

CHALLENGES AND PROSPECTS OF ARTIFICIAL INTELLIGENCE IN THE TEACHING AND LEARNING OF CIVIC EDUCATION IN PUBLIC SENIOR SECONDARY SCHOOLS IN NIGERIA.

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Abstract

This paper discussed the role of Artificial Intelligence as an innovative tool and challenge in civic education. The study is aimed at giving insight into how AI influences practices in education, teachers' knowledge, and teaching and learning outcomes. This is a qualitative approach based on insightful literatures by other related works in AI. On the other hand, AI-driven platforms provided tailored instructional content and fast assessments for better teaching methodologies and improvement in learning outcomes. Furthermore, AI software could even recall information from past conversations in order to provide tailor-made responses to the users. Challenges still exist, though: overdependence on AI, privacy issues, and likely algorithmic bias. Likewise, AI has its weaknesses; sometimes, it gives wrong information due to the limitation of its training data or understanding. It may, unconsciously, give instructions or suggestions which are either destructive or prejudicial, as it is relatively unaware of its actions, and, finally, it lacks knowledge of current events and developments beyond the cut-off date subscribed for the training data. This study has brought to light how AI can transform citizenship education and also calls for balancing technological innovation with human interaction. Effective integration of AI can enhance learning experiences and foster critical thinking and ethical reasoning among students. The findings call for continuous professional development of educators in the field of ethical AI practices and the protection of humancentric educational values. Future research should investigate diverse educational contexts to better understand the challenges, prospects, and benefits of AI in education.

Keywords: Artificial, Intelligence, Teaching, Learning, Civic Education.

Introduction

The application of Artificial Intelligence in teaching and learning Civic Education involves the use of advanced technologies in enhancing educational experiences, promoting understanding of civic responsibilities, and developing critical thinking. Such AI-powered tools as virtual tutors, chatbots, and automated assessment platforms can be used to create personalized experiences for learners by tailoring content to meet the needs of individuals. In Civic Education, AI is able to simulate real-life scenarios in elections, governance, or even law to make complex concepts more understandable and interactive for learners.

By automating routine tasks like grading and providing immediate feedback, AI will let the teacher focuses more on discussions over civic values, democracy, and social responsibilities. Moreover, AI-powered systems can help bridge the resource gaps in regions with shortages of qualified teachers or limited access to quality educational materials. However, its effective implementation needs infrastructure, teacher training, and ethical considerations to make sure it is inclusive, culturally relevant, and able to operate within the specific social context.

In summary, AI can change the face of Civic Education by making it more accessible, engaging, and tailor-made for learners, fostering informed and active citizenship.

Influence of AI in Educational Practices

To analyse the benefits of artificial intelligence in education, we must acknowledge that AI is a powerful catalyst for enhancing teaching effectiveness in numerous ways. Firstly, AI enables personalized learning experiences by analysing individual student data, allowing educators to tailor instruction to diverse

learning styles and pace. This adaptability fosters a deeper understanding of subjects among students (e-school news, 2024).

AI supports teachers in administrative tasks, such as grading and assessment, freeing up valuable time. Automated grading systems powered by AI streamline routine tasks, enabling educators to focus on interactive teaching methods, mentorship, and targeted interventions for struggling students.

Intelligent tutoring systems, driven by AI, provide real-time feedback and insights into student performance. This allows teachers to identify learning gaps promptly and address them proactively. AI also offers data-driven analytics, empowering educators with valuable insights into student progress and areas that require attention (e-School News, 2024). AI contributes to professional development by providing teachers with innovative tools and resources. It facilitates continuous learning and updates on best practices, ensuring educators stay informed about evolving educational methodologies.

In essence, AI augments teaching effectiveness by providing personalized support, automating routine tasks, offering real-time insights, and fostering ongoing professional development. As a collaborative partner, AI empowers educators to create dynamic and engaging learning environments, ultimately benefiting both teachers and students in the educational journey (e-school news, 2024).

