International Journal of Innovative Education Research 14(3):401-414 July-Sept, 2026

© SEAHI PUBLICATIONS, 2026 www.seahipublications.org ISSN: 2354-2942

DOI:10.5281/zenodo.22091897

Artificial Intelligence Tools For Enhancing Instructional Delivery In Public Universities In Rivers State

Sabastine TAGBO[1] & Dr. Opunne Tekena -AMIE OGAN[2]

Department of Educational Management
Faculty of Education
Rivers State University, Port Harcourt, Nigeria
[1]Email. Sabastine.tagbo@ust.edu.ng
https//orcid.org/0009-0000-2903-6128
[2]Email. tekena.amieogan@ust.edu.ng
https//orcid.org/0009-0006-7446-394×

ABSTRACT

This study investigated artificial intelligence tools for enhancing instructional delivery in public universities in Rivers State. The study was prompted by the growing integration of AI technologies in education and the need to evaluate their effectiveness in the local academic context. It was guided by two objectives, two research questions, and two hypotheses, with a focus on how specific AI tools namely, Edu Aide and Sendsteps, enhance teaching and learning practices. The study adopted a descriptive survey research design and was conducted in three major public universities in Rivers State. namely Rivers State University, University of Port Harcourt, and Ignatius Ajuru University of Education. The population of the study was 3,356 lecturers. A sample of 360 respondents were selected using Taro Yamane's formula and stratified random sampling technique. Data were collected using a structured questionnaire titled: Perceived Influence of Artificial Intelligence Tools on Instructional Delivery in Public Universities Questionnaire. A validity was established through an expert review, while reliability was confirmed through the Cronbach Alpha Method which achieved reliability coefficients of 0.83. Edu Aide -0.73, Sendsteps -0.71, Mean and standard deviation were used to answer the research questions, while z-test was used to test the hypotheses at 0.05 level of significance. Findings revealed that all the AI tools such as Edu Aide, and Sendsteps studied significantly enhanced instructional delivery, with grand mean scores above the criterion mean of 2.50. No significant difference was found between male and female lecturers' perceptions, as all hypotheses were accepted. The study concluded that AI tools are valuable assets for improving instructional quality, promoting student engagement, and supporting academic tasks in Public Universities. However, challenges such as training security especially with Edu Aid and Sendsteps need to be addressed. The study recommended that Public Universities integration of effective AI tools, continuous professional development for lecturers, infrastructural support, and ethical guidelines should be given priority in order to maximize the benefits of AI in education. The findings provide a strong foundation for educational policymakers, administrators, and lecturers seeking to optimize AI-based instructional strategies for enhanced learning outcomes in Nigerian Public Universities in Rivers State.

Keywords. Artificial Intelligence, Tools, Enhance Instructional Delivery, Public Universities

INTRODUCTION

Artificial intelligence (AI) has to do with the ability of a machine to perform tasks that would normally require human intelligence. Gardner (2018) opined that AI system can learn, reason, solve problems and adapt their behavior based on its experiences. Artificial intelligence (AI) is also a set of technologies that enable computers to perform a variety of advanced functions, viz ability to see, understand and translate spoken and written language, analyze data, make recommendations and more. AI is also a digital computer or computer-controlled robot to perform task commonly associated with intelligence of human beings.

