
WIDESPREAD DEPLOYMENT OF ARTIFICIAL INTELLIGENCE TOOLS IN ACADEMICS AND THE ISSUE OF INTEGRITY IN UPPER BASIC SCHOOLS IN EDO STATE, NIGERIA

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Abstract

This study investigated Artificial Intelligence (AI) tools usage in amongst the upper basic school students in Edo State and its effect on their academic honesty and integrity. The study was guided by one research questions and three hypotheses. The sample of the study was 450 students randomly using the multi-stage sampling procedure. It was a survey employing the use of a structured questionnaire for data collection. The questionnaire had a reliability coefficient of 0.81. was tested and validated by its experts and during pilot testing. At the level of significance of 0.05, The data collected was analyzed, using the Pearson Product-Moment Correlation and Regression. The results showed that the overall level of AI integration in formal educational institutions was relatively low, and that students showed a moderate degree of individual interest in AI tools. The frequency of use of AI was statistically significant, and weakly positively correlated with academic integrity and ethical awareness of AI usage. Nevertheless, the comparison showed that there was no significant correlation between AI use and academic honesty when gender was applied as a variable. The study recommended that infrastructural support and thorough teacher training should be provided and that the implementation of policies in favor of the ethical introduction of AI in the education sector should be developed.

Keywords: Artificial intelligence, Academic integrity, Ethical awareness, Upper basic education, Edo State

Introduction

It is not a new development that education is considered to be a pillar of national development. It has been universally agreed that individual empowerment has the potential of promoting economic, political and social well-being of any given society (Deshmane & Thombre, 2024). Besides, education fosters critical thinking, human capital and values, which support responsible citizenship and social development. The upper basic school system in Nigeria performs the pioneer role of nurturing intellectual and ethical development in the country. With the updated status of the field, there have been technological advancements that have changed the ways in which students receive, process and learn information especially artificial-intelligence (AI) applications.

The application of AI is changing the way education is delivered around the world. It is supporting new ways of delivering content and assessing student performance. Modern learners are now able to use advanced tutoring applications, language-generating algorithms and plagiarism-detecting software as well as personalized feedback services (Holmes et al., 2021). Although AI use is more advanced in industrialized nations, Nigeria and Edo State in particular are only in the beginning phase of its use. However, urban and semi-urban students in Edo State are already utilizing artificial intelligence applications including ChatGPT, Grammarly and Google Translate to get their schoolwork done regardless of the infrastructure limitations. The technologies can help with writing, understanding and problem-solving, particularly when the traditional learning materials or a teacher attention might be insufficient. However, the spread of AI in academia is quite worrisome, particularly when it comes to academic integrity of students. Even though AI may improve efficiency and learning work, it has the drawback of promoting academic dishonesty. With less oversight of learners over time and increased autonomy, it is likely that they will be overly dependent on AI-generated content in coursework and exams, which will blur the line between fair learning and academic dishonesty. This is a cause of concern at the upper primary schools since this is the stage in which children are developing their ethical behavior. Nwozor (2025) notes that misuse of AI is gradually being associated with

academic dishonesty, and unless something is done about it, the academic integrity of the field is at risk because of AI.

The application of AI regarding the issue of academic integrity will, therefore, require the investigation of the ethical consciousness of students. Ethical application of digital tools entails application of right and wrong judgment, and knowledge of when and the extent to which AI should be applied and when it is not suitable to outsource intellectual functions to AI. Abubakar et al. (2024) argue that not all Nigerian students have an official background of digital ethics, which makes them vulnerable to scholastic malpractices. This means that a holistic digital-ethics curriculum that involves AI tools is not yet part of the schooling process in Nigeria. This does not only make the students vulnerable to the abuse of AI usage, it makes them grow in ignorance and innocence of digital ethics. This phenomenon is not restricted to gender or location. For instance, gender disparity in the use of technology, moral choices, and study behaviour have been found (Blau et al., 2021).

Digital resource usage by male and female students may be perceived and used differently, and this might have an impact on the trends in academic misconduct. However, more research is needed to clarify these gendered relations in the concrete cultural environment of upper basic schools of Edo State. The knowledge of such disparities can guide specific interventions and ethical education planning that can address the needs of learners. Nevertheless, AI has obvious pedagogical advantages in spite of ethical issues. It is able to tailor learning, offer students on-time academic aid, and self-directed learning, which especially become useful in schools that have limited resources. Singh et al. (2025) believe that AI can lead to the attainment of higher educational results and minimize instructional inequalities. In Edo State, upper basic schools are often associated with excess teachers' workload and scarcity of resources, AI can be used to improve student performance and interactions. One can achieve these benefits without interfering with the academic integrity through intentionally developing the ethical consciousness of students, providing holistic training of

instructors, and creating clear AI governance regulations in the educational context. All of these largely non-existent at the moment.

