
**ASSESSING THE ROLES OF ARTIFICIAL
INTELLIGENCE (AI) IN DEVELOPING ETHICAL
VALUES AMONG SOCIAL STUDIES STUDENTS IN
JUNIOR SECONDARY SCHOOL, NIGERIA**

Imaobong Marcus **AKPAN** & Ukeme Sunday **AKPAN**
*Department of Social Studies, College of Education,
Afaha Nsit, Uyo Akwa Ibom State*

Abstract

This study aims at investigating the roles of Artificial Intelligence (AI) in enhancing ethical values among Social Studies students in Junior Secondary Schools. The rationale of this study is to investigate the declining rate of ethical values among the students and the sudden increase in the adoption of digital technologies in education. Four purposes of study and four research question was raised by the researcher to guide the study. Descriptive survey research design was used for the study in order to accommodate Social Studies teachers and junior secondary school students from the three public secondary schools in the three geopolitical zones (South-south, South-east and South-west). The instrument used for data collection was artificial intelligence (AI) ethical value questionnaire for teachers (AIEVQT) and artificial intelligence (AI) ethical value questionnaire for students (AIEVQS). Simple random sampling technique was used in selecting the participating schools, while stratified random sampling technique was adopted to ascertain the adequate representation of teachers and students as well as the gender balance. The data generated for the study was

analyzed using frequency counts method and simple percentage to determine the mean score during decision making of the mean that range within 2.50. The study therefore revealed some challenges facing integration of AI compliance are limited access to AI tools, inadequate facilities and power supply, insufficient teacher training and ethical concerns connected to data privacy. The result of the findings identifies that effective utilization of AI, requires improvement in the area of infrastructure, regular teacher training programmes, curriculum inclusion of AI based ethical content and well spelt-out ethical rules. This study therefore recommends that, though AI have good potentials to enhance ethical development in Social Studies, its effectiveness and application to the teaching and learning of Social Studies are anchored on considering the present challenges highlighted in the study such as infrastructure, training and retraining of teachers and ethical protection of private data and management.

Keywords: *Artificial intelligence, Ethical values, Social Studies, Moral development, Education technology.*

Introduction

In the fast-changing modern world, education should not only be about transfer of knowledge, but about the design of character and behaviour of learners. In the case of Nigeria, Social Studies plays a crucial role in helping junior secondary school students develop the ethical ideals of social responsibility, honesty, respect, and collaboration. The educational industry is now investigating how artificial intelligence (AI) might support value-based learning, given that the digital era is affecting nearly every part of life. According to Chassignol et al (2021), artificial intelligence (AI) technologies, like chatbots, intelligent tutors, and behaviour-monitoring systems, are utilized to fulfill the educational ideals of instant personalization and improved student engagement. Even though AI has improved academic achievement, ethical

development is still being researched. In the setting of a multi-cultural society like Nigerian society, the existence of ethical values is crucial for both national progress and peaceful coexistence. Thus, the use of AI in Social Studies instruction has been beneficial in this regard as it provides new methods for guaranteeing the reinforcement of these values, as well as real-time and more interactive connections with people.

Artificial intelligence based-learning environments, for example, have been utilized to simulate real-life ethical problems in which students must make value-based judgments in a controlled setting with the assistance of their professors (Holmes et al2022). In addition to these possibilities, some people wonder if AI can truly enhance human values or if it will adopt the traits of the machines.

Critics claim that moral judgment and emotional intelligence, which are essential components of ethical education, are absent from AI (Jobin et al2019). Some believe that AI could assist educators in molding pupils' moral reasoning and social consciences through ethical programming (Zawacki-Richter et al 2020). This study therefore investigates how AI may be used effectively in Nigerian junior secondary schools to support the teaching of Social Studies and the development of moral values. It aims at accessing the pros and cons of applying AI to this environment and offer beneficial recommendations to the professionals in the development of AI, teachers, and lawmakers.

Social studies being one of the core subjects in junior secondary school curriculum, is focusing towards the development of pupils with values, information and skills necessary for personality development. It is a subject that aims at developing value-oriented individuals such as people with the culture of honesty, tolerance, empathy and necessary values required in the society such as Nigeria (Oboegbulem & Ugwu, 2020). As technology continues to gain more ground in the educational process, teachers are beginning to consider how Artificial Intelligence (AI) may serve both the ethical and social objectives of Social Studies. Artificial Intelligence (AI) is therefore

