International Journal of Innovative Education Research 13(1):393-406, Jan.-Mar., 2025

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doi:10.5281/zenodo.15064583

Perceived Effects of Artificial Intelligence on the Productivity of Lecturers of Higher Institutions in Taraba State, Nigeria

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ABSTRACT

This study examined the perceived effects of artificial intelligence on the productivity of lecturers of higher institutions in Taraba State. Five null hypotheses were tested at 0.05 level of significance. This study adopted a survey research design. The population of 72 lecturers of three higher institutions in Taraba State was purposively used for this study. This comprised 30 lecturers from the department of Agricultural Economics and Extension, Federal University Wukari, 5 lecturers from Agricultural Education department, Taraba State University Jalingo and 37 lecturers from Agricultural Education department, College of Education Zing. The entire population was purposively used as sample size. Data was collected using Google questionnaire. Data was analysed using mean, percentages, standard deviation, ANOVA and t-test. The study found no significant difference in the mean responses of lecturers on the influence of AI on administrative tasks productivity with P-value of 0.001. The finding also revealed a significant difference in the mean responses of lecturers on the influence of AI on research productivity with p-value of 0.172. The Study found no significant difference in the mean responses of lecturers on the influence of AI on the teaching productivity with a p-value of 0.019. There was no significant difference in the mean responses of lecturers on the influence of AI on assessment productivity with a p-value of o.003. Finally, the study found no significant difference in the mean responses of lecturers on the influence of AI on students' mentoring productivity with a p-value is 0.035. The study concluded that AI influence the productivity of lecturers in higher institutions of learning. It was recommended that all higher institutions in the state should made provision for AI tools in order to assist the lecturers on the administrative tasks, research, teaching, assessment and students' mentoring activities for enhanced productivity.

Keywords: Artificial Intelligence, Productivity, Lecturers and Higher Institutions

INTRODUCTION

Technological advancement has made an impact in education system. Many technological tools are used today in our institutions for teaching and learning process. One of these technological tools is artificial intelligence (AI). Artificial intelligence (AI) is the intelligence exhibited by machines; particularly computer systems (Kaplan & Haenlein, 2019). Copeland (2024) opined that artificial intelligence **(**AI**)** is the ability of a digital computer, it is computer-controlled robot to perform tasks commonly associated with intelligent beings. The authors added that AI is a developing system that is endowed with the intelligence processes resembling characteristic of humans, such as the ability to reason, discover meaning, generalize, or learn from experience. Halper and O'Donovan (2024) submitted that artificial intelligence (AI) is a set of technologies enabling computers to perform various advanced functions, including the ability to see; convert the vision to understand; translate spoken as well as written languages; analyze data; draw inferences and recommendations. Al-Qahtani (2019) asserted that AI is a field of science that concerns with building computers and machines that can reason, learn and perform various function in such a manner that would normally require human intelligence or involving data which scale exceeds what human being can analyze. In the submission of Chen (2021), AI is a broad field that encompasses different disciplines including psychology.

Artificial intelligence is also described as a high-profile application. According to Alqudaihi, Aslam, Khan, Almuhaideb, Alsunaidi, Ibrahim, Abdel Alhaidari, Shaikh, Alsenbel, Alalharith, Alharthi, Alghamdi and Alshahrani (2021). The high-profile applications of AI include advanced web search engines like Google Search recommendation systems such as YouTube Amazon, Netflix; autonomous speech such like Waymo; generative and creative tools such as ChatGPT and AI art; superhuman play and analysis in strategy games such as chess, Go; and interacting via human speech such as Google Assistant, Siri and Alexa. Today, the potential to enhance learning experiences, improve teaching methodologies, and augment academic outcomes has garnered significant attention. Fitra (2021) stated that AI systems assist the lecturers by allowing students to learn with the help of education assistants like bots. Fitra (2021) stressed that the developing educational system requires the world of education to adapt to technological developments to improve the quality of education, especially the adjustment of information and communication technology. Similarly, Wang and Xu (2023) noted that the integration of AI into education system has the proven potential to revolutionize teaching and learning processes. As evidenced by Kumar and Aggarwal (2020), artificial intelligence (AI) tools also facilitate the development of innovative teaching methods, such as simulations, virtual reality, and intelligent tutoring systems, which enhances student engagement and understanding.

As opined by Canbek and Mutlu (2016), artificial intelligence serves as a valuable tool in addressing various challenges in teaching practice, allowing teachers to work at their own pace. This fosters self-reliance and independence in their planning and teaching processes. Keppler and Snyder (2024) supported this submission that lecturers can use generative AI in a different of ways including development of lesson plans and continuous assessment. Generative AI tool, such as ChatGPT, are used to teach complex concepts more effectively. Keppler and Snyder (2024) further stressed that lecturers feel more effective with generative AI when they key into it for solutions. Sharma in Chen (202) maintained that the integration or the use of AI in education, more particularly, integration with other technologies and use as instructional tools, has help in the development and use of better teaching tools. AI equips the humanoid or other robots with cognitive which facilitates decision-making abilities, as well as dialogue and conversation abilities, and subsequently, enable their use as instructional and pedagogical tools by Lecturers. According to Oddson in Chen (2020), AI is considered to have a great potential in automating and expediting administrative tasks for lecturers. AI can already automate the grading homework, evaluating essays which allow lecturers to have more time with students one-on-one. AI creates customizable learning digital interfaces that apply to students of all age ranges and grades for lecturers. It enables lecturers to gain student insight based on the entire ecosystem of learning tools. Generative AI can be used as a source of ideas for those alternative approaches in teaching that enhance lecturers' productivity.

