

AWARENESS AND USE OF ARTIFICIAL INTELLIGENCE TOOLS BY ACADEMIC STAFF AND STUDENTS AT GBOKO POLYTECHNIC GBOKO, BENUE STATE

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Abstract

This study assessed the awareness and use of Artificial Intelligence (AI) tools by academic staff and students at Gboko Polytechnic, Gboko, Benue State. The study used a descriptive survey design. The population comprised 1,336 academic staff and students. A sample size of 392 participants were drawn using Taro Yamane's formula. Data were collected through a structured questionnaire with a respondents' return rate of 98.9%. Data were analyzed using descriptive statistics of frequency counts, mean and standard deviation. Findings revealed a high level of awareness of AI tools such as ChatGPT, Grammarly, Quillbot, and Turnitin, with Elicit recording the highest awareness level (mean 3.19). The study also found that academic staff and students actively use AI tools to a high extent for teaching, learning and research writing with ChatGPT, Grammarly, Turnitin, Quillbot, and Elicit being the most commonly utilized. The study showed simultaneous adoption of AI tools by both the staff and the students. Based on the study findings, it was concluded that although awareness and utilization are generally high, some AI tools like Research Rabbit are less commonly used. It recommended capacity-building workshops, clear institutional policies on AI use, improved infrastructure and the integration of AI literacy into academic programs to enhance effective and ethical use.

Keywords: Artificial Intelligence Tools, Awareness, Academic writing

Introduction

Globally, advancements in computer technology have significantly enhanced efficiency and productivity across diverse sectors in which the education sector is not exempted. These developments have brought changes in work practices. It has also redefined academic activities within higher education institutions enabling staff and students to perform tasks more accurately and timely. Artificial intelligence, AI has emerged as a transformative force in the academic environment. There are AI powered tools that are supporting educational activities particularly academic writing. The technologies are reshaping the way educational institutions operate (UNESCO, 2021; Zhao et al., 2022). As the world increasingly embraces the digital era, the integration of AI tools in higher education has become not only a trend but also a necessity for improved teaching and learning outcomes (Okeke and Afolabi, 2023).

Artificial Intelligence is broadly described as a technology or computer program that uses intelligent systems to carry out tasks that typically require human consciousness (Iorshe, Iornum, and Abe, 2025). In other words, artificial intelligence mimics human reasoning and social skills which helps to ease the burden of performing tasks that usually depend on direct human effort. It enables faster, more efficient execution of activities that are energy trapping or cumbersome to handle in a short time. It is important to note that artificial intelligence is driven by several key components or branches that form its functional foundation. In other words, AI encompasses a range of branches or components. According to Iorshe, Iornum and Abeh (2025), the major branches of artificial intelligence include machine learning, deep learning, generative AI, natural language processing (NLP) robotics and chatbots technologies.

These branches are operational through various applications referred to as AI tools, which enable users to perform tasks intelligently. AI tools are computer programs or systems that simulate human intelligence processes to support activities such as learning, teaching, problem solving, research and academic writing (Bolaji, 2025). They help reduce time and effort needed for repetitive or complex academic tasks, thereby making scholarly activities more productive and accessible. It is possible to define artificial intelligence (AI) tools as computing systems particularly software that are designed to act intelligently with people, make accurate predictions and solve problems that require human reasoning. There are various AI tools that are used in

educational environments to enable lecturers and students perform their academic activities such as teaching, learning and research writing with less effort and more effectively. Academic activities, such as research writing according to Bolaji (2025) is a formal, structured process of investigating a topic or problem, analyzing findings and presenting arguments or results in a scholarly format. AI tools such as connected papers, ChatGPT, semantic scholar, Gemini, etc. provide significant support for academic writings in various ways. These tools enhance accessibility, improve learning outcomes and reduced workload for both educators and students (Kumar et al., 2023). It is against the backdrop that this study examined the awareness and use of AI tools by the academic staff and the students at Gboko Polytechnic Gboko, in Benue State.

