

ETHICAL USAGE OF ARTIFICIAL INTELLIGENCE AMONG FACILITATORS OF ADULT EDUCATION PROGRAMMES IN CROSS RIVER STATE, NIGERIA.

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Abstract

The study investigated the ethical usage of artificial intelligence among facilitators of adult education programmes in Cross River State, Nigeria. Three research questions and the three null hypotheses guided the study. The study adopted descriptive survey research design. The population was 239 comprising of 149 male facilitators and 90 female facilitators. There was no sampling technique because the population was manageable and used for the study. The instrument for data collection was a structure 18-item questionnaire titled "Ethical Usage of Artificial Intelligence Among Facilitators Questionnaire (EUAIAFQ)". The instrument was validated by the three experts in research and statistics. To ascertain the internal consistency of the instrument, Cronbach Alpha method was used for the computation, the computation yielded 0.085 indicated that the instrument was reliable and used for the study. Mean and standard deviation were used to answer research questions while null hypotheses were tested with Z-test statistics at .05 level of significance. The findings revealed that there was no significance difference in the opinion of the male and female facilitators on the factors during their use of artificial intelligence for academic integrity as well as the challenges faced in the usage and ways of improving the adoption of artificial intelligence. Based on the findings, it was recommended among others that there is need for facilitators in the adult education programmes to be trained on the healthy use of artificial intelligence in their various adult education programmes.

Keywords: Facilitators, ethical, adult, education, artificial, intelligence

DOI: <https://doie.org/10.50390/NCAEJ.2026716445>

Introduction

Facilitators play significant roles in the administration of any adult education programmes through the process of knowledge generation, processing and dissemination. Facilitator is a person directly charged with the responsibility of making adult learners to learn. The facilitator is to lead and show the way and guide adult learners to share experiences in the course of their learning. The key functions of the facilitators which includes teaching, guides, assists and encourages the adult learners to acquire learning skills who ensures that the goals and objectives of the adult education are actualized through the execution of their duties. The teaching and research roles carried out by facilitators in the adult education programmes are not only time consuming but are also rigorous thereby requiring deep reading and communication of established ideas to target audience. Facilitators are responsible for guiding participants through the content and stimulate the learning process. The facilitator draws on the existing knowledge of the participants and assists them in building on that knowledge by providing input and training to fill identified gaps.

However, according to (UNESCO (2014) listed the role of a facilitators include;

Paying attention to the physical environment, creating mutual report and support.

Involving learners in discovering their learning needs and formulating their learning objectives.

Involving learners in mutual planning and designing of the learning process.

Help learners carry their learning plans.

Involving learners in evaluating the learning process.

Managing or guiding the analogical learning process but also managing the content itself.

Being flexible and adaptive to the needs of the learners.

Stimulating dialogue in the learning process

Learning how to make the learning process less formal when the need for that arises.

Making use of the two-way communication and feedback process in the learning sessions.

Assessing in advance the stated objectives and asking questions to assess the level of understanding of the adult learners before and after every learning session.

Making use of practical teaching aids (life experience or practical lessons within the learning environment) to facilitate learning.

Keeping important records such as attendance register, progress sheet, and material inventories. This will enable the facilitators to monitor the progress of the individual learners more effectively.

Involving them in regular advocacy and mobilization activities.

Artificial intelligence (AI) in its broadest sense, is intelligence exhibited by machines, particularly computer systems. It is a field of research in computer science that develops and studies methods and software that enable machines to perceive their environment and use learning and intelligence to take actions that maximize their chances of achieving defined goals. The various subfields of AI research are centered around particular research include reasoning, knowledge representation, planning, learning, natural language processing, perception and support for robotics (Ben, 2012). General intelligence is the ability to complete any task performable by a human on an at least equal level is among the field's long-term goals. Artificial Intelligence researchers have adapted and integrated a wide range of techniques, including search and mathematical optimization, formal logic, artificial neural networks, and methods based on statistics, operations research and economics. Artificial intelligence also draws upon psychology linguistics, philosophy, neuroscience and other fields. Artificial intelligence was founded as an academic discipline in 1956 (Russel and Norvig, 2021). The goal for artificial intelligence is to be able to do things such as recognize patterns, make decisions, and judge like humans. Artificial intelligence (AI) is the simulation of human intelligence in machines that are programmed to think and act like humans. Learning, reasoning, problem-solving, perception and language comprehension are all examples of cognitive abilities.