Lecturers' productivity is useful results obtained from the efforts made by the lecturers to attain educational goals in the university setting (Anariochi, 2023). Dewi, Dedi and Dewi (2020) opined that productivity of lecturers in the university system refers to as a measure of the success of operations of activities carried out by lecturers leading to the realization of the goals and objectives of the university. Adu in Dewi, Dedi and Dewi (2020) asserted that the effectiveness of university education must be measured based on the productivity of lecturers. Lecturers' productivity is significantly related to students' academic achievement. In the view of Okoro, Akpotu and Asiyai (2024), lecturers productivity encompasses their good quality of research activities, innovative teaching, and other activities, is vital for the progress of universities. Artificial intelligence (AI) can significantly enhance lecturers' productivity by automating repetitive tasks like grading, management of course schedules, analysis of student data, freeing up time for more focused teaching, personalized feedback, and in-depth research activities, ultimately leading to improved efficiency and effectiveness in the classroom. According to Adebayo (2024), artificial intelligence enhances the productivity of lecturers through acquisition of programming skills, data-based modelling skills, problem-solving skills, knowledge of intelligent user interfaces skills, natural language processing skills, deep learning skills and computing skills. The authors further stressed that AI also enhances lecturers' productivity in terms of research, efficiency, enabling new teaching methods and approaches, such as personalized learning, facilitating collaboration among researchers, and potentially leading to new research partnerships. Chen (202) posits that artificial intelligence has been viewed as a platform or tool for education; lecturers utilize simulation-based instruction, which incorporates various technologies like virtual reality, to illustrate concepts and provide students with hands-on examples.

The adoption of artificial intelligence systems by most lecturers could perhaps overcome the bulky and brain-task activities which must affects lecturers in the universities. Indeed, careful observation and interaction by the researcher with university lecturers revealed that administrative activities, teaching, research, monitoring and evaluation processes are dominated by manual and brained-tasked oriented activities. The scientific and computer-aided system that facilitates teaching and learning activities seem lacking. Use AIs is limited to few lecturers, resulting to brain-loaded tasks; difficulty in automation of routine administrative tasks; poor teaching process; inadequate research activities; poor students' monitoring and poor evaluation processes. It is against this background that the study is designed to examine the effects of artificial intelligence (AI) on the productivity of lecturers of higher institutions in Taraba State, Nigeria.

Objectives

1. Determine the influence of artificial intelligence on administrative tasks productivity of lecturers of higher institutions;
2. Examine the influence of artificial intelligence on the research productivity of lecturers of higher institutions;
3. Examine the influence of artificial intelligence on the teaching productivity of lecturers of higher institutions;
4. Ascertain the influence of artificial intelligence on students' assessment process by lecturers of higher institutions;
5. Find out whether artificial intelligence influence students' mentoring productivity of lecturers of higher institutions.

Research Questions

What are the influence of artificial intelligence on administrative tasks productivity of lecturers of higher institutions?

1. What are the influence of artificial intelligence on the research productivity of lecturers of higher institutions?
2. What are the influence of artificial intelligence on the teaching productivity of lecturers of higher institutions?
3. What are the influence of artificial intelligence on students' assessment process by lecturers of higher institutions?

4. How does artificial intelligence influence students' mentoring productivity of lecturers of higher institutions?

Hypotheses

1. There is no significant difference in the mean responses of lecturers of three categories of higher institutions on the influence of artificial intelligence tools on performance administrative tasks productivity of lecturers;
2. There is no significant difference in the mean ratings of university lecturers and lecturers of colleges of education on the influence of artificial intelligence tools and research productivity of lecturers;
3. There is no difference in the mean responses of lecturers of three categories of higher institutions on the influence of artificial intelligence tools and teaching productivity of lecturers;
4. There is no significant the mean responses of lecturers of three categories of higher institutions on the influence of artificial intelligence tools for students' assessment process by lecturers; and
5. There is no difference in the mean ratings of university lecturers and lecturers of colleges of education on the influence of artificial intelligence and students' mentoring productivity of lecturers.

Literature Review

Origin of artificial intelligence

Bubeck, Chandrasekaran, Eldan, Gehrke, Horvitz, Kamar, Lee, Lee, Li, Lundberg, Nori, Palangi, Ribeiro and Zhang (2023) narrated that artificial intelligence was founded as an academic discipline in 1956 and the field went through multiple cycles of optimism which was followed by periods of disappointment and loss of funding, known as artificial intelligence winter. The funding and interest for artificial intelligence vastly increased after 2012 when intensive learning outperformed previous artificial intelligence techniques. It was noted that the growth of artificial intelligence accelerated further after 2017 with the transformer architecture and by the early 2020s hundreds of billions of dollars were being invested in the use artificial intelligence. The period was referred to as artificial intelligence boom.