The traditional education system has typically followed a one-size-fits-all approach, where students receive the same content and instruction regardless of their individual needs and learning styles. However, with the integration of AI, education can become more personalized and adaptive, catering to the unique requirements of each student. AI-powered educational platforms have the ability to collect and analyze vast amounts of data, enabling them to gain insights into students' strengths, weaknesses, and learning preferences. This data-driven approach allows for the delivery of customized content, recommendations, and feedback, providing students with a tailored learning experience that maximizes their potential for success. One of the significant advantages of AI in education is its ability to provide immediate and constructive feedback to students. Traditionally, students had to wait for their assignments to be graded by teachers, which often resulted in delayed feedback. With AI-powered automated grading systems, students can receive timely feedback on their work, enabling them to understand their mistakes, make corrections, and improve their learning outcomes. This real-time feedback fosters a sense of self-reflection and empowers students to take an active role in their own learning process. Moreover, AI has the potential to facilitate collaborative learning environments. Intelligent tutoring systems and virtual learning assistants can support students in group discussions, provide guidance, and encourage collaboration. By leveraging AI technologies, students can engage in interactive activities, simulations, and problem-solving exercises, promoting critical thinking, creativity, and teamwork. These collaborative experiences closely mirror real-world scenarios, preparing students for the challenges they may face in their future careers (Abill, Kaledio, & Louis, 2024).

Challenges of AI in Education

CivxNow (2024) posits that using AI to teach civic education presents challenges like potential bias in algorithms, difficulty in simulating complex real-world scenarios, lack of nuanced understanding of ethical issues, limited ability to foster critical thinking and debate, concerns over data privacy, and the need for significant teacher training to effectively integrate AI tools into the classroom, while ensuring that AI does not replace the essential human element of civic education.

Artificial Intelligence (AI) is rapidly transforming education globally, and Nigeria is no exception (Olatunji-Ishola, Onwuegbuzie, and Okanlawon, 2025). AI offers potential benefits such as personalized learning, enhanced access to educational resources, and automation of administrative tasks (Olatunji-

Ishola et al, 2025). In civic education, artificial intelligence (AI) has the potential to transform how we learn about our rights and responsibilities as citizens. Imagine interactive simulations and virtual environments that make learning about democracy and human rights not just informative but also engaging. AI could tailor assessments to fit individual learning styles, helping students grasp key concepts more effectively. However, the journey to integrating AI into Nigerian public senior secondary schools is fraught with challenges that need to be tackled to ensure that all students benefit equally.

Civic education plays a vital role in shaping informed and responsible citizens. It equips students with the knowledge, values, and skills they need to actively participate in a democratic society. In Nigeria, the aim is to deepen understanding of citizenship, democracy, and human rights. Yet, traditional teaching methods often struggle to capture students' interest and encourage critical thinking. This is where AI can make a difference, offering personalized learning experiences and interactive tools that can boost student motivation and achievement.

Despite its promising advantages, several hurdles stand in the way of effectively implementing AI in civic education across Nigerian public senior secondary schools. These challenges range from inadequate infrastructure and limited digital literacy to high costs and ethical concerns. Moreover, there's a pressing need for content that resonates with local contexts. Addressing these issues is crucial to ensuring that AI becomes a powerful tool for educational equity and empowerment, rather than deepening existing inequalities.

Artificial Intelligence (AI) is rapidly transforming education globally, presenting both opportunities and challenges, particularly in civic education (Olatunji-Ishola et al, 2025). Civic education plays a vital role in nurturing responsible and engaged citizens, especially in Nigeria, where the nation faces various socio-political challenges. By focusing on educating individuals about their rights and responsibilities, civic education is essential for fostering a vibrant democracy.

Integrating artificial intelligence (AI) into civic education holds great promise. It can enhance the learning experience and encourage critical thinking among students, making complex concepts more accessible and engaging. However, the journey to implementing AI in Nigerian civic education is not without its challenges.