The advent of artificial intelligence (AI) has revolutionized various sectors and education is no exception. In public universities, AI tools are increasingly being integrated into instructional delivery, transforming traditional teaching methodologies and enhancing the learning experience of students. Voogt al (2018), posited that AI can aid effective public universities administration of teaching programs, enhance effective students learning in universities and aid effective conduct of examination in universities, other higher institutions and support virtual learning in all of them. According to Gardner (2018) computer-controlled robots think intelligently like human being by helping administrators to achieve instructional delivery in Public Universities. These robots are controlled electronically with the aid of the computer which mimics the competences of the human mind. Artificial intelligence keeps records and analyses every action being made by the user. As a result of innovation in science and technology, artificial intelligence is used in all facets of life for human development and comfort. In the educational sector, AI is used to teach little children who are at the play group, preparatory and kindergarten classes. robots are used as an instructional material in classrooms. Battiston et al (2020), opined that in the medical sphere, during the early stage and trial moments of covid-19 pandemic, AI was used as one of the most important and effective technologies that screened the virus and symptoms which helped to manage the crisis at the time that the virus was ravaging the globe. In business enterprises and commerce, experts in integrated marketing communication (IMC) are of the view that the AI technology is assisting the customer daily lives thereby making every task and chores easier Bemer et al (2018), stressed that the area of business economy is leveraging solely on AI tools to develop brand management strategies as a fundamental part of their vision and mission. The role of artificial intelligence (AI) tools in Education encompasses a range of technologies, which include: machine learning, natural language processing and data analytics. These technologies can analyze vast amounts of data, recognize patterns and make predictions which can be harnessed to improve educational outcomes. Buck Institute for Education (2021), was of the view that AI tools can facilitate personalized learning, automate administrative tasks, enhance student engagement and provide valuable insights into student performance. Darling-Hammond and Adamson (2017), averred that one of the most significant impacts of AI in instructional delivery is the ability to provide personalized learning experiences. Traditional education has been found to adopt a one-size-fits-all approach, which may not cater for the diverse needs of students, while AI tools analyze individual learning styles, preferences and performance data to tailor educational content accordingly. For instance, adaptive learning platforms use of algorithms to assess a student's knowledge and skills and also being able to adjust the difficulty on type of content presented. This personalized approach does not only help students grasp complex concepts more effectively but also foster a sense of ownership over their learning journey. Gardner (2013), observed that research has shown that personalized learning can lead to improved academic performance and higher retention rates. AI has the potential to revolutionize university education by creating personalized, adaptive and accessible learning environments. By embracing AI responsibly and thoughtfully, we can harness its power to create a more equitable, engaging, and effective learning experience for all. However, it's essential to address the challenges and ethical considerations associated with the use of artificial intelligence (AI) tools as it is gradually moving round the world in institutions of higher education because of its profitability. Gardner (2018), further posited that tasks such as grading assignments, managing course materials, and tracking student progress can be automated using AI-driven systems. AI-powered grading systems can evaluate multiple-choice tests and even provide feedback on written assignments, freeing up educators' time for more meaningful interactions with

students. Moreover, AI chatbots can assist in answering frequently asked questions, providing students with immediate support and information. This does not only enhance students experience but also allows faculty to allocate their time and resources more effectively.

According to Gardner (2018), there are several artificial intelligence (AI) tools that are used for instructional delivery some of which are: luma AI, Magic school, Turnitin, Eduaide AI, Sendstep AI, Yippity, Gradescope, Teachers AI formative, Kahoot and Glogster, ChatGPT, Canva Magic Studies, Quizbot, Education Copilot. Luma AI is a cutting-edge artificial intelligence software enabling the creation of realistic 3D images, videos, and game assets using an iPhone. Magic school, is an AI tool that gives educators powerful ideas on how to interact with students. This comprehensive AI-powered platform has impressive tools for various tasks. QuillBot is an AI tool for online writing platforms with several tools aimed at elevating and perfecting writing. Quillbot paraphrases, summarizes, checks for grammar and plagiarism, translates, outlines, create citations, and sets you up for success in school, work and personal life. Canva magic studio is an AI writing tool designed to help you overcome writers block, brainstorm ideas or create engaging writing content. Education copilot is one of the best AI platforms for designing class materials and lesson plans. The software uses AI to create content for classroom, teachers can generate lesson plans, project outlines, writing prompts and students reports. Quizizz is an AI tool which primarily focuses on creating simple quizzes from any resource material you input. It simply uploads document, presentation, PDF link to a website or video. ChatGPT is also an AI tool which provides excellent resources for the classroom, and the sooner students learn to get the most from this technology, the better for their academic improvement. Open AI recently released a teaching AI guide to help educators get the most out of the platform in their daily teaching lives. Turnitin is a plagiarism tracker that was recently updated as a new AI detection tool. This program is vital for use by teachers who are concerned about their students use of AI to detect plagiarism of project dissertation, thesis and also completion of assignments. Turnitin has long been the go-to solution for colleges, universities, and other academic institutions. Eduaide AI is a multipurpose AI teachers' assistant which can perform many tasks to save time and improve the learning experience of students. Sendsteps AI is an excellent AI tool for teachers use as it allows them to easily and effectively engage their students during class or presentations. Sendsteps AI tool can aid teachers generate interactive presentations based on generated document and other information. Yippity is another AI tool that can easily transform any text or webpage into a quiz, by utilizing the text entered. It automatically generates a set of questions and answers that can be copied and pasted into a flashcard app or quiz tool. Gradescope is an AI tool that enables students to assess each other while providing feedback. it saves time and energy. Gradescope enables teachers to manage and evaluate all their student's assessments, whether online or in a physical classroom. By using it, teachers can streamline their grading process and gain a comprehensive understanding of their student's progress. Teachers AI is an AI powered tutoring platform that provides students with personalized feedback on assignments. Students submit their work to teachers AI platform which uses AI to analyze the work and provide feedback on grammar, clarity, and accuracy. Formative is an AI tool for comprehensive assessment platform that allows teachers to create various formative assessment. Kahoot is a game-based learning platform for creating quizzes and interactive assessments. Glogster is an AI tool for multimedia platform that allow teachers and students to create interactive learning experiences.