Influence of Artificial Intelligence on Lecturers Productivity

Administrative tasks

According to Offia, Ayok, and Bintu (2025), artificial intelligence (AI) has had a positive impact on university administration by supporting efficient administrative and program planning; AI has helped academic staff conduct research and teaching; helps decision-makers, educators, and policymakers make better decisions. Kakungulu (2025) believed that machine learning generates predictive models and analyzes student data; some of the algorithms used in these models include multiple regression, neural networks, decision trees, decision rules, and association rules; these algorithms are also used in the prediction of student success analysis; other applications of AI include the use of natural language processing and cognitive computing. AI has being utilized to make some administrative activities in universities more efficient. Many institutions utilize AI for admissions and financial aid packaging to increase the likelihood an admitted student. Al can help teachers, parents, students, and school administrators communicate effectively in the classroom. Gregory and Niyi (2023) posited that communication between parents, children, teachers, and administrators may be streamlined by AI-powered technologies. Virtual assistants and chatbots can answer common questions, offer information, and point users in the right direction. This can increase communication effectiveness and accessibility, giving administrators more time for intricate exchanges and strategic decision-making. Niyi and Gregory (2023) emphasized further that AI can support safety and security measures in schools. Only in a calm, safe, and supportive setting can teaching and learning occur. Video analytics and facial recognition software can be used to monitor school grounds, identify any security risks, and guarantee staff and student safety. Additionally, social media or internet platforms can be analyzed by AI-powered systems to spot any threats and take preventative action. School security can be enhanced with the aid of artificial intelligence (AI). There are security cameras everywhere in the school, from the school gate to the

classrooms. (AI) security cameras can collect a lot of data and recognize people, suspicious activity, and firearms.

Research productivity

The research activities of lecturers are impacted by the application AI tools. Emojorho, Urhiewhu and Emezaivwakpor (2022) opined that an average level of research productivity among academic staff in Nigerian Colleges is influenced by artificial intelligence tools. Artificial intelligence transforms academic writing by handling complex ideas and vast amounts of information; it improves writing in the areas of idea generation, content structuring, literature synthesis, data management, editing, and ethical compliance; it changes academic practices, requiring wider integration and ethical use in research (Khalifa and Albagawy, 2024). AI models are used to develop a research hypothesis, establish an experimental protocol, create photo-realistic printlet images, generate credible analytical data from a variety of instruments, and produce a compelling manuscript that is ready for publication with proof of critical interpretation, according to Elbadawi, Li, Basit, and Gasiford (2024).

Teaching productivity

Use of artificial intelligence alteration the role of lecturers. Fahimirad (2018) submitted that **a**rtificial intelligence tools are good substitutes for teaching. They could be programmed to provide knowledge, to ask questions and find information for very basic course materials. In many cases of application of AI in education, it has shifted the role of the lecturers to a facilitator. Nowadays, artificial intelligence integrates lessons as supplementary materials to assist weak students and provide hands-on experiences in the form of human interaction session for students. Fitria (2021) asserts that computer-aided instruction, or intelligent tutoring systems (ITS), are a teaching tool that can adjust to the skills of its students. One of the advancements of artificial intelligence expert systems in the learning domain is the intelligent tutoring system. Intelligent tutoring systems are a type of intelligent tutoring system. A computer program called the Intelligent Tutoring System (ITS) gives pupils individualized instruction and feedback without requiring human assistance. The system moves students from an easier to a more challenging level while taking into account their individual qualities.

Students' assessment process

According to Fitria (2021), AI offers automatic evaluation, which is frequently utilized for online automated evaluation and question correction. Teachers and tutors can more easily and practically design and administer quizzes and examinations when features like these are used. It is no longer necessary for lecturers to manually create and edit questions. Teachers and tutors can more easily and practically design and administer quizzes and examinations when features like these are used. It is no longer necessary for tutors and teachers to manually create and edit questions. AI is useful for automation of grading in educational context. In education, grading homework and tests usually takes a significant amount of time. Artificial intelligence could be used by lecturers to work on professional development, interact with students and prepare for assessment. As Artificial intelligence is not a true replace human grading, it is about to replace human grading. AI automated grading is able to grade nearly fill-in-the-blank and all kinds of multiple choice testing (Fahimirad, 2018). Kakungulu (2025) noted that AI is used in a grading system. When compared to traditional approaches, AI-powered examinations offer increased accuracy, adaptability, and scalability. These tools provide a more individualized learning experience by reducing the workload for teachers, offering rapid feedback, and customizing assessments to meet the needs of individual students (Chattopadhyay, Shankar, Gangadharan & Mukherjee in Hansen, 2024). According to Hansen (2024), artificial intelligence (AI) technologies are being used more and more in educational assessments in a variety of ways that cover a wide range of applications. Three primary areas are the focus of these technologies, each of which has a unique function in the evaluation process. The first type is formative assessments, which use AI to give students personalized learning recommendations and real-time feedback so they may pinpoint areas for growth and deepen their conceptual understanding. AI ensures accuracy, consistency, and speed in assessing students' performance by automating grading and analysis in summative examinations. Similar to this, artificial intelligence (AI) is used in adaptive testing to customize test questions to each student's skill level, dynamically changing the degree of difficulty in response to their answers, and producing a more interesting and customized assessment experience.