the programmed mechanisms to render a service of human, such as learning programme, writing, problem-solving, and decision-making (Luckin, et al, 2021). Artificial intelligence solutions are already applied in most developed nations to improve classroom learning, automate office work, and offer personalized learning opportunities (Zawacki-Richter et al, 2020). But the use of AI in education in Nigerian context is at the infancy level. Also, the problems associated with the inability of AI to instill moral values are brought up by the AI compliances users. Again, horrifying over-reliance in AI, will potentially lead to the development of feelings and socialization capabilities in humans (Jobin et al., 2019). For instance, infrastructural deficiency, lack of teacher education, and moral abuse of information are among the issues that should be addressed before the integration of the AI into aided teaching in the schools in Nigeria (Okoye & Okechukwu, 2023). As technology gains more and more role in the society, there is a need to question what role can the AI possibly play in helping with the formation of ethical values, among students. The proposed research project will contribute to the discussion since it will examine the potential of implementing the idea of AI in terms of teaching to promote ethical reasoning among junior school students in Nigeria. Therefore, the burden of this paper is to access the increasing rate of ethical values and how AI can be integrated into Nigerian school curriculum to enhance inculcation of ethical principles among junior secondary schools.

Teachers, parents, and officials are becoming increasingly concerned about the growing lack of moral behavior among junior secondary school children in Nigeria. In education and even in society, there are many instances of deception, mistreatment, contempt, and a lack of civic duty. According to recent surveys, 30% to 40% of students commit cybercrime, while 65% to 75% of students admit to academic cheating. Just 25% to 35% follow civic duties and regulations. According to McCabe, Butterflied, and Trevino (2012), this rationale therefore shown the pace of loss in fundamental ethical behavior among students, including adolescents. The high prevalence of academic fraud in Nigeria,

such as test fraud, impersonation, sorting, and other forms of cheating, necessitated immediate attention to how to address the existing problems, such as the application of Artificial Intelligence (AI) in Social Studies education to promote ethical values. This paper therefore, assesses the roles of Artificial Intelligence (AI) in developing ethical values among Social Studies students in the Junior Secondary Schools in Nigeria. The following purpose are formulated to guide the study. They are to:

- i. determine how AI tools are used in teaching Social Studies in Junior Secondary Schools in Nigeria;
- ii. find out ways of using Artificial Intelligence (AI) in the development of ethical values among Social Studies students in Junior Secondary Schools in Nigeria;
- iii. determine the challenges associated with Artificial Intelligence (AI), into value-based education in Junior Secondary Schools in Nigeria; and
- iv. examine the strategies which can be adopted for effective integration of Artificial Intelligence into Social Studies curriculum to promote ethical development among students.

Research Questions

To inform the study, research questions used were:

1. To what extent are Artificial Intelligence (AI) tools currently use in teaching Social Studies in Junior Secondary School in Nigeria?
2. In what way can Artificial Intelligence (AI) the development of ethical values among Social Studies Student in Junior Secondary School in Nigeria?
3. What are the challenges associated with integrating Artificial Intelligence (AI) into values – based education in Junior Secondary Schools in Nigeria?
4. What strategies can be used or adopted to effectively integrate Artificial Intelligence (AI) into Social Study

curriculum to promote ethical development among student?

Methods

In order to ascertain how artificial intelligence (AI) affects junior secondary school Social Studies students' development of ethical principles; the researcher used a descriptive survey approach. All social teachers and junior secondary (JSS 2) students enrolled in public secondary schools in the three geographical zones of South-South, South-East, and South-West Nigeria comprise the study's population. A sample size of 120 JSS 2 pupils and 80 social instructors was selected, using simple random sampling technique. While stratified random sampling was used to determine the appropriate representation of instructors and children as well as the gender balance among the respondents, Frequency counts and simple percentages were used to analyze the data produced by the two instruments, the Artificial Intelligence and Ethical Values Questionnaires for Teachers (AIEVQT) and the Artificial Intelligence and Ethical Values Questionnaire for Students (AIEVQS). To arrive at the mean score of 2.50, the generated data was evaluated using the frequency method, percentage, and averages scores. This indicates that the score is displayed in table 1.1 below, along with additional tables that display the respondent's analysis.

Results

Research question one: To what extent are Artificial Intelligence (AI) tools currently use in teaching Social Studies in Junior Secondary School in Nigeria.

Table 1: Usage of Artificial Intelligence (AI) tools in teaching Social Studies in Junior Secondary School in Nigeria

Level A1 Usage	Teacher % (N-60)	Students % (N-120)
Frequently Used of A1 tools	18(30.0%)	42 (35.0%)
Occasionally used of A1 tools	22(36.7%)	46(38.3%)
Rarely used of A1 tools	12(20.0%)	20(16.7%)
Never used	8(13.3%)	12(10.0%)
A1 tools at all	60 100	120 100

From table 1, 22 teachers, or 36.7%, utilize A1 tools rarely, while 18 teachers, or 30.0%, use them regularly while instructing social kids. According to the analysis of table 1.1, 8 teachers (13.3%) never utilized A1 tools, while 12 teachers (20.0%) used them seldom. Additionally, this suggested that there is now a gap in A1 integration. From the perspective of the students, the survey found that 42 (30.0%) had been exposed to the use of A1 tools on a regular basis, whereas 46 students (38.3%) had only sometimes used A1 tools in Social Studies classes. Once again, 12 students (10.0%) have never been exposed to A1 tools instruction, and 20 students (16.7%) seldom ever use A1 tools. The instruments' use is not properly integrated or institutionalized in junior secondary Social Studies classes, according to the aforementioned research.