The advancement in technology has seen several facilitators adopt emerging technologies in the discharge of their duties and this has continued to attract mixed feelings in the academia. One of their academic duties is artificial intelligence (AI). The current flurry of artificial intelligence has generated a lot of his cussion and debate due to the advantages and disadvantages it portends for the education sector. There are many unanswered questions across different scholarly networks and instructors as well as school administrators are still having to deal artificial intelligence concerns particularly as it relates to the execution of educational activities by facilitators and learners. Amaewhale, Obikoya and Okeowhor (2020) further noted that having the night perception is a essential for stakeholders such as teachers to maximize any technological tool at their disposal. This is because artificial intelligence (AI) generated content is widely available and always changing, facilitators need to determine what to adopt and how to adapt in order to avoid falling victim of academic fraud in the process which can override their academic integrity.

Vinkoczi, Koltai, Nagy, Szabo Szentgroti and Szentgroti (2023) observed that artificial intelligence (AI) is developing more quickly that humanity can keep up with, it has been the

focus of a large body of scientific and popular writing. AI play a vital roles in many sectors these lay particularly in the education sector as it enables facilitators to do a lot within a short period of time particularly in the management of big data and complex information. Artificial intelligence enables both facilitators and learners to engage in personalized learning that meets their specific educational needs. Facilitators now have access to a wide range of educational resources and this comes with the challenges of being able to moderate the activities of these educators to ensure that this tool is used within allowed ethical boundaries. Artificial Intelligence (AI) improves information availability by managing intricate jobs, analyzing vast amounts of data, and making judgments with little to no human input. The key is to employ technology while upholding academic integrity, using artificial intelligence (AI) and other technical tools does not necessarily impede learning but how to ensure that the opportunities it provides are used within allowed ambits that still promotes originality and ingenuity in the work of users such as facilitators has been the worry of critical educational stakeholders.

The use of artificial intelligence (AI) among facilitators have been an issue of concern given the number of abuses that have been reported in recent times. Bishop (2023) pointed out scholars believe that AI should be a supplement not replacement through which they can cite sources, seek guidance from professionals and as such must be transparent in the use of this tool for the purpose of sustaining academic integrity in the line of duty. However, despite advancement in artificial intelligence, academics have emphasized the importance of focusing on humans' capacity from problem-solving, criticism, and inquiry rather than depending on this technology because of the challenges that accompany its use (Eguchi, Okada and Muto, 2021). The standardized use of this tool remains uncertain and this has raised worried on the integrity of some academic output from facilitators in adult education programmes. Michel- Villarrel, Vilatta- Perdomo, Salinas – Navarro, Thierry – Aguilera and Gerarobu (2023) stated some of the reasons why the adoption of artificial intelligence remains a challenge in the academic particularly among facilitators and some of these include the lack of accuracy and reliability of the information it generates, the issue of quality assurance among others. There is no doubt that artificial intelligence has a lot of benefit to facilitators as it promotes expertise and authority among facilitators on their academic activities as well as provide a platform for personalized learning, communication and collaboration.

Tauginien, Gaizauskaite, Glendinning, Kravjar, Ojstersek, Robeiro, Odineca, Marino, Cosentino, Sivasubramaniam and Foltynnek (2018), stated that complying with moral and intellectual values, norms, procedures and a unified framework of principles that aids in making decisions and carrying out actions in learning and other aspect of academic integrity. Academic integrity is a commitment to the fundamental values of truthfulness, fairness, respects responsibility and courage in any academic venture (Fishman, 2014). Stone (2023), conducted a related study on student perceptions of academic integrity focusing on the consequences and impact. Eight students participated in the study and were interviewed to learn how they perceived the procedure for handling artificial intelligence breaches. The interviews were analysed using content analysis. The study's finding showed that students had intense emotional reactions along with elevated stress and anxiety levels. While others adopted more flexible coping mechanisms. Additionally, students went to considerable lengths to clarify that their own and their friends violations of AI were inadvertent, even as they expressed the opinion that others were intentionally deceiving and need to face consequences.

However, the gaps it also creates must be covered and how artificial intelligence can be used to cover the academic gaps created by itself remains an issue of concern among academics. Numerous concerns about using ChatGPT have been brought to light by recent research, including privacy risks and moral dilemmas, misinformation, inaccuracy of content, biased responses or outputs, a lack of creativity and originality of artificial intelligence generated responses and the restricted use of training data (Cukurova, Miao and Brooker, 2023). It is only when artificial intelligence can help to checkmate these ethical usage of artificial intelligence can be very effective among facilitators of adult education programmes in Cross River State, Nigeria.