Students' mentoring productivity

According to Li and Jan (2023), artificial intelligence (AI) makes it possible to effectively solve the difficulties that students have in the modern educational setting, such as growing workloads and demands. By maximizing time usage through performance analysis, task management, and intelligent scheduling, students are equipped with effective learning methodologies. Additionally, chatbots and virtual mentors driven by AI are essential for providing emotional support and successfully lowering students' anxiety levels. AI chatbots can simply receive the answers to their questions without hesitation or fear of making a mistake, as evidenced by Arora, Tiwari, Negi, Pargaien, and Misra (2023). It acts as a mentor for children who are liberated. Among many other advantages, AI mentors are available 24/7. Artificial intelligence (AI) chatbots can guarantee that a tutor will possess both patience and good listening abilities. Without making any judgments about the mentee's question or feelings, the tool simply listens to them. AI mentors are a great method to help people realize that AI is the future. According to Fitria (2021), AI offers lecturers virtual mentoring. In this online procedure, a more experienced lecturer (mentor) helps a less experienced individual (mentee) solve a specific learning challenge. Like a lecturer, the system gives feedback on the mentee's practice questions and learning activities before suggesting the content that has to be reviewed.

The application of artificial intelligence and lecturers' productivity is schematically presented in Figure 1 below:

Figure 1: Application of Artificial Intelligence and Lecturers' Productivity
Source: Picard, R.W. (2020)

METHODOLOGY

This study adopted a survey research design. The population of 72 lecturers from three higher institutions in Taraba State was purposively used for this study. This comprised 30 lecturers from the department of Agricultural economics and extension, Federal University Wukari, 5 lecturers from Agricultural Education department, Taraba state University Jalingo and 37 lecturers from Agricultural Education department, College of Education Zing. The entire population was used as sample because the population size could be handled effectively by the researcher. Data was collected using Google questionnaire. The data collected was analysed using descriptive statistics and inferential statistical tools. Mean, percentages and standard deviation were used to answer the research questions while analysis of variance and independent t-test were used to test the null hypotheses at 0.05 level of significance.

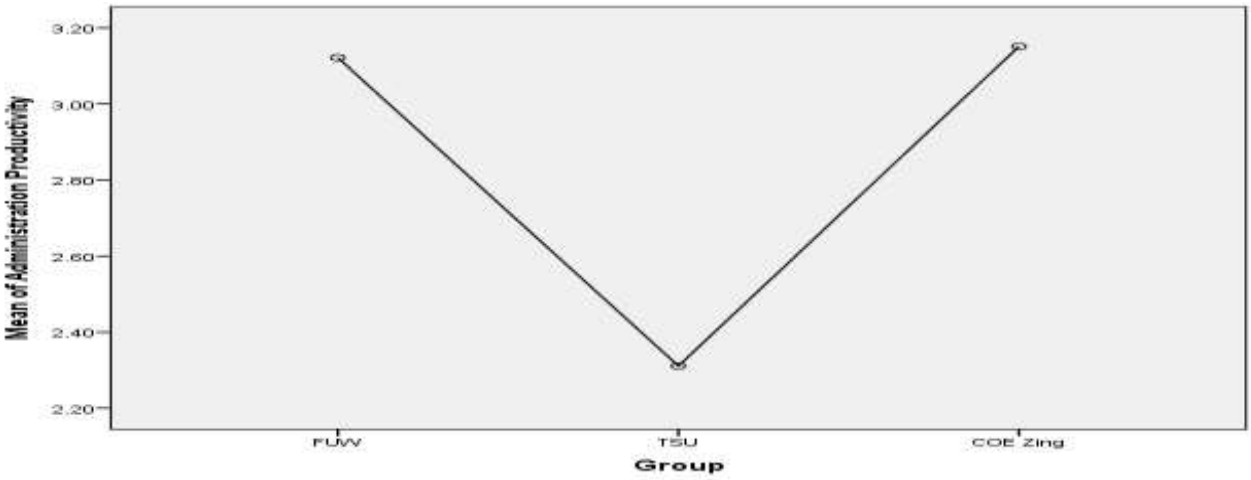
RESULTS AND DISCUSSION

Table 1: Mean and Standard Deviation of Respondents on the Variables of Lecturers Productivity

