>(1) | N                           | FX  | $\bar{x}$ | $x - \bar{x}$ | Standard<br>deviation |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|----------|----------|-----------|-----------------------------|-----|-----------|---------------|-----------------------|
| 1.                          | AI tools like ChatGPT are commonly used to foster critical analysis and engagement in the teaching and learning of political science education in Ogun state                              | 81           | 10       | 6        | 3         | 100                         | 369 | 3.69      | 0.50          | 0.72                  |
| 2.                          | AI-powered simulations is commonly used in Ogun state to help students grasp complex political processes and decision-making dynamics                                                     | 6            | 24       | 55       | 15        | 100                         | 221 | 2.21      | 0.59          | 0.77                  |
| 3.                          | latforms like ClassFactory offer AI-driven tools for educators in Ogun state to generates lecture slides, creates interactive knowledge graphs and develops quizzes from course materials | 4            | 22       | 61       | 13        | 100                         | 217 | 2.17      | 0.51          | 0.70                  |
| 4.                          | Socratic (Google) is commonly used in Ogun state higher education to helps students understand political science topics                                                                   | 10           | 29       | 44       | 16        | 100                         | 231 | 2.31      | 0.72          | 0.87                  |
| 5.                          | Scite.ai is commonly used to help students assess political science literature in the teaching and learning of political science in Ogun state                                            | 5            | 20       | 58       | 27        | 100                         | 223 | 2.23      | 0.58          | 0.75                  |
| <b>Decision rule = 2.50</b> |                                                                                                                                                                                           | <b>N=250</b> |          |          |           | <b>Weighted mean = 2.52</b> |     |           |               |                       |

Field Work, 2025

The above table 1 shows the mean rating of the respondents based on the research question one. The respondents agreed to item 1 with a mean score of 3.69 indicating that AI tools like ChatGPT are commonly used to foster critical analysis and engagement in the teaching and learning of political science education in Ogun state. Items 2 and 3 were disagreed by the respondents, with a mean rating of 2.21 and 2.17 respectively indicating that AI-powered simulations is not commonly used in Ogun state to help students grasp complex political processes and decision-making dynamics; and latforms like ClassFactory are not used as AI-driven tools for educators in Ogun state to generates lecture slides, creates interactive knowledge graphs and develops quizzes from course materials. Also, items 4 have a

mean rating of 2.31, indicating that Socratic (Google) is not commonly used in Ogun state higher education to help students understand political science topics. Finally, item 5, with a mean of 2.23 indicates that Scite.ai is not commonly used to help students assess political science literature in the teaching and learning of political science in Ogun state. A weighted mean of 2.52 is computed for the entire items of 1– 5. The result is however accepted, meaning that the trend of the use of Artificial Intelligence in the teaching and learning of political science education in Ogun state is high. Although, the rate of the use of AI-powered simulations, Scite.ai, Socratic, and latforms like ClassFactory is low, however, in general the use of AI tools like Chat GPT is high.

**Table 2: Mean responses on the challenges militating against effective use of Artificial Intelligence in the teaching and learning of political science education in Ogun state**

| S/N                         | Item                                                                                                                                                                 | SA<br>(4)    | A<br>(3) | D<br>(2) | SD<br>(1) | N   | FX                          | $\bar{x}$ | $x - \bar{x}$ | Standard<br>deviation |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|----------|----------|-----------|-----|-----------------------------|-----------|---------------|-----------------------|
| 1.                          | The rise of generative AI tools has led to higher level of plagiarism and the authenticity of student work                                                           | 85           | 10       | 3        | 2         | 100 | 378                         | 3.78      | 0.37          | 0.60                  |
| 2.                          | There is Lack of Institutional Preparedness and formal training to support the integration of AI tools into teaching and learning of political science in Ogun state | 24           | 25       | 34       | 12        | 100 | 251                         | 2.51      | 0.88          | 1.01                  |
| 3.                          | The Overuse of AI in teaching and learning in Ogun state could marginalize the importance of dialogue, debate, and mentorship in political science education         | 51           | 40       | 5        | 4         | 100 | 338                         | 3.38      | 0.63          | 0.76                  |
| 4.                          | There may be shallow understanding and over-reliance in AI tools which could lead to a shift of attention from the teacher to AI                                     | 23           | 69       | 20       | 8         | 100 | 347                         | 3.47      | 0.78          | 0.98                  |
| 5.                          | Students from under-resourced backgrounds may lack access to reliable internet or AI tools                                                                           | 66           | 17       | 7        | 10        | 100 | 339                         | 3.39      | 0.81          | 0.99                  |
| <b>Decision rule = 2.50</b> |                                                                                                                                                                      | <b>N=250</b> |          |          |           |     | <b>Weighted mean = 3.31</b> |           |               |                       |