Several significant hurdles need to be addressed, such as inadequate infrastructure, ethical concerns surrounding technology use, and a shortage of skilled personnel who can navigate these new tools effectively.

This paper delves into these challenges, highlighting the necessity for thoughtful planning and ethical considerations. Ensuring that AI is integrated fairly and beneficially into civic education is crucial for empowering students and strengthening the democratic fabric of Nigeria.

Challenges of AI in Civic Education in Nigeria

Several challenges impede the successful integration of AI into civic education in Nigeria:

- i. **Inadequate Infrastructure:** A major obstacle is the lack of adequate infrastructure, including reliable internet access and sufficient computational power, especially in rural areas. Many schools lack the necessary technology and trained educators to effectively teach AI-related courses. The digital divide between urban and rural areas exacerbates existing educational inequalities, leaving students in less privileged areas at a disadvantage (Bakare, 2024).

- ii. **Curriculum and Policy Framework Gaps:** There is a need to embed AI into national education policy and curriculum in a manner that upholds human values. A comprehensive policy framework is needed to guide the adoption and implementation of AI technologies in the education sector. The curriculum should foster critical thinking, creativity, and ethical AI literacy among students (Sadiq, Bello & Tukur, 2024).
- iii. **Limited Funding and Resources:** One of the major challenges in Nigeria's education system is the persistent issue of underfunding. This has been a problem for years, making it difficult to implement new technologies like AI in schools. The costs associated with adopting AI—like purchasing modern computers and ensuring reliable internet access—can be quite high. Many schools simply don't have the resources they need to make this transition. To harness the potential of AI in civic education, we need significant investment to build and maintain the necessary technological infrastructure.
- iv. **Lack of Awareness and Digital Literacy:** Another significant hurdle is the lack of awareness and digital skills among many teachers. Many educators are not familiar with AI technologies, which makes it challenging for them to incorporate these tools into their teaching. Additionally, some educators and policymakers may resist technological changes, fearing the unknown. To overcome these barriers, it's crucial to implement professional development programs that equip teachers with the knowledge and skills they need to effectively use AI in the classroom. This will help create a more dynamic and engaging learning environment for students.
- v. **Ethical Concerns and Algorithmic Bias:** As we explore the integration of AI in education, we must also address important ethical concerns. If AI systems are not carefully designed, they can inadvertently reinforce biases and discriminatory practices. Issues like algorithmic bias, data privacy, and the possibility of displacing teachers raise significant ethical questions. It's essential to ensure that AI-driven educational tools are fair, ethical, and inclusive, so they truly benefit all students without exacerbating existing inequalities.

Specific Challenges in Civic Education

The challenges mentioned above have specific implications for civic education:

Localized Content and Cultural Adaptation

Creating AI tools that resonate with local communities is essential. This means developing resources that support indigenous languages, include culturally relevant examples, and tackle local teaching challenges. However, this requires not only advanced technical skills but also a deep understanding of the local context. Without localized content, it becomes difficult to create AI solutions that effectively meet specific needs.

Balancing Technology and Human Interaction

Finding the right balance between technology and human interaction is vital for effective civic education. While AI can certainly enhance learning experiences, the role of teachers as facilitators of learning is irreplaceable. The goal should be to use AI as a supportive tool that complements human interaction, not as a substitute for it.

Promoting Critical Thinking and Ethical Reasoning

Civic education is all about nurturing critical thinking and ethical reasoning skills in students. AI should be harnessed to foster these abilities, rather than just delivering information. It's crucial to ensure that AI works alongside effective teaching methods, enhancing the educational experience instead of replacing it.

Addressing Misinformation and Bias

AI has the potential to help identify and tackle misinformation and bias in civic education materials. However, we must be vigilant to ensure that the algorithms used are not biased themselves. It's essential to teach students how to critically evaluate information, regardless of where it comes from, empowering them to navigate the complexities of today's information landscape.