S/N	Productivity Variable	$\bar{x}$	SD	Remarks
A	**Administrative Tasks Productivity**			
1	Provide skills for writing of reports at the end of marking periods	3.01	1.13	Influence
2	Facilitates responds to requests for documentation about students and other incidents	3.39	1.03	Influence
3	Provide skills for taking students' attendance	3.14	1.13	Influence
4	Helps to facilitate communications with students	3.46	0.93	Influence
5	Streamlines administrative tasks for lecturers	2.65	1.01	Influence
6	Provide personalized professional development and training opportunities for lecturers, recommending relevant courses	3.15	1.02	Influence
7	Provide skills for writing of reports at the end of marking periods	3.28	0.75	Influence
8	Facilitates responds to requests for documentation about students and other incidents	2.96	0.93	Influence
9	Provide skills for taking students' attendance	2.68	1.09	Influence
10	Enables new teaching methods and approaches such as personalized learning	2.63	1.12	Influence
11	Enhances lecturers engagement and reduce the workload	3.14	0.63	Influence
	Sub Mean	**3.04**	**0.98**	
B	**Research Productivity**			
12	Provide opportunity for lecturers to carry out all types of publications	2.92	1.17	Influence
13	Facilitates communication and collaboration among lecturers and researchers	3.26	1.03	Influence
14	AI can expedite or navigating the literature research review procedure	3.08	1.15	Influence
15	Synthesizes information from large databases of scholarly output to find the most relevant articles and saving researchers' time	2.61	1.12	Influence
16	Streamlining peer-reviewing activities	3.18	0.48	Influence
17	Helps to derive insights from complex databases	2.81	1.11	Influence
18	Enhances the construction of research instrument	3.14	0.95	Influence
19	Identify potential reviewers and combating plagiarism	2.53	1.29	Influence
20	Offers researchers valuable tools to enhance their work and ensure integrity	2.54	1.35	Influence
21	Utilizes in various aspects of research, including writing, editing, and citation	2.67	1.27	Influence
22	Assists in recording and organising researcher papers more efficiently	2.9	1.02	Influence
23	AI is used in ways that align with ethical research principles and guidelines	2.13	1.11	Influence
24	Offers researchers valuable tools to enhance their work and ensure integrity	2.54	1.35	Influence
	Sub Mean	**2.71**	**1.11**	
C	**Teaching Productivity**			
25	Enhances the ability to teach students the desired knowledge, skills, and values	3.22	0.79	Influence
26	AI-powered tools help lecturers to analyze student data	3.4	0.69	Influence
27	Provides customized feedback and recommend personalized learning paths	3.4	0.73	Influence
28	Enable lecturers to effectively address the diverse needs of their students	2.99	0.97	Influence
29	Enhances preparation of lecture notes	2.82	1.3	Influence
30	Facilitates content creation and delivery	2.56	1.29	Influence
31	Modifies teaching methods in response to the unique learning preferences of each students	2.82	1.31	Influence
32	Simulate virtual labs that mimic real-world investigations in fields that need laboratory work	2.67	1.37	Influence
34	Ensures data-driven approach to teaching	2.89	1.12	Influence
35	Identifies students who may be at danger of experiencing academic difficulties	2.09	1.21	Influence
36	AI algorithms may produce early warnings and alarms by examining a variety of data points, including attendance, assignment completion rates, and interaction patterns	2.65	1.02	Influence
	Sub Mean	**2.86**	**1.07**	
D	**Students' Assessment Productivity**			
37	Automates grading processes	3.36	0.81	Influence
38	Facilitates routines activities like grading for multiple-choice tests, quizzes, and assignments	3.4	0.69	Influence
39	Monitors students' progress to identify areas to improvement and make adjustments (feedback)	3.22	0.97	Influence
40	Helps to design dynamic assessments that adapt based on the student's responses	3.21	0.89	Influence
41	Provides detailed data and analysis on student performance	2.65	1.25	Influence
42	Identifies areas during assessment for improvement in teaching methods	2.29	1.16	Influence
	Sub Mean	**3.02**	**0.96**	
E	**Students' Mentoring Productivity**			
43	Offers personalized mentoring plans	3.31	0.82	Influence
44	Streamlines communication between mentors and mentees	3.31	0.66	Influence
45	Provides data-driven insights to enhance the overall mentoring experience	3.39	0.74	Influence
46	Enables mentoring programs to scale more efficiently	3.59	4.93	Influence
47	Assess the unique needs, strengths and weaknesses of each mentee	2.86	1.18	Influence
48	Analyze data generated by mentoring programs to provide valuable insights	2.75	1.19	Influence
49	Provides interactive programs that can play a role in developing key skills for both mentors and mentees	3.04	1.17	Influence
50	Analyze vast amounts of data to identify patterns and correlations between mentors and mentees	3.04	1.27	Influence
	Sub Mean	**3.16**	**1.49**	

Source: Field Survey, 2025

Table 1 shows that respondents rated all the items on administrative productivity with mean value of 3.04; research productivity had a mean value of 2.71. Items on teaching productivity had mean value of 2.86 while students' assessment productivity had mean value of 3.02 and monitoring productivity had a mean value of 3.16. This implies that the items are influence of artificial intelligence on productivity variables of lecturers.



*FUW = Federal University Wukari, TSU = Taraba State University and COE = College of Education Zing
Figure 2: Mean Plot of Responses on the Influence of Artificial Intelligence on Administration Productivity of Lecturers
Source: Field Survey, 2025

Result in Figure 2 shows that lecturers of Federal university Wukari had mean value of 3.12 while lecturers of Taraba state University had a mean value of 2.31 and lecturers of College of Education Zing had mean value of 3.15 respectively. This indicates that artificial intelligence has influence on the administration productivity of lecturers.