Statement of the Problem

Artificial Intelligence (AI) has emerged as a transformative technology across multiple sectors, including education. In higher education institutions such as Polytechnics, AI applications are increasingly used in teaching, learning, research and administrative process to enhance improved educational services and academic activities. Many institutions in Nigeria are adopting AI in their educational system. However, for polytechnic institutions in Benue State, the level of awareness and utilization of AI tools in academic environments have not been established through a systematic study. There seems to be limited empirical data on the awareness and extent of AI usage by academic staff and students at educational environments particularly in Gboko, Benue State, Nigeria. This raised the need to investigate the awareness and utilization of AI technologies within the Polytechnic.

Purpose of the study

The purpose of this study was to investigate the awareness and utilization of AI tools by the academic staff and the students at Gboko Polytechnic Gboko Benue State. Specifically, this study sought to:

- i. assess the level of awareness of AI tools among academic staff and students at Gboko Polytechnic Gboko.
- ii. ascertain the most common artificial intelligence tools used by academic staff and students at Gboko Polytechnic Gboko.

- iii. interrogate the extent to which artificial intelligence tools are currently being used by academic staff and students for academic activities in Gboko Polytechnic Gboko.

Literature Review

Artificial Intelligence is no doubt, the latest and trending technological tools of the 21st century, influencing numerous sectors including education. The literature on AI awareness and use in academic environments underscores the need for the integration of AI technologies in academic environments in the present era. It is in line with the foregoing logic that Ofole and Oko (2020); Ogunode, (2023) as well as Adebayo and Adekunle, (2023) noted that the question is no longer about AI's theoretical relevance but rather the practical dimensions of awareness, access and utilization among educators including lecturers and students. It is imperative to note also that the rapid advancement in AI technologies have raised concern by scholars to investigate the level of awareness and readiness of academic institutions like Polytechnics who are at the front banner of institutions to harness this technology tools. This underscored the need for a review of empirical studies that investigated patterns of awareness, accessibility, challenges and use of AI tools across diverse academic environments.

In their study, Idika, Arikpo, Ekpo, Idika, and Okeke (2024) investigated "lecturers' awareness and utilization of AI tools for effective teaching of research methods in the University of Calabar, Nigeria. The purpose of this study was to examine the awareness, application and effective utilization of AI tools for teaching research among lecturers at the University of Calabar. The study used a descriptive research design to study a sample of 206 lecturers representing 115 departments from 24 faculties. Data were collected through a structured questionnaire and were analyzed using descriptive (mean deviation) and inferential (ANOVA) statistics. The study found out that academic staff generally have awareness of artificial intelligence in research. The study further revealed the challenges related to AI use to include technical issues, lack of skills, faculty training programmes and lack of institutional support for technology. The reviewed study is related to the present study in terms of variables covered by the topic, the purpose of the study and population of the two studies. The two studies are also related by way of research design, instrument used for data collection and analysis. However, the two studies differ in their populations and the areas of

studies covered. Again while the present study covered both academic staff and students, the previous study focused only on academic staff (Lecturers).

In a study by Akarah, Aziken and Onanore (2025) titled awareness, availability, and integration of artificial intelligence tools in academic and research tasks among lecturers at Delta State College of Education, Mosogar. The purpose of the study determined the level of awareness of AI tools and technologies among lecturers and the extent of lecturers' utilization of AI tools for teaching and other academic activities. The study used a quantitative survey design and a structured questionnaire to collect data from all 160 full time lecturers. Data were analyzed using descriptive statistics of mean deviation. The findings revealed that 61.1% of the lecturers demonstrated moderate overall awareness. The reviewed study is related to the present study in terms of variables covered in the topic, the study purpose, research design, instrument of data collection and data analysis. Both studies differ in terms of area of the study and some variables covered by the study. The reviewed study focused on lecturers while the present study combined both.