Education empowers critical thinking, morality, and human capital, which are the key to national development. Upper basic schools in Nigeria play a crucial role in this process and particularly when technology is utilized in the teaching and learning process. AI tools are reshaping the ways in which students acquire and utilize knowledge. Nigeria, especially Edo State, is just beginning the artificial intelligence integration into education. Numerous urban students are accessing ChatGPT and Grammarly to achieve better performance in their academics. However, there is a rising trend of AI in education that raises the questions of academic integrity and students' awareness of ethics in the usage. In situations where ethics are not clearly defined or instructions are not sufficient, students may misuse AI-generated content in assignments. There is also the question of whether the school curriculum provides for the needed orientation on the ethical use of AI. Without digital ethics teaching, students may misuse AI tools and this may affect the reliability of their academic performance. Gender may also affect the way students interact with AI because male and female students use technology and make ethical decisions differently. Despite these challenges, AI holds great promise for better access, engagement and tailored learning.

However, the need to address the challenges underscores the imperative of this study. The objectives of the study were to:

- i. determine how much Edo State upper basic school students use AI tools for school work;
- ii. find out how AI affects Edo State upper basic school students' academic integrity;
- iii. find out the Edo State upper basic school students' ethical understanding of AI tools and academic integrity; and
- iv. determine the relationship between AI and academic integrity in Edo State upper basic schools, focusing on gender inequalities.

Research Question

The study addressed one research question. How much do Edo State upper basic school students use AI tools in school?

Hypotheses

The following hypotheses were raised and tested at 0.05 significance.

Ho1: There is no significant relationship between AI usage and academic integrity of students in upper basic schools in Edo State.

Ho2: There is no significant relationship between students' ethical awareness in the use of AI and level of academic integrity of students in upper basic schools in Edo State.

Ho3: There is no significant relationship between AI usage and academic integrity of students in upper basic schools in Edo State based on gender.

Methods

This study employed the correlational survey research design to examine the relationship between the use of artificial intelligence (AI), awareness of ethics, and academic integrity among upper basic school students in Edo State. The population for the study consisted of all the students in the upper basic schools in Edo State. A sample of 450 students was selected using the multistage random sampling procedure. This ensured a proportionate representation of the population in terms of gender and regions. The Artificial Intelligence Tools Usage and Academic Integrity. Questionnaire (AIUAIQ) was used for the collection of data. The instrument provided for the demographic data of the students; the frequency of AI tools usage; AI ethical awareness and attitude towards academic integrity. It was a four-point scale instrument with response options of strongly agree to strongly disagree and high extent to no extent. These were rated 4 to 1 with 3.0 as hypothetical criterion mean. The instrument had a reliability coefficient of 0.81. The data collected were analyzed, using the Pearson Product Moment Coefficient and Regression.

Results

Research Question: What is the extent of deployment of AI tools in academic activities among upper basic school students in Edo State?

Table 1: Mean Score of Students on the Extent of Deployment of AI Tools in Academic Activities

S/N	Questionnaire Items	Mean Score	Standard Deviation	Decision
1	Use of AI tools like ChatGPT or Grammarly to complete my assignments.	3.12	0.74	High
2	Teacher’s use of AI tools for teaching in class.	2.85	0.71	Low
3	Familiarity with use of AI tools for research and homework.	3.05	0.69	High
4	Use of AI-based applications regularly to improve my understanding of subjects.	2.91	0.75	Low
Cumulative Mean				2.98
Low				

Criterion mean=3.00

Table 1 shows that upper basic school students in Edo State rarely use AI tools in academic activities. The high ratings for “Use of AI tools like ChatGPT or Grammarly to complete my assignments” (Mean = 3.12) and “Familiarity with use of AI tools for research and homework” (Mean = 3.05) indicate that students moderately use AI technologies for academic purposes. Other aspects, such as “Teachers' use of AI tools for teaching in class” (Mean = 2.85) and “Use of AI-based applications regularly to improve my understanding of subjects” (2.91), were below the criterion mean of 3.00. This suggests limited use of AI tools in classrooms. The cumulative mean of 2.98 suggests that upper basic school students use AI technologies in academics less.

Hypothesis 1:There is no significant relationship between AI usage and students’ academic integrity in upper basic schools in Edo State

Table 2: Pearson r on AI usage and students' academic integrity

		AI usage	students' academic integrity
AI usage	Pearson	1	.041
	Correlation		
	Sig. (2-tailed)		.000
	N	450	450
students' academic integrity	Pearson	.041	1
	Correlation		
	Sig. (2-tailed)	.000	
	N	450	450

The significance value (Sig. 2-tailed) is .000, below the alpha limit of 0.05. Despite its weakness, the relationship is statistically significant. The null hypothesis of no significant relationship between AI usage and students' academic integrity" was rejected. This suggests that AI has a small but statistically significant effect on Edo State upper basic school students' academic integrity.

Hypothesis 2: There is no relationship between students' ethical awareness in the use of AI tools and level of academic integrity in upper basic schools in Edo State

Table 3: Pearson r between students' ethical awareness in the use of AI tools and level of academic integrity in upper basic schools in Edo State

		Students' ethical awareness in the use of AI tools	Academic integrity
students' ethical awareness in the use of AI tools	Pearson	1	.189
	Correlation		
	Sig. (2-tailed)		.036
	N	450	450
Academic Integrity	Pearson	.189	1
	Correlation		
	Sig. (2-tailed)	.036	
	N	450	450

. At 0.05, the association is statistically significant (Sig. 2-tailed = 0.036). Thus, pupils' ethical awareness of AI tools and academic

integrity in Edo State's upper basic schools are correlated. The hypothesis of no significant relationship is therefore rejected.