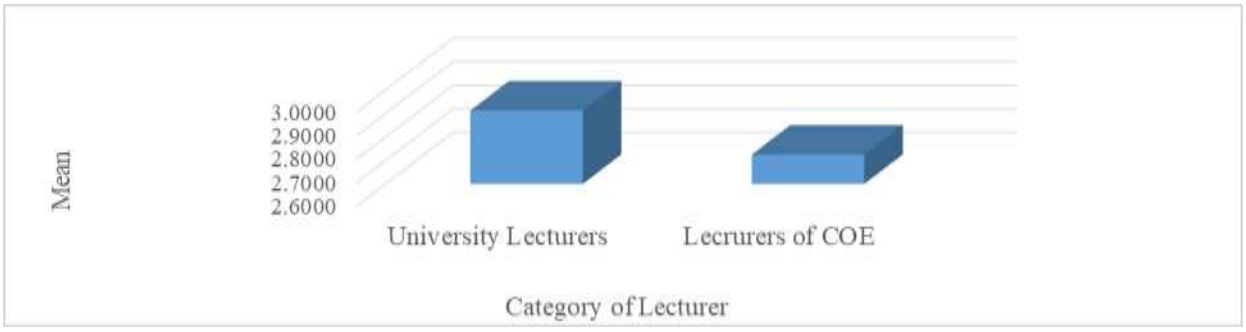
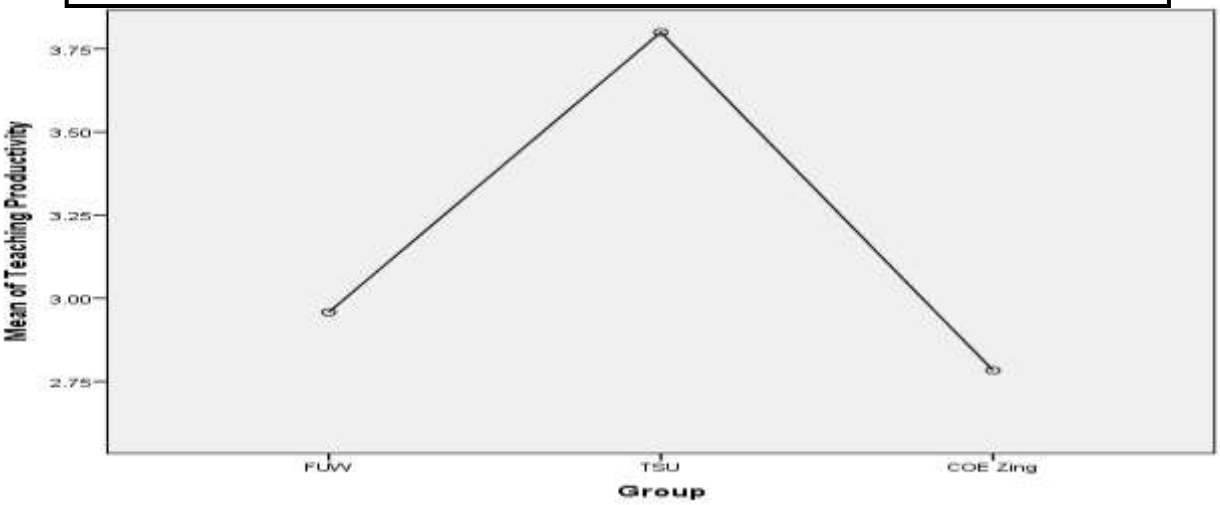


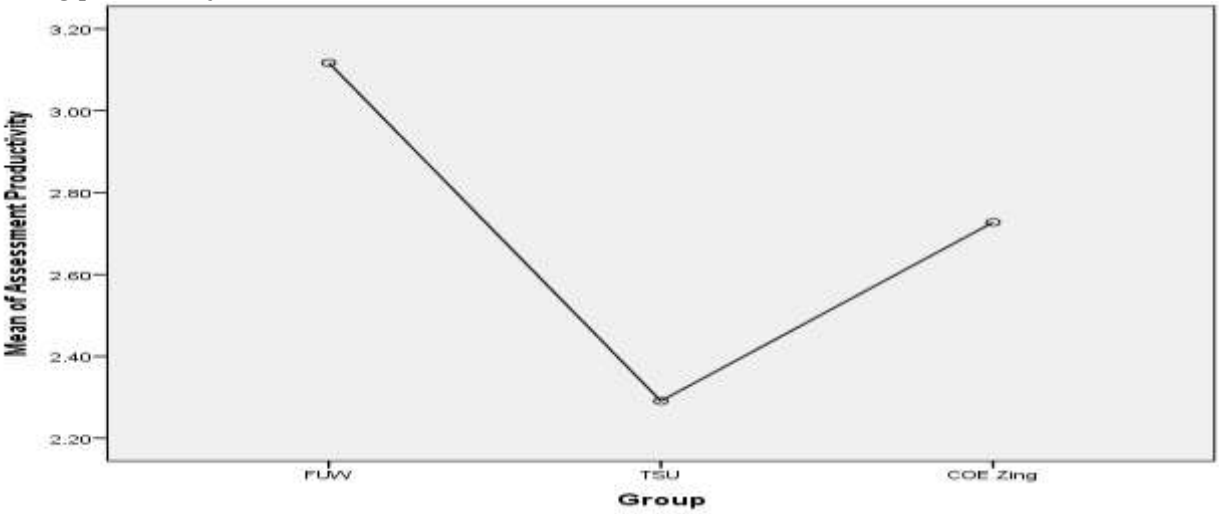
Figure 2: Mean Responses of Lecturers on the Influence of Artificial Intelligence on Research Productivity
Source: Field Survey, 2025

Result in Figure 3 shows that lecturers of universities had mean value of 2.9117 while lecturers of College of Education had a mean value of 2.7248 respectively. This means that the category of respondents are in agreement with the influence of artificial intelligence research productivity of lecturers.