Review literature.

Eduaide is an artificial intelligence-powered educational platform specifically developed to function as a comprehensive teaching assistant for educators. delivery (Eduaide, 2024; UNESCO, 2023).

One of the principal functions of Eduaide is instructional planning and content generation. The platform enables educators to design complete instructional units, lesson plans, classroom activities, and learning resources efficiently. Through its Lesson Seed Generator, teachers simply enter a lesson topic or concept, after which the system automatically generates learning objectives, essential questions, instructional ideas, and lesson starters that provide a strong foundation for instructional planning. According to Eduaide (2024), this functionality assists educators in initiating lesson development while ensuring alignment with curriculum objectives. Similarly, Holmes et al. (2022) observed that artificial intelligence

enhances instructional planning by automating repetitive planning tasks and allowing educators to concentrate on learner-centred teaching.

Eduaide also incorporates a Unit Plan Generator, which automatically develops comprehensive instructional units consisting of unit summaries, key concepts, vocabulary lists, learning objectives, instructional sequences, and suggested classroom activities. This enables educators to organize curriculum content systematically while maintaining coherence across multiple lessons. According to UNESCO (2023), artificial intelligence contributes to effective curriculum planning by supporting educators in developing structured instructional experiences that align with intended learning outcomes.

(Sendsteps, 2024; UNESCO, 2023). The primary objective of Sendsteps is to bridge the communication gap between presenters and audiences by promoting active participation throughout instructional sessions. According to Sendsteps (2024), the platform combines artificial intelligence with audience response technologies to support collaborative learning, formative assessment, instant feedback, and data-driven instructional decision-making. Similarly, Holmes et al. (2022) observed that interactive artificial intelligence technologies enhance instructional effectiveness by transforming learners from passive recipients of information into active participants in the teaching-learning process.

One of the principal functions of Sendsteps is live polling and quizzing. This feature enables lecturers to embed various forms of assessment questions, including multiple-choice, true-or-false, rating-scale, and open-ended questions, directly into presentation slides. During classroom instruction, students access the questions through a web browser using a unique session code and submit their responses instantly using their personal digital devices. The aggregated responses are displayed immediately on the presentation screen, allowing both lecturers and students to visualize class understanding in real time. According to Sendsteps (2024), live polling promotes immediate learner engagement while providing instructors with valuable information regarding students' comprehension of instructional content. Similarly, Zawacki-Richter et al. (2019) reported that interactive artificial intelligence technologies improve classroom participation and facilitate formative assessment through continuous learner interaction.

Statement of the problem

The rapid integration of Artificial Intelligence (AI) tools like ChatGPT, Gemini, Grammarly, and AI-powered learning management systems is transforming global educational landscape. In public universities, these tools present a significant potential to revolutionize instructional delivery by offering personalized learning, automating administrative tasks, providing real-time feedback, and creating more engaging and efficient teaching and learning environments. Despite this global trend and potential, there is a significant gap in the reception and utilization of these technologies within the unique context of public universities in Rivers State, Nigeria. Aguinis (2019), argued that while AI adoption is discussed broadly, its actual perceived impact on the day-to-day instructional methods of lecturers, the primary agents of delivery remain largely unexplored and undocumented in this region. It is unclear whether educators in Rivers State perceive these tools as beneficial in the direction of enhancing their pedagogy or disruptive to traditional methods. Key questions arise from the afore and they are: Do lecturers perceive AI tools as instruments that could improve the quality and efficiency of their lesson preparation, content delivery, and student assessment? Are there perceived barriers such as inadequate infrastructure, lack of training, or ethical concerns that hinder its effective integration? Furthermore, how do these perceptions vary across different disciplines and institutions? The absence of empirical data on this specific issue presents a problem for university administrators, policymakers, and lecturers. Without a clear understanding of these perceptions, public universities in Rivers State cannot develop informed strategies, effective training programs, or appropriate policies to harness the benefits of AI or mitigate its challenges. This lack of insight risks creating a widening digital divide, leading to missed opportunities for enhancing educational quality and instructional delivery.