Hypothesis 3:There is no significant relationship between AI usage and academic integrity based on gender among upper basic school students in Edo State.

Table 4: Regression analysis between AI usage and academic integrity based on gender among upper basic school students in Edo State

Source	Sum of Squares	df	Mean Square
Regression	150.46	3	50.25
Residual	2520.13	116	21.71
Total	2660.85	119	

Table 4 presents the F value of 2.314 alongside a p value of 0.079. Upon conducting the test at an alpha level of 0.05, it was observed that the p value exceeds this threshold. Consequently, the null hypothesis, which posits that there is no significant relationship between AI usage and academic integrity as influenced by gender among upper basic school students in Edo State, is retained.

Discussions

The result of this study shows that Edo State upper basic school students use AI tools in academic activities sparingly. Students used ChatGPT or Grammarly for assignments and AI for research. This leads to a preference for personal AI in education as opposed to institutional. The pattern supports Luckin (2017), who asserts that the AI application in education is dependent on student access, teacher readiness, and infrastructure. Pillai et al. (2024) state that while students are increasingly becoming acquainted with AI through consumer technologies, the implementation of such technology in education is slow because of the concerns of teachers and the absence of guidelines from the government. Thus, the limited implementation of this study points to a broader problem of lack of support and capacity building for

AI integration by educational institutions. This assertion reveals much of the realities in Nigeria with reference to infrastructure deficit.

The results of this study also show that though the positive association between the use of AI and student academic integrity looks small, it is statistically significant. Some relationship exists, but not strong enough to state that AI is the driving force behind student ethics. This corroborates the findings of Ayoub/AI-Salim and Aladwan (2021) that technology does neither improve nor degrade ethical behaviours, but rather, it is the values of the users and who they are moving in. According to Lund (2025) on academic integrity, it is the moral education and institutional culture of students that influence academic integrity rather than technology. This implies that AI technologies can be kept intact if used correctly but the effectiveness of their use is dependent on the way the students are taught how to use them in a proper ethical manner. The study also found a slight positive relationship between the level of students' ethical awareness of AI and students' academic honesty. This demonstrates the fact that pupils who make use of AI tools ethically are more likely to behave honestly in school. This is in accordance with Hua (2023) who emphasizes on the ethical training of technology. The premise is that students are responsible users of digital tools if they are aware of the ethical constraints. Buchanan et al. (2022) stress on the importance of purposeful digital ethics instruction to build the morality and accountability of students. The results of this study further show that AI ethics education has improved the integrity of students and encourages ethical technology usage. The research also concluded that there was no gender-related link between AI use and academic integrity. This reveals that AI impacts academic ethics in the same way for men and women. Saritepeci et al. (2024) found that when both genders receive similar digital literacy instruction and have access to technology, both their digital ethics are similar. According to Strzelecki and El Arabawy (2024), learning styles of students and their ethical views are not more influenced by their gender than the educational environment and their personal motivation. This explains and supports the finding in the present study that there is no significant relationship between AI usage and academic integrity based on gender. It is advised that projects that encourage ethical AI

practices and academic integrity are done for all students, as opposed to targeting specific genders.

Conclusion

This study set to find out the relationship between AI usage and students' academic integrity in the upper basic schools in Edo State. The results showed a moderate academic integrity in students' AI usage irrespective of gender. The results further showed a weak correlation between ethical awareness of AI tools usage and students' academic integrity in the Edo State upper basic schools. This suggests that there is no adequate curriculum provision for developing the appropriate values and awareness of the ethics in the use of AI tools for school assignments and research. Therefore, if the schools emphasize ethical awareness in using AI tools, the students are more likely to have higher academic integrity. This may likely help the students to avoid the abuse and misuse of AI tools. Finally, the findings in this study are likely to be limited in generalization due to the relatively small sample size.

Recommendations

The results of the given research justify the need to develop detailed recommendations that can help to supplement the efficient adoption of artificial intelligence (AI) in the pedagogical process within the school. To be more precise, the Edo State government, along with other education stakeholders, should spend enough resources on the establishment of strong educational technology infrastructure, thus, making sure that schools have the necessary facilities to integrate AI applications into the process of delivering instructions. This investment would probably encourage new teaching practises and improve educational performance in a more digital educational environment. Moreover, the teacher preparation programmes in Nigeria Certificate in Education (NCE) and degree level ought to be reinforced systematically to instil AI literacy modules and effective practises in pedagogy. This addition to the curriculum will ensure that future teachers will have not only the knowledge of AI tools but the skills to use them both in a pedagogically and ethically acceptable way in the classroom. It is expected that sufficient pre-service training will enhance teachers in

terms of confidence and ability to easily incorporate AI into normal teaching and learning processes.

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