Fasola, (2024) investigated the awareness, perception and use of artificial intelligence tools by library and information science educators in Nigerian Higher institutions. The purpose of the study was to ascertain the level of awareness of AI tools, the commonly used AI tools for teaching and the challenges faced by LIS educators in use of AI tools for teaching in Nigerian library schools. The study used survey research design of the correlational type. The population of study was lecturers of library and information science in higher education institutions of learning in Nigeria. Data were collected by a structured questionnaire which were distributed using google form and the data were analyzed using simple statistics and SPSS. The findings of the study revealed a high degree of awareness and positive perception toward AI tools among LIS lecturers. Commonly used tools by the lecturers were ChatGpT, ChatPDF, Socrative, Turnitin and Grammerly. The study discovered that despite the AIs potential benefits challenges such as rapid technological advancement, lack of infrastructure, and resistance to change were factors that limit the actual usage. The reviewed study is related to the present study in terms of variables covered by the study topics, the purpose of the study, the population and research design. Both studies also relate in terms of instrument used for data collection and analysis. The two studies differ in terms of the target population. While the previous study focused on library and information science educators

in higher institutions in Nigeria, the present study focused on academic staff and students. The two studies also differ in terms of area of study hence the present study is limited to Gboko Polytechnic in Gboko Local Government Areas of Benue State.

Weerasinghe and Abeysinghe (2024) investigated the usage of artificial intelligence AI tools for academic activities by undergraduate students: a quantitative study at Sri Lanka institute of information technology library. The purpose of the study was to identify the frequency of AI tools usage for academic activities, identify the types of AI tools commonly used for academic activities, determined the purposes of using AI tools for academic activities and find out students' attitudes towards their usage of AI tools. The population of the study was 467 students and a sample size of 100 students was selected for the study. Structured questionnaires were used to collect data while data were analyzed using descriptive statistics of frequency counts and simple percentages. The study found that 99% of undergraduate students used AI tools for academic activities. The most frequently used AI tool was ChatGPT followed by quillbot and Grammarly. The study discovered that students used AI tools to check grammatical errors, enhance subject knowledge and summarize content. The reviewed study is related to the present study by way of variables covered by the topic, the purpose of the study and the research design. The two studies also relate in terms of instrument for data collection and analysis. In terms of difference, the two study differ in the area of variables because some variables covered by the present study were not covered by the reviewed study. The two studies also differ in terms of place of study as the reviewed study was carried out in Sri Lanka while the present study was carried out in Gboko Local Government Area of Benue State, Nigeria.

Methodology

A descriptive research design was used for this study. The population was made up of 1,336 academic staff and students. The total population comprised 88 full-time academic staff and 1,258 students. The population was obtained from the registry department of the Gboko polytechnic Gboko. This approach was adopted to ensure accurate and reliable data on the staff and students population. The sample size for the study was 392 academic staff and students of Gboko Polytechnic Gboko which was determined using Taro Yamane's formula. Data were collected

through structured questionnaire titled awareness and use of AI tools among academic staff and students. A total of 392 copies of the questionnaires were administered while 388 were returned in good condition. Data were analyzed using descriptive statistics of frequency counts, mean and standard deviation. A mean score of 2.50 served as the benchmark for decision in interpreting the responses. For research question 1, a mean score of 2.50 and above is considered highly aware while mean score below 2.50 indicated low awareness. For research question 2, mean score above 2.50 was considered agree while scores below 2.50 indicated disagree. Similarly, for research question 3, the benchmark for decision making was indicated by mean scores above 2.50 which was considered very high extent while mean scores below 2.50 were considered very low extent.

Data Presentation and Results

Table 1: Level of awareness of AI tools for academic activities among academic staff and students at Gboko Polytechnic Gboko

S/N	Items	VHA	HA	LA	VLA	Mean	SD	Decision
1.	ChatGPT for writing and Presentations	120	140	70	58	3.08	0.89	Highly Aware
2.	Grammarly AI Writing/Editing Assistant	110	130	80	68	3.06	0.93	Highly Aware
3.	Quillbot paraphrasing and Summarizing	200	90	50	48	3.05	0.78	Highly Aware
4.	Turnitin AI-plagiarism detection Tool	96	150	75	67	3.09	0.67	Highly Aware
5.	Elicit for research assistant Comparing designs/methods	118	128	90	52	3.19	0.76	Highly Aware
6.	Chabots AI applications for Student engagement	130	95	83	80	3.04	0.84	Highly Aware
7.	Google scholar application For searching scholarly works	170	114	54	50	2.86	0.79	Highly Aware
8.	Research rabbit for visualizing							