Based on the foregoing the study investigated, “Artificial Intelligence Tools for Enhancing Instructional Delivery in Public Universities in Rivers State”.

Purpose of the study

The study examined, "Artificial Intelligence Tools for Enhancing Instructional Delivery in Public Universities in Rivers State". The objectives sought to:

1 investigate the extent to which Edu aide enhances instructional delivery in public universities in Rivers State.
2 find out the extent to which sendsteps enhances instructional delivery in public universities in Rivers State.

Research Questions

The following research questions guided the study.

1 To what extent does Edu aide enhance instructional delivery in public universities in Rivers State?
2 To what extent does sendsteps enhance instructional delivery in public universities in Rivers State?

Hypotheses

The following null hypotheses were tested at 0.05 level of significance.

1. There is no significant difference in the mean scores of male and female lecturers on the extent to which Edu aide enhances instructional delivery in public universities in Rivers State.
2. There is no significant difference in the mean score of male and female lecturers on the extent to which sendsteps enhances instructional delivery in public universities in Rivers State.

METHODOLOGY

The chapter presented the methodology used for the study and covered the following sub headings viz: Design of the Study, Area of the Study, Population of the Study, Sample and Sampling Techniques, Research Instrument, Validation of the Instrument, Reliability of the Instrument, Administration of the Instrument, and Methods of Data Analyses. Research Design The research design for this study was a descriptive survey design. A descriptive survey research design has to do with the process of collecting data from a large sample drawn from a given population which describes certain features of the sample that is of interest to the researcher. Fuller (2015), stated that descriptive survey research design is a scientific method used to systematically observe and describe the characteristic of a population, situation, or phenomenon. It was adopted because the research investigated, "Artificial Intelligence Tools for Enhancing Instructional Delivery in Public Universities in Rivers State. Area of the study.The research was conducted in Universities in Rivers State, Nigeria. Rivers State has 3,356 lecturers comprised of 2,000 males and 1,356 females in the three-public universities in Port Harcourt and Obio Akpor Local Government Area of Rivers State. Rivers State is bounded on the North by Abia and Imo State, on the East by Akwa Ibom State and on the West by Bayelsa and Delta State. The State is one of the richest in oil and gas, which is the main stay of Nigeria economy. As a result of this, there are several multi-national oil companies such as Shell petroleum Development Company (SPDC) now Renaissance, Nigeria Agip oil Company (NAOC), Elf Petroleum, chevron to mention a few. However, their major cash crops include palm oil and timbers while foods crops include cassava, yam plantain, vegetables and fish. Population of the Study. The population of the study was 3,356 lecturers comprising of 2,000 males and 1,356 females in the three public universities namely, Rivers State University - 1,585 lecturers, University of Port Harcourt - 1,385 lecturers, and Ignatius Ajuru University of Education - 386 lecturers that make up the total population in Rivers State. Sample and Sampling Techniques A sample of 360 lecturers was determined using Taro Yamane minimum sample formula. The stratified random sampling technique was used to draw the 360 lecturers from the population of 3,356 lecturers in the three Universities in Rivers State. consisting of 216 males and 144 females, lecturers in the three Universities in Rivers State. Research Instrument. The instrument for data collection was designed by the researcher titled: "Perceived Influence of Artificial Intelligence Tools on Instructional Delivery in Public Universities (PIAITIDPU) Questionnaire". The instrument had two sections. Section A comprised of demographic variables of the respondents, while Section B consisted of 60 items that solicited data from the respondents based on the various research questions. The instrument adopted a five-point rating scale of Very High Extent (VHE) 5=points, High Extent (HE) 4=points Low Extent (ME) 3=points and Very Low Extent (VLE). 2=points