Objectives of the study

The main objective of this study was to investigate the ethical usage of artificial intelligence among facilitators of adult education programmes in Cross River State, Nigeria specifically, the study seek to;

Examine the challenges of the adoption of artificial intelligence among facilitators of adult education programmes in Cross River State.

To find out the ways artificial intelligence can be used to achieve academic integrity among facilitators of adult education programmes in Cross River State.

Ascertain the factors driving the use of artificial intelligence among facilitators of adult education programmes in Cross River State.

Research questions

The following research questions guided the study:

What are the challenges of the adoption of artificial intelligence among facilitators of adult education programmes in Cross River State?

What are the ways artificial intelligence can be used to achieve academic integrity among facilitators of adult education programmes in Cross River State?

What are the factors driving the use of artificial intelligence among facilitators of adult education programmes in Cross River State?

Hypotheses

The following hypotheses were formulated and tested at .05 level of significance.

There is no significant difference between the mean ratings of male and female facilitators on the challenges of the adoption of artificial intelligence among facilitators of adult education programmes in Cross River State.

There is no significant difference between the mean ratings of male and female facilitators on the ways artificial intelligence can be used to achieve academic integrity among facilitators of adult education programmes in Cross River State.

There is no significant difference between the mean ratings of male and female facilitators on the factors driving the use of artificial intelligence among facilitators of adult education programmes in Cross River State.

Methodology

The study adopted descriptive survey research design. Population for the study was 239 comprising of 149 male facilitators and 90 female facilitators. There was no sampling techniques because the population was manageable and used for study. The instrument used for data collection was a structured 18-item questionnaire titled “Ethical Usage of Artificial Intelligence Among Facilitators Questionnaire (EUAI AFQ)”. The questionnaire had two sections A and B. Section A has respondents demographic information while section B has a 15-item questionnaire in the form of four. Point modified Likert scale of Strongly Agree, Agree, Disagree and Strongly Disagree with weights of SA = 4, A = 3, D = 2, and SD = 1. These weights were summed up and divided by 4 to arrive at 2.50 which was the criterion mean score for agreed while mean responses below 2.50 showed disagreed with each questionnaire item. The instrument was face and content validated by three experts, two experts from the Department of Continuing Education and Development Studies while one expert from the Department of Measurement and Evaluation of the University of Calabar while the reliability was estimated using Cronbach Alpha method and yielded an index of 0.85 indicated that the instrument was reliable and used for the study. Mean and standard deviation were used to answer research questions while null hypotheses were tested with Z test statistics at .05 level of significance. There were 259 copies of questionnaire administered while 239 copies (149 male facilitators and 90 female facilitators) which represented 96% were retrieved and used for data analysis.

Results

Research question one: What are the challenges of the adoption of artificial intelligence among facilitators of adult education programmes in Cross River State?

Table 1: Mean and standard deviation scores on the challenges of the adoption of artificial intelligence among facilitators of adult education programmes in Cross River State

S/N	Item Statement	Male Mean	Facilitators SD Rmk	SA	Female Mean	Facilitators SD Rmk	SA	Overall Mean	SD	Dec. Rmk
1.	AI reduces the human component of academics	3.5	0.93	SA	3.5	0.44	SA	3.5	0.85	SA
2.	AI widens the existing digital divide among facilitators	3.5	1.11	SA	3.5	0.35	SA	3.5	0.99	SA
3.	AI gives room for laziness among facilitators	3.5	1.12	SA	3.9	0.33	SA	3.8	1.04	SA
4.	AI erode facilitators critical thinking ability	3.6	0.95	SA	3.7	0.35	SA	3.9	1.26	SA
5.	Cheating are possible when AI is used by facilitators	3.7	1.06	SA	3.5	0.52	SA	3.9	1.06	SA
6.	Academic privacy is erode when facilitators adopt AI	3.8	1.15	SA	3.5	0.21	SA	3.5	1.14	SA
7.	AI reduces employment opportunities	3.6	0.88	SA	3.6	0.33	SA	3.8	0.90	SA
Grand mean		3.6	1.02	SA	3.6	0.36	SA	3.7	1.06	SA

From the table 1 the grand mean for male facilitators was 3.6 with standard deviation of 1.02 and that of female facilitators was 3.6 with standard deviation of 0.36 while the overall grand indicate that both male facilitators and female facilitators strongly agreed that challenges of adoption of artificial intelligence among facilitators of adult education programmes in Cross River State. The standard deviation (1.06) was small, indicating little or no extreme scores. Hence, the mean scores were reliable.