Relationships in literature	150	101	83	54	2.96	0.85	Highly Aware
9. Review my paper identifies							
Strengths and weakness	140	112	95	41	3.03	0.56	Highly Aware
10. Microsoft 365 Copilot, Slides							
AI for Powerpoint presentation	115	117	98	58	2.88	0.73	Highly Aware

Source: Field Survey, 2025

Table 1 shows the awareness level of AI tools for academic activities among academic staff and students at Gboko Polytechnic. On ChatGPT for writing and presentations, 120 of the total respondents were very highly aware, 140 high aware, 70 low aware and 58 very low aware. The mean score recorded was 3.08 and thereby considered highly aware. Similarly, on Grammarly AI writing/editing assistant, 110 respondents were very highly aware, 130 high aware, 80 low aware and 68 very low aware. A mean score of 3.06 showed the item as positive and accepted. Regarding quillbot paraphrasing and summarizing tool, 200 respondents were very highly aware, 90 high aware, 50 low aware and 48 very lowly aware. Since the mean is 3.05, it is considered positive and accepted. In terms of Turnitin AI-plagiarism detection tool, 96 respondents were very highly aware, 150 high aware, 75 low aware, and 67 very lowly aware. With a mean of 3.09, this aspect remains positive and accepted. On elicitor for research assistant comparing designs/methods, 118 respondents were very highly aware, 128 high aware, 90 low aware, and 52 very lowly aware. The mean score of 3.19 is recorded and considered positive. Regarding Chabots AI applications for students engagement 130 respondents were very highly aware, 95 high aware, 83 low aware, and 80 very lowly aware. The mean score of 3.04 confirms its positive acceptance. For Google scholar application for searching scholarly works, 170 respondents were very highly aware, 114 high aware, 54 lowly aware, and 50 very lowly aware. The item obtained a mean of 2.86, this factor is also positive and accepted. On research rabbit for visualizing relationships in literature, 150 respondents were very highly aware, 101 high aware, 83 low aware, and 54 very lowly aware. The mean score of 2.96 confirm its positive acceptance. On review my paper for identifying strengths and weakness, 140 respondents were very highly aware, 112 high aware, 95 low aware and 41 very lowly aware. The mean score of 3.07 also shows it positive acceptance. Finally, on Microsoft 365 copilot, slides AI for PowerPoint presentation, 115 respondents were very highly aware, 117

high aware, 98 low aware, and 58 very lowly aware. Since the mean is 2.88, it is positive and accepted.

Table 2: Common Artificial Intelligence Tools used by academic staff and students at Gboko

Polytechnic								
S/N	Items	SA	A	SD	D	Mean	SD	Decision
11.	ChatGPT	150	120	80	38	3.12	0.17	Agree
12.	Grammarly	112	117	95	64	3.17	0.19	Agree
13.	Quillbot	98	123	90	77	3.19	0.08	Agree
14.	Turnitin	101	135	81	71	3.18	0.23	Agree
15.	Elicit	126	131	80	51	3.21	0.19	Agree
16.	Chabots AI	99	109	95	85	3.23	0.21	Agree
17.	Google scholar	108	112	97	71	3.15	0.56	Agree
18.	Research Rabbit	117	121	98	52	2.5	0.45	Agree
19.	Review my apper	109	136	96	47	3.09	0.76	Agree
20.	Microsoft 365 Copilot, Slides AI	111	107	101	68	3.20	0.88	Agree