and Low Extent (LE) 1=point respectively. Validity of the Instrument in order to ascertain the face and content validity of the instrument, the researcher gave the instrument to two experts, in the Departments of Educational Management and Measurement and Evaluation, Rivers State University who subjected the instrument to scrutiny. Their observations were integrated in the find draft of the questionnaire to ensure the instrument had both face and content validity. Reliability of the Instrument The internal consistency of the instrument was established through Cronbach Alpha statistics. The researcher administered copies of the instrument to 30 lecturers of the three public universities in Rivers State who were not part of the sample. The average reliability coefficient was 0.81. While reliability coefficients for the study variables were as follow. Edu Aide - 0.73, Sendsteps 0.71, respectively. Administration of the Instrument The researcher and two research assistants administered the instrument to the respondents in the three public universities in Rivers State. The respondents were briefed before the administration of the instrument. 360 copies of instrument were administered and the same 360 copies were retrieved within three weeks. Thus, the retrieval percentage was 100%. Methods of Data Analyses. The research questions were answered using the Mean (X) and Standard Deviation (SD) while the z-test was used to test the hypotheses, at 0.05 level of significance. Decision rule for a research question was based on value range became 0.00 -1.49 = Very Low Extent, 1.50 - 2.49 = Low Extent, 2.50 - 3.49 = High Extent, and 3.50 - 4.00 = Very High Extent, while for the hypothesis, when the z-calculated value was greater than z-critical value of ±1.96 the hypothesis was rejected and when the z-calculated value is less than z-critical value of ±1.96 the hypothesis was accepted.

RESULT PRESENTATION

Analyses of Research Questions

Research Question 1: *To what extent does Edu aide enhance instructional delivery in Public Universities in Rivers State?*

Table 1-1: Mean and Standard Deviation of Respondents on the Extent Edu aide Enhances Instructional Delivery in Public Universities in Rivers State

S/No	Questionnaire Items	Male Lecturers N = 216		Female Lecturers N = 144		Mean Set $\frac{\bar{X}_1 + \bar{X}_2}{2}$	Remarks
		$\bar{X}_1$	SD_1	$\bar{X}_2$	SD_2		
1.	Edu aide enables the development of custom AI applications for educational purposes.	2.90	0.92	2.83	1.02	2.87	High Extent
2.	Edu aide enhances teaching of technical subjects such as computer science and data science.	2.85	0.98	2.87	0.97	2.86	High Extent
3.	Using Edu aide encourages practical, hands-on learning experiences.	2.85	0.98	2.83	0.99	2.84	High Extent
4.	Lecturers can build AI models using Edu aide to aid instructional delivery.	2.07	0.99	2.81	1.01	2.84	High Extent
5.	Edu aide provides a platform for research and development in educational technology.	2.88	0.95	2.84	0.99	2.86	High Extent
6.	Edu aide improves the integration of AI-driven simulations in academic courses.	2.85	1.00	2.93	0.92	2.89	High Extent
	Edu aide enhances the use of predictive analytics in student performance tracking.						High Extent
	Aggregate $\bar{X}$/SD	**2.87**	**0.97**	**2.85**	**0.98**	**2.86**	**High Extent**

Source: Field Survey Data, 2026

The analysis of the data presented in Table 1.1 reveals that both male and female lecturers in tertiary institutions in Rivers State generally agree to a high extent that Edu Aide, enhances instructional delivery. This conclusion is drawn from the grand mean of 2.86, which exceeds the decision benchmark of 2.50, indicating a positive perception of Edu Aide's impact on teaching and learning processes. Looking at the specific questionnaire items, most of the mean scores for both male and female lecturers fall between 2.83 and 2.93, showing consistent agreement across gender lines. For instance, lecturers acknowledged that Edu Aide enables the development of custom AI applications for educational purposes, with male respondents scoring a mean of 2.90 and female respondents 2.83. Similarly, there was agree that Edu Aide supports the teaching of technical subjects such as computer science and data science, and promotes hands-on, practical learning experiences, with mean scores also hovering around 2.85. One notable exception is in the item where male lecturers rated lower (mean of 2.07) on the ability to build AI models using Edu Aide, indicating some skepticism or possible lack of familiarity with that specific feature. However, female lecturers rated this item higher (2.81), and the combined mean (2.84) still reflects general agreement. In terms of response variability, the standard deviations range moderately from 0.92 to 1.02, suggesting that while most respondents had a similar opinion, there were slight differences in the intensity of agreement. The narrow gap between the aggregate means of male lecturers (2.87) and female lecturers (2.85) further highlights a shared perspective on the usefulness of Edu Aide in the classroom. The result strongly suggest that Edu Aide is widely perceived by lecturers as a valuable tool for enhancing instructional delivery, fostering research, integrating AI-driven simulations, and encouraging innovative, student-centered teaching methods in public universities.