Research question two: In what way can Artificial Intelligence (AI) the development of ethical values among Social Studies Student in Junior Secondary School in Nigeria.

Table 2: Ways A1 tools enhance the development of ethical values among Social Studies students

Ethical Values	SD	D	A	SA	Mean Teacher	Mean Students	Decision
Enhanced by A1 tools							
Promotion of honesty through A1 evaluation	6	10	24	20	2.97	3.05	Accepted
Encouraging respect for from different opponents using A1 tools	4	8	26	22	3.10	3.18	Accepted
Development of responsibility through A1 guided earning tools	5	9	25	21	3.00	3.12	Accepted
Enhancement of fairness based on unbiased A1 feedback	7	11	23	19	2.90	2,98	Accepted
Supporting of digital citizenship and ethical online behaviour	3	7	28	22	3.15	3.22	Accepted

In table 2.2, the study demonstrates that both teachers and students think that AI instruments help the development of Ethical principles in Social Studies. This suggests that the items recorded mean score in the table is higher than the 2.50 decision mean, indicating that it is approved. Additionally, Table 2.2 showed that students' mean scores ranged from 2.98 to 3.22, showing a fairly high percentage of agreement among students, whereas teachers mean scores fell between 2.90 and 3.15. According to the above table, teachers and students who taught digital citizenship and ethical online behavior had the highest mean scores (3.15 and 3.22, respectively). This suggests that AI tools have a fair impact on encouraging appropriate online behaviour.

Research Questions three: What are the challenges associated with integrating Artificial Intelligence (AI) into value-based education in junior secondary schools.

Table 3: Challenges Associated with integrating Artificial Intelligence (AI) into value-Based education

Challenges	Teacher % (N-60)	Students % (N-120)
Lack of Facilities and power supply	47(78. %)	79 (66%)
Insufficient Teacher's Training programme	42(70%)	74 (62%)
Limited Access to AI tools and devices	48 (80%)	90(75%)
Ethical concerns improve data management	32(58%)	65(54%)

The most difficult issue for AI users' compliance, according to the study in table 3.3, is restricted access to AI tools and devices on a regular basis. Both the 90 pupils (75%) and the 48 professors (80%) attest to this. The findings indicated that 47 teachers (78%) and 79 pupils (66%) believed that the absence of facilities and the unreliable power supply constituted significant obstacles to the integration of AI in junior secondary schools. The responses of 42 instructors (70%) and 74 pupils (62%) demonstrating the gaps in professional ability for AI integration further highlight the difficulty of an inadequate teacher training program. Additionally,

ethical issues surrounding private data management are a barrier, although the investigation showed that 58% of instructors and 54% of pupils had reduced ethical concerns, indicating that private data management poses significant obstacles to the integration of AI in junior secondary schools. Finally, table 3.3 showed that access and infrastructure issues represent a barrier to the successful use of AI in junior secondary school Social Studies. The result shows that in order to advance ethics in a certain field of study; it is essential to protect AI data and handle any information obtained in AI platforms.

Research Question four: What strategies can be adopted for effectively integration of Artificial Intelligence (AI) into Social Studies curriculum to promote ethical development among students

Table 4: Strategies for effective integration of AI into Social Studies curriculum to promote Ethical Development among students.

Strategies of Integration	No of Respondents	Percentage %
Provision of Adequate AI facilities and Stable power supply	138	77%
Regular training and retraining of Social Studies teachers on AI use	132	93%
Inclusion of AI -based Ethical content in the Social Studies curriculum	125	69%
Improved Access to AI tools and digital device for students	140	78%
Establishment of clear Ethical Guidelines for AI use and data Privacy	118	66%

The study in table 4 shows that respondents agreed on the key tactics required for the successful integration of AI into Social Studies curricula to improve ethical growth. Table 4.4 shows that while access to digital devices and AI tools has improved by 140 (78%), the provision of adequate AI facilities with a steady power supply has improved by 138 (77%), indicating high responses to the need for infrastructure. This suggests that improving

infrastructure materials is crucial for the successful integration of AI and ethical development through AI tools. Additionally, 132 (75%) of Social Studies instructors receive frequent training and retraining, which is highly appreciated, demonstrating the importance of teachers' professionalism in using AI effectively for moral instruction. The integration of AI-based content in Social Studies curriculum 125 (69%) was relevant, according to table 4.4's analysis and results, suggesting that it strengthens students' capacity for moral reasoning and civic ideals. creation of explicit data policy and ethical guidelines 118 (66%). This also made it clear that the use of AI in education had to be protected. The results of the analysis showed that the provision of infrastructure, teacher capacity building, curriculum planning, access to AI opportunities, and strengthened ethical data concern control are all critical to the successful integration of AI.