Source: Field Survey, 2025

The table 2 shows the common artificial intelligence tools used by academic staff and students. On ChatGPT, 150 of the total respondents were strongly agree, 120 agreed, 80 strongly disagreed and 38 disagreed. The mean is 3.12, it is positive and thereby accepted. Similarly, on Grammarly, 112 respondents were strongly agree, 117 agree, 95 strongly disagree and 64 disagree. With a mean of 3.17, this aspect is also positive and accepted. Regarding quillbot, 98 respondents were strongly agree, 123 agree, 90 strongly disagree and 77 disagree. Since the mean is 3.19, it is considered positive and accepted. In terms of Turnitin, 101 respondents were strongly agree, 135 agree, 81 strongly disagree and 71 disagree. The item recorded a mean of 3.18, making it positive and accepted. On elicit, 126 respondents were strongly agree, 131 agree, 80 strongly disagree, and 51diasgree. The mean score of 3.21 was obtained. It means this aspect also is positive and therefore, accepted. On Chabots AI, 99 respondents were strongly agree, 109 agree, 95 strongly disagree, and 85 disagree. The mean score of 3.23 confirms its positive acceptance. For Google scholar, 108 respondents were strongly agreed, 112 agree, 97 strongly disagree, and 71 disagree.

With a mean of 3.15, this factor is also positive and accepted. On research rabbit 117 respondents were strongly agree, 121 agree, 98 strongly disagree, and 52 disagree. The mean score of 2.25 confirm its positive acceptance. On review my paper, 109 respondents were strongly agree, 136 agree, 96 strongly disagree, and 47 disagree. The mean score of 3.09 also shows it positive acceptance. Finally, on Microsoft 365 copilot, slides AI, 111 respondents were strongly agree, 107 agree, 101strongly disagree, and 68 disagree. Since the mean obtained is 3.20, it is accepted.

Table 3: Extent of Artificial Intelligence tools Use by academic staff and students at Gboko

Polytechnic

S/N	Items	VHE	HE	VLE	LE	Mean	SD	Decision
21.	To what extent do you use ChatGPT for writing and Presentation	98	124	89	77	3.34	0.04	High Extent
22.	To what extent do you use Grammarly AI Writing/Editing Assistant	102	108	103	75	3.58	0.42	High Extent
23.	To what extent do you use Quillbot paraphrasing and Summarizing	119	120	90	59	3.92	0.12	High Extent
24.	To what extent do you use Turnitin AI-plagiarism Detection tool	110	120	86	72	3.32	0.23	High Extent
25.	To what extent do you use Elicit for research assistant Comparing designs/methods	125	129	91	43	3.28	0.41	High Extent
26.	To what extent do you use Chabots AI applications for Students engagement	99	113	100	76	3.48	0.57	High Extent
27.	To what extent do you use Google scholar application for searching scholarly works	120	118	87	63	3.82	0.91	High Extent

28. To what extent do you use							
Research rabbit for visualizing							
Relationships in literature	104	115	94	75	3.09	0.55	High Extent
29. To what extent do you use Review							
Mypaper to identifies Strengths and							
weakness	116	119	100	53	3.03	0.73	High Extent
30. To what extent do you use							
Microsoft 365 Copilot, Slides							
AI for Powerpoint presentation	113	114	99	62	3.23	0.52	High Extent

Source: Field Survey, 2025

Table 3 shows the extent of Artificial Intelligence tools were being used by academic staff and students. On, to what extent do you use ChaptGPT for writing and presentations, 98 respondents were very highly extent, 124 high extent, 89 very low extent, and 77 low extent. Since the mean is 3.34, it is positive and thereby accepted. Similarly, on to what extent do you use Grammarly AI writing/editing assistant, 102 respondents were very highly extent, 108 high extent, 103very low extent, and 75 low extent. With a mean of 3.58, this aspect is also positive and accepted. In regards to what extent do you use quillbot paraphrasing and summarizing tool, 119 respondents very high extent, 120 high extent, 90 very low extent and 59 low extent. Since the mean is 3.92, it is considered positive and accepted. In terms of to what extent do you use Turnitin AI-plagiarism detection tool, 110 respondents were very high extent, 120 high extent, 86 very low extent, and 72 low extent. With a mean of 3.32, this aspect remains positive and accepted. On to what extent do you use elicitor for research assistant comparing designs/methods, 125 respondents were very high extent, 129 high extent, 91 very low extent, and 43 low extent. The item recorded a mean score of 3.28, which is positive and therefore, accepted. On to what extent do you use Chatbots AI applications for students' engagement 99 respondents were very high extent, 113 high extent, 100 very low extent, and 76 low extent. With mean score of 3.48 also confirms its positive acceptance. For to what extent do you use Google scholar application for searching scholarly works, 120 respondents very high extent, 118 high extent, 87 very low extent, and 63 low extent. With a mean of 3.82, this factor is also positive and accepted. On to what extend do you use research rabbit for