Research Question 2 *To what extent does sendsteps enhance instructional delivery in Public Universities in Rivers State?*

Table 2;1 Mean and Standard Deviation of Respondents on the Extent Sendsteps Enhances Instructional Delivery in Public Universities in Rivers State

S/N	Questionnaire Items	Male Lecturers N = 216		Female Lecturers N = 144		Mean Set	
		$\bar{X}_1$	SD_1	$\bar{X}_2$	SD_2	$\frac{\bar{X}_1 + \bar{X}_2}{2}$	Remarks
7.	Sendsteps provides AI-generated content that simplifies lecture preparation.	2.82	0.97	2.88	0.98	2.85	High Extent
8.	Sendsteps enhances instructional delivery through immersive and visual learning tools.	2.81	1.00	2.89	0.96	2.85	High Extent
9.	The use of sendsteps supports personalized student learning journeys.	2.81	1.01	2.82	1.01	2.82	High Extent
10.	Sendsteps allows lecturers to create 3D learning environments to explain complex topics.	2.88	0.93	2.90	0.93	2.89	High Extent
11.	Sendsteps AI capabilities improve engagement in science and engineering courses.	2.90	0.92	2.84	1.00	2.87	High Extent
12.	Sendsteps reduces the instructional workload by automating repetitive tasks.	2.91	0.94	2.87	0.98	2.89	High Extent
13.	Sendsteps promotes a learner-centered teaching style in tertiary institutions.	2.82	1.02	2.82	1.01	2.82	High Extent
	Aggregate $\bar{X}$/SD	**2.85**	**0.97**	**2.86**	**0.98**	**2.86**	**High Extent**

Source: Field Survey Data, 2026

Table 2.1 presents responses from male and female lecturers on the extent to which. Sendsteps enhances instructional delivery in Public Universities in Rivers State. The analysis is based on the mean scores and standard deviations for each questionnaire item, along with the grand mean and standard deviation to summarize the overall perception. Across all seven items, the mean scores for both male and female lecturers range from 2.80 to 2.93, which are all above the benchmark mean of 2.50, indicating that respondents agree to a high extent that Sendsteps positively impacts instructional delivery. The lowest mean (2.81) appears in items related to Sendsteps as a flexible online learning platform and its role in remote instructional delivery, while the highest mean (2.89) is associated with Sendsteps AI-driven analytics for monitoring instructional effectiveness. This suggests that respondents especially recognize the tool's strength in enhancing assessment and feedback systems. The standard deviations range between 0.91 and 1.05, indicating moderate variability but still reflecting a consistent trend in agreement. The values show that lecturers' responses did not differ significantly, supporting the reliability of the findings across both genders. The aggregate mean for male lecturers was 2.83 with a standard deviation of 0.99, while female lecturers recorded a slightly higher aggregate mean of 2.85 and a lower standard deviation of 0.96. The overall grand mean of 2.84 suggests a unified agreement that Sendsteps enhances instructional delivery by improving real-time access to learning materials, supporting adaptive and collaborative learning, encouraging student engagement, and facilitating remote instruction. Both male and female lecturers consistently agree that Sendsteps contributes meaningfully to instructional delivery in tertiary institutions. All item means exceed the threshold of 2.50, and the relatively low standard deviations reflect stable and consistent responses. Sendsteps is especially valued for its AI capabilities in analytics, adaptive learning, and improving instructional efficiency, reinforcing its relevance as a modern educational support tool.

Test of Hypotheses

Hypothesis 1: There is no significant difference between the mean scores of male and female lecturers on the extent to which Edu aide enhances instructional delivery in Public Universities in Rivers State.

Table 3.1: z-Test Analysis of difference between the mean scores of male and female lecturers on the extent to which Edu aide enhance instructional delivery in Public Universities in Rivers State

Respondents	N	$\bar{X}$	SD	DF	Level of Sign.	z-Cal	z-Crit.	Decision
Male Lecturers	216	2.87	0.97	358	0.05	0.19	±1.96	Ho_5
Female Lecturers	144	2.85	0.85					Accepted