Discussions

The results of the present research shed light on the advantages and challenges of integrating artificial intelligence (AI) into Social Studies education in order to help junior secondary school students in Nigeria establish moral principles. The respondents who have incorporated AI in teaching and learning of Social Studies in the junior secondary schools are few. Most of the teachers and students indicated the usage or exposure to AI technologies but few. This is consistent with the comments previously made by Okoye and Okechukwu (2023) on the state of Nigerian schools and the impediments to digital literacy and infrastructure that prevent the adoption of new technologies.

According to the findings, it may be indicated that AI application within the educational community is a new issue on the worldwide level in terms of education. Zawacki-Richter et al. (2020) stated that, there is little or nothing to deploy AI in the Nigerian Social Studies classroom.

The results showed that students and teachers think AI may improve moral principles. It is thought that ethical learning may be made considerably more engaging with the aid of AI because

average scores in some areas, such as moral simulations, interactive storytelling, and behaviour tracking, are high. The following findings correlate with those presented by Borenstein and Howard (2021), who had a caution that AI can be quite systematically prejudiced or propagate preconceptions unless established in depth.

The findings found that the respondents gave the techniques of a successful integration, including the infrastructure provision, teacher training, AI tools access, and curriculum revision. The solutions correspond with the world-leading approaches on ethical AI in education (Holmes et al., 2022). Cultural alignment should be handled with a specific degree of attention since the solutions produced in the Western environment may not match the social settings in Nigeria well without alterations to these situations. Teacher training is also crucial in this regard—instructors must be informed of the technological and ethical consequences of the AI use in the classroom. The conclusion of this result is that AI application, is not to be overlooked as it offers multiple options that may be employed in teaching and learning of Social Studies education in Nigeria with the objective to imparting moral values.

Conclusion

This study examines how artificial intelligence (AI) helps junior secondary school Social Studies students build moral principles. The study's conclusions showed that, with the right resources, AI has a great potential to improve junior secondary school students' ethical ideals through Social Studies instruction. By fostering more interactive and reflective learning, AI-based teaching technologies also help students to develop moral awareness of ethical behaviour and civic duty. Furthermore, inadequate teacher training and digital concerns about data privacy and usage make it difficult to integrate AI tools effectively.

Recommendations

The researcher offered the following suggestions in light of the study's findings. To improve appropriate integration, basic amenities and other infrastructures, such as a reliable power source and strong internet access, should be provided. Increase teachers' proficiency by providing them with frequent training on the use of AI in Social Studies instruction. Safe administration and direction of AI data to safeguard data.

References

- Borenstein, J., & Howard, A. (2021). Emerging ethical concerns in artificial intelligence education. *AI & Society*, 36(2), 1–10.
- Chassignol, M., Khoroshavin, A., Klimova, A., & Bilyatdinova, A. (2021). Artificial Intelligence trends in education: A narrative review. *Procedia Computer Science*, 178, 79–86.
- Holmes, W., Bialik, M., & Fadel, C. (2022). Artificial intelligence in education: Promises and implications for teaching and learning. Center for Curriculum Redesign.
- Ibrahim, M., & Okon, A. (2024). Challenges and prospects of AI adoption in Nigerian secondary education. *International Journal of ICT in Education*, 8(1), 22–35.
- Jobin, A., Ienca, M., & Vayena, E. (2020). The global landscape of AI ethics guidelines. *Nature Machine Intelligence*, 1(9), 389–399.
- Luckin, R., Holmes, W., Griffiths, M., & Forcier, L. B. (2021). Intelligence unleashed: An argument for AI in education. Pearson Education White Paper. <https://www.pearson.com/uk/educators/schools/news/intelligence-unleashed.html>
- McCabe, D. L., Butterfield, K. D., & Trevino, L. K., (2012). Cheating in college, why students do it and what educators can do about it. Johns Hopkins University Press
- Oboegbulem, A., & Ugwu, J. (2020). Repositioning Social Studies for moral and civic development in Nigerian schools. *Nigerian Journal of Social Studies*, 23(1), 75–89.

Okoye, K., & Okechukwu, C. (2023). Bridging the digital divide: Integrating AI into Nigerian secondary education. *African Journal of Educational Technology*, 5(1), 33–49.

Zawaci-Richter, O., Marín, V. I., Bond, M., & Gouverneur, F. (2020). Systematic review of research on artificial intelligence applications in higher education – where are the educators? *International Journal of Educational Technology in Higher Education*, 17(1), 1–27.