Research question two: Artificial intelligence can be used to achieve academic integrity among facilitators of adult education programme in Cross River States?

Table 2: Mean and standard deviation scores to achieve academic integrity among facilitators of adult education programmes in Cross River State

S/N	Item Statement	Male Mean	Facilitators SD	Facilitators Rmk	Female Mean	Facilitators SD	Facilitators Rmk	Overall Mean	SD	Dec. Rmk
8.	AI enhances facilitators in bridging the gap in digital world	2.7	1.13	A	2.8	0.91	A	2.5	1.05	A
9.	It enhances the reduction of excessive cost	2.5	0.95	A	2.8	1.04	A	2.7	0.98	A
10.	Academic activities involving facilitators should be digitalizes	2.7	0.93	A	3.1	0.44	SA	3.3	0.85	SA
11.	Proctoring systems should be enforced in centers	3.1	1.11	S A	3.0	0.35	SA	3.3	0.99	SA
12.	AI enhances facilitators skills	3.0	0.95	S A	3.2	0.35	SA	3.4	1.26	SA
13.	Repositories should be built in adult education programmes to enforce originality.	2.5	1.05	A	2.6	1.14	A	2.5	0.95	A
Grand mean		2.7	1.02	A	2.9	0.70	A	2.9	1.01	A

From the table 2 the grand mean for male facilitators was 2.7 with standard deviation of 1.02 and that of female facilitators was 2.9 with standard deviation of 0.70 while the overall grand mean was 2.9 with standard deviation of 1.01. This result indicates that both male facilitators and female facilitators agreed with the items listed as the ways artificial intelligence (AI) can be used to achieve academic integrity among facilitators of adult education programmes in Cross River State. The standard deviation (1.01) was small, indicating little or no extreme scores, hence, the mean scores were reliable.

Research question three: What are the factors driving the use of artificial intelligence among facilitators in adult education programmes in Cross River State?

Table 3: Mean and standard deviation scores on the factors driving the use of artificial intelligence among facilitators of adult education programmes in Cross River State.

S/N	Item Statement	Male Mean	Facilitators SD	Facilitators Rmk	Female Mean	Facilitators SD	Facilitators Rmk	Overall Mean	SD	Dec. Rmk
14	AI provides facilitators opportunity for personalized learning experience	2.8	0.99	A	2.7	1.09	A	2.8	1.14	A
15.	Facilitators self-effectiveness induces AI adoption	3.0	0.11	A	2.90	0.43	A	3.4	0.75	A
16.	Workload make facilitators adopt AI in their work	3.1	0.56	A	2.9	0.23	A	3.3	0.34	A
17.	Digitalization of educational system make facilitators to consider the use of AI	2.5	1.05	A	2.6	1.14	A	2.5	0.95	A
18.	Academic usefulness of AI to the facilitators job	3.2	1.04	A	3.3	1.12	A	3.2	0.85	A
Grand mean		2.9	0.75	A	2.8	0.8	A	3.00	0.08	A

From the table 3 the grand mean for male facilitators was 2.9 with standard deviation of 0.75 and that of female facilitators was 2.8 with standard deviation of 0.08 while the overall grand mean was 3.0 with standard deviation of 0.80. This result indicated that both male facilitators and female facilitators agreed with the items listed the factors driving the use of artificial

intelligence among facilitators of adult education programmes in Cross River State. The standard deviation (0.80) was small, indicating little or no extreme scores. Hence, the mean scores were reliable.

Hypothesis 1

There is no significant difference between the mean ratings of male and female facilitators on the challenges of the adoption of artificial intelligence among facilitators of adult education programmes in Cross River State.

Table 4: Z-test analysis for hypothesis 1

Group	n	\bar{X}	SD	Df	Z-calculated	Z-critical	Remark
Male facilitators	149	3.6	1.02	237	0.62	1.96	No significant (Do not reject hypothesis)
Female facilitators	90	3.6	0.36				

From the table 4, Z-calculated (0.62) is less than Z-critical (1.96). Hence, at .05 significant level, the mean ratings of the two groups (Male and female facilitators do not differ significantly. Consequently, hypothesis one is not rejected as stated, implying that there is no significant difference between the mean ratings of male and female facilitators on the challenges of the adoption of artificial intelligence among facilitators of adult education programmes in Cross River State.