*FUW = Federal University Wukari, TSU = Taraba State University and COE = College of Education Zing
Figure 3: Mean Plot of Responses on the Influence of Artificial Intelligence on Teaching Productivity of Lectures
Source: Field Survey, 2025

Result in Figure 3 shows that lecturers of Federal university Wukari had mean value of 2.9581 while lecturers of Taraba state University had a mean value of 3.800 and lecturers of College of Education Zing had mean value of 2.7833 respectively. This indicates that artificial intelligence has influence on the teaching productivity of lecturers.



*FUW = Federal University Wukari, TSU = Taraba State University and COE = College of Education Zing
Figure 4: Mean Plot of Responses on the Influence of Artificial Intelligence on Assessment Productivity of Lecturers
Source: Field Survey, 2025

Result in Figure 4 shows that lecturers of Federal university Wukari had mean value of 3.1173 while lecturers of Taraba state University had a mean value of 2.2909 and lecturers of College of Education Zing had mean value of 2.7273 respectively. This indicates that artificial intelligence has influence on the teaching assessment productivity of lecturers.

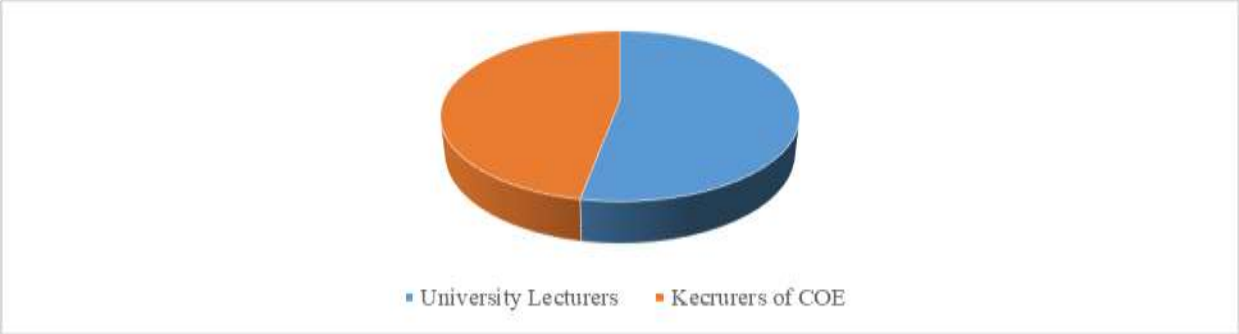


Figure 6: Mean Responses of Lecturers on the Influence of Artificial Intelligence on Mentoring Productivity
Source: Field Survey, 2025

Result in Figure 5 shows that lecturers of universities had mean value of 3.3536 while lecturers of College of Education had a mean value of 2.9797respectively. This means that the category of respondents are in agreement with the influence of artificial intelligence on monitoring productivity of lecturers.

Table 2: ANOVA Result on the Influence of Artificial Intelligence of Administration Productivity of Lecturers

	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**	**Remarks**
Between Groups	3.193	2	1.596	8.294	0.001	Significant
Within Groups	13.282	69	0.192			
Total	**16.475**	**71**				

Source: Field Survey, 2025

Table 2 shows the ANOVA result with a significant p-value of .001 which is below the alpha value of 0.05 (P=0.001<0.05). This result is statistically significant. This is an indication that artificial intelligence has influence administrative tasks productivity of lecturers.

Table 3: t-Test Result on the Influence of Artificial Intelligence on Research Productivity of Lecturers

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference Lower	Upper
Equal variances assumed	.275	.602	1.380	70	.172	.18687	.13542	-.08322	.45697
Equal variances not assumed			1.383	69.980	.171	.18687	.13515	-.08267	.45641

Source: Field Survey, 2025

Result in Table 3 revealed that p-value is 0.172 which is above the predetermined significant value of 0.05 (P=0.172>0.05). This result is statistically not significant. This means that the opinion of university lecturers and lecturers of college of education influence of artificial intelligence has influence on the research productivity is different.

Table 4: ANOVA Result on the Influence of Artificial Intelligence of Teaching Productivity of Lecturers

	Sum of Squares	df	Mean Square	F	Sig.	Remarks
Between Groups	4.583	2	2.292	4.211	0.019	Significant
Within Groups	37.545	69	0.544			
Total	**42.129**	**71**				

Source: Field Survey, 2025

Table 4 shows the ANOVA result with a significant p-value of .019 which is below the alpha value of 0.05 (P= 0.019<0.05). This result is statistically significant. This is an indication that the opinion of the respondents on the influence of artificial intelligence has influence teaching productivity of lecturers is not significantly different.