visualizing relationships in literature, 104 respondents were very high extent, 115 high extent, 94 very low extent, and 75 low extent. A mean score of 3.09 recorded confirmed its positive acceptance. On to what extent do you use ReviewMy paper to identify strengths and weakness, 116 respondents recorded very high extent, 119 high extent, 100 very low extent, and 53 low extent. A mean score of 3.03 obtained from the item shows positive acceptance. Finally, on to what extent do you use Microsoft 365 copilot, slides AI for PowerPoint presentation, 113 respondents were very high extent, 114 high extent, 99 very low extent, and 62 low extent. Since the mean is 3.23, it is positive and accepted.

Discussion of Finding

The first finding of the study revealed high awareness across artificial intelligence (AI) tools for academic activities among academic staff and students at Gboko Polytechnic, Gboko. Furthermore, the findings revealed that AI tools with direct academic usage were Turnitin, ChaptGPT, Grammarly and Quillbot record very high awareness. This finding is consistent with Idika, Arikpo, Ekpo, Idika, and Okeke (2024) whose study found that lecturers at the University of Calabar generally had awareness of AI tools in research. It also concurred with the findings of Fasola (2024) who revealed a high degree of AI awareness among Library and Information science educators in Nigerian higher institutions.

The second finding of this study revealed that academic staff and students actively use various AI tools in academic activities with all items receiving a decision of agree indicating acceptance of AI into teaching, learning and research practices at the Polytechnic. This finding is in agreement with the reviewed study by Weerasinghe and Abeysinghe (2024) who reported high rate of ChatGPT, Quillbot and Grammarly usage among undergraduate students at Sri Lanka. The finding of the present study is also supported by Fasola (2024) who identified frequent use of ChatGPT, Grammarly and Turnitin among Lecturers in Nigeria. However, it is noteworthy that the present study showed simultaneous adoption by both staff and students, whereas the reviewed studies separately studied one group (students or lecturers). Furthermore, the reviewed studies emphasized on perception and challenges while the present study focused on acceptance and active usage of AI tools by lecturers and students.

The third finding of the study revealed a high extent artificial intelligence tools are currently being used by the academic staff and students for academic activities such as writing, editing, plagiarism

checks, research assistance and presentation at Gboko Polytechnic Gboko. This finding concurred with that of Akarah, Aziken and Onanore (2025) who found that lecturers actively use AI tools for their academic and research tasks. Additionally, this current study documents extent of use of AI tools with statistical mean scores while the reviewed studies largely describe awareness and perception of AI.

Conclusion

Based on the findings, this study therefore concluded that, the level of awareness and utilization of Artificial Intelligence (AI) tools among academic staff and students at Gboko Polytechnic is high but there is uneven awareness with AI applications in the academic environment. The study concluded that most commonly used AI tools by academic staff and students at Gboko Polytechnic Gboko are ChatGPT, Grammarly, Quillbot, Turnitin and Elicit while tools like research rabbit are less commonly adopted. AI tools are already being used at high extent by staff and students at Gboko Polytechnic with strong interest on text-based applications like grammar checking and scholarly searches.

Recommendations

The following recommendations were made:

1. The management of Polytechnics should organize regular workshops, seminars, and hands-on training sessions to build the capacity of both staff and students in using AI tools for teaching, learning and research writing.
2. The management of Polytechnics should develop clear policies and guidelines on the ethical and productive use of AI in academic contexts, ensuring that adoption aligns with institutional goals.
3. The institution should do well in investing in reliable internet connectivity, updated computer laboratories, and licensed AI software to make AI tools more accessible and functional within the Polytechnic environment.
4. The Polytechnic management should incorporate AI literacy and application courses into relevant academic programs to encourage early adoption and skill development among students.

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