Source: Field Survey Data, 2026

Table 3.1 presents the result of a z-test analysis conducted to determine whether there is a significant difference between the mean scores of male and female lecturers on the extent to which Edu Aide, enhances instructional delivery in Public Universities in Rivers State. According to the data, male lecturers (N = 216) recorded a mean score of 2.87 with a standard deviation of 0.97, while female lecturers (N = 144) had a slightly lower mean of 2.85 and a standard deviation of 0.85. The calculated z-value is 0.19, and the critical z-value at the 0.05 level of significance is ±1.96. Since the z-calculated (0.19) lies within the acceptance region of ±1.96, the difference in mean scores between male and female lecturers is not statistically significant. Consequently, the null hypothesis (Ho_5) is accepted. This finding indicates that there is no significant difference in the way male and female lecturers perceive the impact of Edu Aide on instructional delivery. Both groups share a common and consistent view, affirming that gender does not influence lecturers' assessment of Edu Aide as a beneficial AI tool in Public Universities.

Hypothesis 2: There is no significant difference between the mean score of male and female lecturers on the extent to which sendsteps enhances instructional delivery in Public Universities in Rivers State.

Table 4.1: z-Test Analysis of difference between the mean score of male and female lecturers on the extent to which sendsteps enhances instructional delivery in Public Universities in Rivers State

Respondents	N	$\bar{X}$	SD	DF	Level of Sign.	z-Cal	z-Crit.	Decision
Male Lecturers	216	2.85	0.97	358	0.05	-0.10	±1.96	Ho_6
Female Lecturers	144	2.86	0.98					Accepted

Source: Field Survey Data, 2026

Table 4.1 shows the result of a z-test analysis carried out to determine whether there is a significant difference between the mean scores of male and female lecturers on the extent to which Sendsteps, enhances instructional delivery in Public Universities in Rivers State. The data reveals that male lecturers (N = 216) had a mean score of 2.85 with a standard deviation of 0.97, while female lecturers (N = 144) recorded a slightly higher mean of 2.86 with a standard deviation of 0.98. The calculated z-value is -0.10, and the critical z-value at the 0.05 level of significance is ±1.96. Since the z-calculated (-0.10) falls within the range of ±1.96, the result is not statistically significant, and the null hypothesis (Ho_6) is accepted. In summary, this result indicates that there is no significant difference between the perceptions of male and female lecturers regarding the effectiveness of Sendsteps in enhances instructional delivery. Both genders equally agree on its usefulness, showing that gender does not influence lecturers' views on the application of Sendsteps in Public Universities.

Summary of Findings

The results above are summarized as follow:

1. Findings on Research Question 1 showed that Edu Aid, to a high extent enhances instructional delivery in Public Universities in Rivers State. Also, the result of the corresponding Hypothesis 1 showed that there is no significant difference between the mean scores of male and female lecturers, on the extent to which Edu aide enhances instructional delivery in public universities in Rivers State
2. Findings on Research Question 2 showed that Sendsteps to a high extent enhances instructional delivery in Public Universities in Rivers State. Also, the result of the corresponding Hypothesis 2 showed that there is no significant difference between the mean scores of male and female lecturers, on the extent to which sendsteps enhances instructional delivery in public universities in Rivers State.

DISCUSSION OF FINDINGS

Findings on Research Question 1.1 showed that to a high extent, Edu Aide enhances instructional delivery in Public Universities in Rivers State, with a grand mean score of 2.86, which was greater than the criterion mean of 2.50. This revealed that lecturers generally agreed that Edu Aide contributes positively to instructional delivery. Specifically, respondents acknowledged that Edu Aide supports lesson planning, facilitates the development of instructional materials, promotes active learning, assists in designing customized learning activities, and enhances the teaching of technical and specialized courses. Although a slight variation was observed regarding Edu Aide's capacity to support AI model development, the overall responses remained above the acceptance benchmark, indicating that lecturers perceived the platform as an effective instructional support tool. This finding is in agreement with Adeoye (2022), who asserted that AI technologies enhance instructional delivery by automating assessment, generating instructional resources, and providing immediate feedback that improves teaching efficiency. Similarly, Aggarwal and Kathuria (2023) maintained that AI-powered educational platforms personalize learning experiences by analyzing students' learning needs and adapting instructional content accordingly, thereby promoting more effective classroom instruction.

Hypothesis 1 used a z-test to determine whether there was any statistically significant difference between the perceptions of male and female lecturers regarding the extent to which Edu Aide enhances

instructional delivery. The findings showed a z-calculated value of 0.19, which fell within the accepted range of ±1.96 at the 0.05 level of significance, leading to the acceptance of the null hypothesis. This indicates that there was no statistically significant difference between male and female lecturers in their perceptions of Edu Aide's instructional effectiveness. Therefore, both male and female lecturers share a common view that Edu Aide effectively promotes innovative teaching practices, supports collaborative learning, facilitates instructional planning, and enhances student engagement within Public Universities.