Ensuring Equitable Access and Inclusivity

AI can significantly expand access to civic education, particularly for students in remote or underserved areas. However, it's vital to make sure that all students have equal access to technology and the internet. AI tools should be designed to be inclusive and accessible, catering to the diverse learning needs of all students.

Key Challenges:

- i. **Algorithmic Bias:** AI systems trained on data that may reflect societal biases could perpetuate those biases in the information presented to students, leading to skewed perspectives on civic issues.
- ii. **Nuanced Understanding of Complex Issues:** AI struggles to capture the complexity and nuance of real-world civic issues, potentially simplifying debates and overlooking important ethical considerations.
- iii. **Lack of Critical Thinking Skills:** Overreliance on AI-generated answers can hinder students' ability to critically analyse information, evaluate different viewpoints, and form their own informed opinions.
- iv. **Data Privacy Concerns:** Collecting and using student data to personalize learning experiences with AI raises concerns about privacy and potential misuse of information.
- v. **Teacher Training and Adaptation:** Effectively integrating AI into civic education requires significant teacher training to understand how to best utilize AI tools and ensure they align with educational goals.
- vi. **Simulating Real-World Scenarios:** Replicating the complexities of civic engagement, such as political debates or community decision-making, can be challenging with AI, potentially limiting the learning experience.
- vii. **Ethical Considerations:** Navigating ethical dilemmas within civic education can be difficult with AI, as it may not always provide balanced perspectives or consider the full range of moral considerations.
- viii. **Potential for Disengagement:** Overuse of AI-driven activities could lead to student disengagement if they feel like they are interacting with a machine rather than a human teacher.

Important Considerations

Transparent AI development: Utilizing AI systems that are transparent in their decision-making processes to address potential bias and build trust with students.

Human oversight: Ensuring that teachers remain actively involved in the learning process to guide student discussions, address complex issues, and provide context.

Curating diverse data sources: Training AI models on a broad range of perspectives and information sources to provide a balanced view of civic issues.

Developing critical thinking skills: Using AI as a tool to facilitate analysis and debate, rather than relying solely on AI-generated answers.

The Prospects of AI in Civic Education

Personalized Learning: AI systems can tailor Civic Education lessons to meet the individual needs of students. For instance, platforms can assess a student's understanding of civic topics (like government systems or human rights) and adapt content to reinforce areas where they struggle.

Interactive Learning Tools: AI-powered interactive tools, such as gamified quizzes or simulations, can make Civic Education engaging. For example, students could use virtual role-playing to debate as members of a government or simulate how elections work.

Access to Diverse Resources: AI can provide access to global perspectives on civic issues, helping students in Rivers State understand international case studies on democracy, leadership, and governance.

Teacher Support: AI can assist teachers by automating administrative tasks (e.g., grading), allowing educators to focus more on facilitating discussions and critical thinking around civic topics. AI can also offer real-time feedback on student progress.

Bridging Gaps in Instruction: AI systems, such as chatbots or digital tutors, can help fill the gaps in Civic Education where there's a shortage of qualified teachers of Civic Education in Nigeria.

Conclusion

The integration of AI into Civic Education in public senior secondary schools in Nigeria presents challenges, and the prospects are promising if implemented strategically. With proper planning, investment, and stakeholder involvement, AI can revolutionize how Civic Education is taught, fostering a generation of informed and active citizens.

Suggestions

Government and Private Sector Partnership: Collaboration between the government, tech companies, and NGOs can help provide the infrastructure and funding needed for AI implementation.

Teacher Training Programs: Regular, focused training should be provided to teachers to equip them with the skills to incorporate AI tools into Civic Education.

Pilot Programs: Start with pilot programs in select schools within Rivers State to test the effectiveness of AI in teaching Civic Education before scaling it statewide.

Localization of AI Content: AI tools should be tailored to align with the Nigerian Civic Education curriculum and the cultural realities in Nigeria.

Monitoring and Evaluation: Continuous assessment of AI's impact on learning outcomes in Civic Education is essential to ensure it is meeting educational goals.

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