Table 5: ANOVA Result on the Influence of Artificial Intelligence of Assessment Productivity of Lecturers

	Sum of Squares	df	Mean Square	F	Sig.	Remarks
Between Groups	4.304	2	2.152	6.423	0.003	Significant
Within Groups	23.117	69	0.335			
Total	**27.421**	**71**				

Source: Field Survey, 2025

Table 5 shows the ANOVA result with a significant p-value of .003 which is below the alpha value of 0.05 (P= 0.003<0.05). This result is statistically significant. This is an indication that the opinion of the respondents on the influence of artificial intelligence has influence assessment productivity of lecturers is not significantly different.

Table 6: t-Test Result on the Influence of Artificial Intelligence on Monitoring Productivity of Lecturers

	Levene's Test for Equality of Variances		t-test for Equality of Means						
								95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Equal variances assumed	.391	.534	2.154	70	.035	.37384	.17359	.02763	.72005
Equal variances not assumed			2.123	53.265	.038	.37384	.17611	.02066	.72703

Source: Field Survey, 2025

Result in Table 3 revealed that p-value is 0.035 which is above the predetermined significant value of 0.05 (P = 0.035 >0.05). This result is statistically not significant. This means that the opinion of university lecturers and lecturers of college of education influence of artificial intelligence has influence on the research productivity is not significantly different.

DISCUSSION OF FINDINGS

Finding on the influence of artificial intelligence on administrative tasks productivity of lecturers of higher institutions revealed significant influence of artificial intelligence on administrative tasks productivity of lecturers with P-value of 0.001. The finding affirms a report by Offia, Ayok, and Bintu (2025) which indicated that artificial intelligence has a positive impact on university administration by supporting efficient administrative and program planning; AI has helped academic staff conduct research and teaching; helps decision-makers and policymakers to make better decisions on education activities.

The finding also collaborates that of Gregory and Niyi (2023) confirmed that communication between parents, children, teachers, and administrators may be streamlined by AI-powered technologies.

Result of finding on the influence of artificial intelligence on the research productivity of lecturers of higher institutions revealed a non-significant P-value of 0.172.The disparity could be as a result non-usage of artificial tolls by few of the lecturers in the college of education. The finding is disagrees with a report by Emojorho, Urhiewhu and Emezaivwakpor (2022) who opined that an average level of research productivity among academic staff in Nigerian Colleges is influenced by artificial intelligence tools. The finding also is not in support of Elbadawi, Li, Basit, and Gasiford (2024) who concluded that artificial intelligence models are used to develop a research hypothesis, establish an experimental protocol, create photo-realistic printlet images, generate credible analytical data from a variety of instruments, and produce a compelling manuscript that is ready for publication with proof of critical interpretation.

Finding on the influence of artificial intelligence on the teaching productivity of lecturers of higher institutions revealed a p-value of .019. The finding agrees with Fahimirad (2018) submitted that **a**rtificial intelligence tools are good substitutes for teaching. Also, the finding is not different from a submission made by Fitria (2021) which noted that computer-aided instruction, or intelligent tutoring systems (ITS), are a teaching tool that can adjust to the skills of its students.

Also, the result of finding on the influence of artificial intelligence on students' assessment process by lecturers of higher institutions revealed a significant p-value of .003. The finding relates a report by Chattopadhyay, Shankar, Gangadharan and Mukherjee in Hansen (2024) which indicated that artificial intelligence tools provide a more individualized learning experience by reducing the workload for teachers, offering rapid feedback, and customizing assessments to meet the needs of individual students. Similarly, the finding agrees with Kakungulu (2025) who noted that artificial intelligence is used in a grading system and offer increased accuracy, adaptability, and scalability of examinations.

Finally, finding on the influence of artificial intelligence students' mentoring productivity of lecturers of higher institutions revealed a significant p-value is 0.035. The finding supports a submission made by to Li and Jan (2023) which noted that artificial intelligence (AI) makes it possible to effectively solve the difficulties that students have in the modern educational setting, such as growing workloads and demands. The finding also agrees with Arora, Tiwari, Negi, Pargaien, and Misra (2023) who found out that artificial intelligence tools can simply receive the answers to their questions without hesitation or fear of making a mistake, and acts as a mentor for children who are liberated.

CONCLUSION

The artificial intelligence exhibited by machines is widely used in our educational institutions today. The machine intelligence is supplemented to human intelligence. However, the study has established that artificial intelligence play significant role in higher institutions ranging from administrative activities; conduct of research; teaching activities; assessment of students; and mentoring activities. The study concludes that artificial intelligence influence the productivity of lecturers in higher institutions of learning.

RECOMMENDATIONS

Based on the findings of the study, the following recommendations are made:

1. The higher institutions in the state should made provision for artificial intelligence tools in order to assist the administrative tasks always executed by lecturers of higher institutions
2. Lecturers of higher institutions should increase use of artificial intelligence in the conduct of research to avoid brain-task manual activities that hider high productivity research
3. The teaching activities of lecturers of higher institutions in the state should be conducted using artificial intelligence platforms that ensure virtual lectures which could be organized at the pace of lecturers
4. Students' assessment process should be conducted using artificial intelligence tools in order to ensure accuracy and assurance of quick results on students' performance

5. All higher institutions in the state should implement the use of artificial intelligence tools that give confidence in both students' and lecturers during mentoring activities.

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