Hypothesis 2

There is no significant difference between the mean ratings of male and female facilitators on the ways artificial intelligence can be achieve academic integrity among facilitators of adult education programmes in Cross River State.

Table 5: Z-test analysis for hypothesis 2

Group	n	\bar{X}	SD	Df	Z-calculated	Z-critical	Remark
Male facilitators	149	2.7	1.02	237	0.81	1.96	No significant (Do not reject hypothesis)
Female facilitators	90	2.9	0.70				

From table 5, Z-calculated (0.81) is less than Z-critical (1.96). Hence, at .05 significant level, the mean ratings of the two groups (Male and female facilitators do not differ significantly. Hence, hypothesis two is not rejected as stated, indicating that there is no significant difference between the mean ratings of male and female facilitators on the ways artificial intelligence can be achieve academic integrity among facilitators of adult education programmes in Cross River State.

Hypothesis 3

There is no significant difference between the mean ratings of male and female facilitators on the factors driving the use of artificial intelligence among facilitators of adult education programmes in Cross River State.

Table 6: Z-test analysis for hypothesis 3

Group	n	\bar{X}	SD	Df	Z-cal	Z-crit	Remark
Male facilitators	149	2.9	0.75	237	1.02	1.96	No significant (Do not reject hypothesis)
Female facilitators	90	2.8	0.80				

From table 6; Z-calculated (1.02) is less than Z-critical (1.96). Hence, at .05 significant level, the mean ratings of the two groups (male and female facilitators do not differ significantly). Therefore, hypothesis three is not rejected as stated, because there is no significant difference between the mean ratings of male and female facilitators on the factors driving the use of artificial intelligence among facilitators of adult education programmes in Cross River State.

Discussion of findings

The findings of the study revealed that both male and female facilitators agreed from their responses that the items listed were challenges to their adoption of artificial intelligence among facilitators of adult education programmes and that there was no significant difference between the mean ratings male and female respondents on the challenges of the adoption of artificial intelligence among facilitators of adult education programmes in Cross River State. This finding is in agreement with Alessio and Messinger (2021) stated that facilitators and learners agrees that artificial intelligence is responsible for several cases of academic cheating. Similarly, Stone (2023) opined that some of these violations are done deliberately which is one of the flaws of artificial intelligence which these facilitators also identified as a challenge.

The findings of hypothesis two revealed that facilitators indicated from their responses they agreed with the items listed on the ways artificial intelligence can be used to achieve academic integrity among facilitators. The facilitators also indicated from their responses that there was no significant difference between the mean ratings of male and female facilitators respondents on the ways AI can be used to achieve academic integrity among facilitators intelligence of adult education programmes in Cross River State. The findings is in line with the Slim (2023) who identifies that automating educational activities is the ways that artificial intelligence can be effectively used and will provide useful and timely feedback both for the facilitators and other educational stakeholders.

The finding of hypothesis three revealed that facilitators indicated from their responses they agreed with the items listed as factors driving the use of artificial intelligence in their academic works and that there was no significant difference between the mean ratings of male and female facilitators on the factors driving the use of artificial intelligence among facilitators of adult education programmes in Cross River State. The finding is in consonance with the Hasanein and Sobaith (2023) states that there are positive and negative effects of facilitators' adoption of AI in their educational activities. The facilitators agreed that artificial

intelligence agrees that AI provides them unity opportunity for personalized learning and this informs why they adopt this technology in their academic roles. The findings is in agreement with Culcurovia *et al* (2023) opined that access to better knowledge explain why some facilitators adopt the use of AI in their academic activities.

Conclusion

Based on the findings of the study, both respondents agreed that there was no significant difference in the opinion of the male and female facilitators on the challenges of the adoption artificial intelligence for academic integrity as well as the ways artificial intelligence for academic integrity among facilitators but with the right interventions in place, artificial intelligence can be adopted more responsibly to achieve sustaining academic integrity among the facilitators.

Recommendations

Based on the findings of the study, the following recommendations were made;

There is need for facilitators in the adult education programmes to be trained on the healthy use of artificial intelligence in their various adult education programmes.

Academic fraud should be discouraged among facilitators through adequate sensitization.

Facilitators should be informed on artificial intelligence (AI) tools that are acceptable and prohibited in their academic activities for sustainable academic integrity.

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