Field Work, 2025

The above table 2 shows the mean rating of the respondents based on the research question two. The respondents agreed to item 1 with a mean score of 3.78 indicating that the rise of generative AI tools has led to higher level of plagiarism and the authenticity of student work. Items 2 and 3 were also agreed by the respondents, with a mean rating of 2.51 and 3.38 respectively indicating that there is Lack of Institutional Preparedness and formal training to support the integration of AI tools into teaching and learning of political science in Ogun state; and the overuse of AI in teaching and learning in Ogun state could marginalize the importance of dialogue, debate, and mentorship in political science education. Also, items 4 have a mean rating of 3.47, indicating that there may be shallow understanding and over-reliance in AI tools which could lead to a shift of attention

from the teacher to AI. Finally, item 5, with a mean of 3.39 indicates that Students from under-resourced backgrounds may lack access to reliable internet or AI tools. A weighted mean of 3.31 is computed for the entire items of 1– 5. The result is however accepted, meaning that there are still enormous challenges militating against effective use of Artificial Intelligence in the teaching and learning of political science education in Ogun state. Overcoming these challenges will make artificial intelligence technology an effective tool in teaching design, teaching implementation, and teaching evaluation to improve teaching effectiveness and education quality.



## Discussion of Findings

From research question one, a weighted mean of 2.54 was calculated across items 1 to 5, indicating a relatively high trend in the adoption of Artificial Intelligence (AI) in political science education across tertiary institutions in Ogun State. Nonetheless, many respondents acknowledged low engagement with specific AI tools, particularly AI-driven simulations and platforms such as ClassFactory, Socratic (Google), and Scite.ai. This suggests that while AI usage is growing—primarily driven by the popularity of ChatGPT, which has heightened awareness—other more specialized AI applications remain underutilized. Specifically, items 2 and 3 received mean ratings of 2.21 and 2.17, respectively, confirming the limited use of AI-powered simulations and instructional platforms in classroom activities.

For research question two, the analysis produced a weighted mean of 3.31 across items 1 to 5, which implies that numerous challenges hinder the effective deployment of AI in teaching and learning political science in Ogun State. Respondents pointed to a variety of concerns, including the risk of increased plagiarism and doubts regarding the authenticity of student outputs; inadequate institutional readiness and lack of formal training for proper AI integration; shallow understanding of AI's functions among users; overdependence on AI tools, which shifts attention away from instructors; and limited access for students from economically disadvantaged backgrounds, particularly due to infrastructure and connectivity issues.

Beyond these immediate concerns, broader systemic challenges were also identified. These include the bias embedded in AI algorithms, potential breaches in data privacy, and the need for equitable access to AI resources (Do & Nguyen, 2023). These issues can, in turn, raise concerns about academic integrity and heightened levels of plagiarism (Kanbul, Adamu & Mohammed, 2024).

According to Shalevska (2024), leveraging AI in political science education requires rethinking curriculum objectives, content, and methodologies. However, there remains a significant gap in both theoretical direction and practical exploration. Key issues include defining the appropriate scope of AI use in classrooms, ensuring its reliability, and developing valid evaluation methods for AI-enabled instruction.

Another emerging problem is the erosion of instructional authority. As AI tools take on larger roles in knowledge delivery, they risk displacing educators'

roles, leading to weakened educational subjectivity. Students may begin to trust AI outputs uncritically, reducing their reliance on human instruction and possibly impairing their critical thinking skills (Fowler, 2023). If students form their ideological and political beliefs solely through AI, their reasoning may be shaped by algorithms rather than guided learning. Also of concern is the trend toward unidirectional or indoctrinative education. When AI systems deliver standardized political content without accommodating individual learning differences, students' engagement and motivation may decline, potentially fostering disengagement or resistance (Pawar & Khose, 2024).

Furthermore, data privacy risks remain pressing. AI applications in education often require large volumes of personal data, which, if mismanaged, could result in unauthorized access, misuse, or data manipulation (Ho, 2024). Sensitive information related to students' identity, values, and thought processes must be safeguarded to prevent unintended harm.

Lastly, AI use may alter the fundamental character of political science education. Excessive automation risks reducing the human-centered nature of the subject, diminishing emotional connection, psychological support, and personalized mentorship. This could weaken human interaction, which remains vital in ideological and political education (Ayeni, Al Hamad, Chisom, Osawaru & Adewusi, 2024). Ultimately, while the future of AI in this field appears promising, substantial hurdles must still be overcome.

## Conclusion

In an era where AI is reshaping societies, integrating these technologies into political science education is essential to prepare students for the evolving demands of civic life. Educators must emphasize critical thinking, digital literacy, and ethical awareness, helping students grasp the mechanics of AI, its limits, and its potential impact on democratic systems. Despite the transformative possibilities AI offers in political science and civic education, key challenges persist. These include addressing algorithmic biases, safeguarding personal data, and ensuring fair access to AI tools for all students (Harry, 2023). Addressing these challenges is essential to fully equip students for future civic and professional engagements.



## Recommendations

To maximize the benefits of AI in political science education, coordinated efforts are needed across sectors. The following steps are recommended:

1. Comprehensive training and retraining programs for both students and lecturers should be instituted by tertiary institutions to improve competence in the use of AI tools, thereby enhancing educational outcomes.
2. Curriculum designers and policymakers should establish clear ethical guidelines, regulatory frameworks, and pedagogical best practices to govern the integration of AI into political science education.
3. Educators and students should be encouraged to actively utilize diverse AI platforms—beyond ChatGPT—including AI-powered simulations, Scite.ai, Socratic, and ClassFactory, to promote dynamic, data-driven, and interactive learning experiences.

## References

- Aghaziarati, A., Nejatifar, S., & Abedi, A. (2023). Artificial intelligence in education: Investigating teacher attitudes. *AI and Tech in Behavioral and Social Sciences*, 1(1), 35–42. <https://doi.org/10.61838/kman.aitech.1.1.6>
- Ayeni, O. O., Al Hamad, N. M., Chisom, O. N., Osawaru, B., & Adewusi, O. E. (2024). AI in education: A review of personalized learning and educational technology. *GSC Advanced Research and Reviews*, 18(2), 261–271. <https://doi.org/10.30574/gscarr>
- Do, T. D., & Nguyen, H. D. L. (2023). Artificial intelligence: Opportunities and challenges in education. *Journal of Economics and Forecasting* (14).
- Fowler, D. S. (2023). AI in higher education: Academic integrity, harmony of insights, and recommendations. *Journal of Ethics in Higher Education*, 3, 127–143. <https://doi.org/10.26034/fr.jehe.2023.4657>
- Harry, A. (2023). Role of AI in education. *Interdisciplinary Journal and Humanity*, 2(3), 260–268.
- Ho, B. (2024). Applying AI technology in teaching political theory subjects. *Journal of Educational Equipment*, 2(327).
- Ivanashko, O., Kozak, A., Knysh, T., & Honchar, K. (2024). The role of artificial intelligence in shaping the future of education: Opportunities and challenges. *Futurity Education*, 4(1), 126–146.
- Kadaruddin, K. (2023). Empowering education through generative AI: Innovative instructional strategies for tomorrow's learners. *International Journal of Business, Law, and Education*, 4(2), 618–625. <https://doi.org/10.56442/ijble.v4i2.215>
- Kanbul, S., Adamu, I., & Mohammed, Y. B. (2024). ChatGPT and education: A global perspective on media literacy and sustainability. *SAGE Open*, 14(2), 1–12. <https://doi.org/10.1177/215824402412xxxxx>
- Karimi, H., & Khawaja, S. (2023). The impact of artificial intelligence on higher education in England. *Creative Education*, 14(12), 2405–2415. <https://doi.org/10.4236/ce.2023.1412154>
- Minh, H. (2023). Applying digital technology to teaching political theory. *Thua Thien Hue Newspaper*.
- Moreira, D., & Hadjipieris, P. (2024). Leveraging AI for innovative authentic assessment and enhanced learning in political science. *Journal of Political Science Education*. Advance online publication. <https://doi.org/10.1080/15512169.2024.xxxxxx>
- Mutoni, D. (2017). *A revolutionary connectivity: Internet access as the ultimate human right and socioeconomic force*. Washington, DC: New Degree Press.
- Pawar, G., & Khose, J. (2024). Exploring the role of artificial intelligence in enhancing equity and inclusion in education. *International Journal of Innovative Science and Research Technology*, 2180–2185.
- Shalevska, E. (2024). The future of political discourse: AI and media literacy education. *Political Communication Review*, 29(1), 88–104. <https://doi.org/10.1093/xxxxxx>