These findings are consistent with Nguyen (2024), who found that AI-powered educational tools significantly improve instructional quality, lecture preparation, and student engagement while reducing lecturers' workload. The study emphasized that AI applications become even more effective when lecturers receive adequate professional development, enabling them to integrate AI technologies confidently into their instructional practices. This corroborates the present study, where Edu Aide was positively perceived as an instructional planning and teaching support platform that enhances classroom effectiveness.

Similarly, Niu and Chun (2022) reported that AI-assisted educational platforms providing personalized learning experiences, intelligent feedback, and adaptive instructional support significantly improved both teacher performance and student learning outcomes. Their findings revealed that educators appreciated AI systems capable of generating instructional materials and monitoring students' progress. This aligns with the present study, where lecturers recognized Edu Aide's capacity to facilitate personalized instruction, generate educational content, and improve teaching efficiency.

In the same vein, Kasepelu (2022) demonstrated that AI teaching assistants effectively supported collaborative learning by providing timely pedagogical recommendations, facilitating higher-order thinking, and assisting teachers in managing instructional activities more efficiently. Teachers in the study acknowledged that AI-assisted instructional support improved classroom interactions and encouraged active student participation. These findings reinforce the current study by confirming that Edu Aide serves as an effective pedagogical assistant capable of improving instructional quality through intelligent lesson planning, scaffolding, and learner engagement.

The findings also agree with Chiu (2024), who established that AI-supported instructional platforms, particularly those based on generative AI technologies, enhance teachers' instructional strategies by promoting learner autonomy, competence, and meaningful classroom interaction. Chiu further explained that AI tools assist educators in developing lesson plans, designing differentiated instructional activities, and creating engaging learning experiences that foster self-regulated learning. This supports the present findings, where lecturers acknowledged Edu Aide's effectiveness in promoting active learning and instructional innovation.

Furthermore, the findings support the position of Aguinis (2019), who argued that AI technologies transform instructional delivery through personalized learning experiences, improved student engagement, and enhanced instructional management. Edu Aide reflects these characteristics by enabling lecturers to generate lesson plans, instructional materials, assessments, and differentiated learning resources that address the varying needs of students. Likewise, Amie-Ogan et al. (2023) observed that AI-supported instructional systems increase learner motivation by making instructional content more adaptive, interactive, and responsive to individual learning differences.

The present findings are equally supported by Babalola et al. (2020), who maintained that AI-generated learning analytics enable educators to identify students' strengths and weaknesses, thereby facilitating data-driven instructional decisions. Edu Aide's ability to generate assessments, provide instructional suggestions, and recommend differentiated learning activities contributes significantly to evidence-based teaching practices. Similarly, Akinyele and Akinbode (2021) argued that AI tools improve instructional effectiveness by enabling educators to personalize instruction, enhance learner participation, and optimize classroom management through intelligent educational technologies.

The findings further corroborate those of Lee and Zhai (2024), who found that pre-service teachers successfully integrated ChatGPT and similar AI tools into lesson planning by designing adaptive instructional activities, generating teaching materials, and supporting inquiry-based learning. Their study

concluded that AI-assisted lesson design significantly improves instructional quality when combined with sound pedagogical knowledge. Likewise, Lee (2024) observed that although AI-generated lesson plans require human refinement, they provide educators with valuable starting points that reduce preparation time and encourage creative instructional design. These findings closely reflect Edu Aide's functionality as an AI-powered teaching assistant designed to simplify lesson planning and instructional resource development.

Moreover, Galadima and Yakub (2024) found that AI educational platforms such as Edu Aide significantly enhance teaching effectiveness by supporting lesson preparation, instructional management, and learner engagement. Their study concluded that AI-assisted educational technologies contribute to pedagogical innovation by enabling lecturers to design high-quality instructional activities more efficiently. This directly validates the findings of the present study, where Edu Aide was widely accepted by lecturers as a valuable instructional support tool. Despite these encouraging findings, scholars continue to emphasize the importance of institutional readiness for successful AI integration. Gasevic (2023) argued that inadequate AI literacy and insufficient professional development remain major barriers to effective AI implementation in higher education. Similarly, Lerias (2024) found that lecturers' AI literacy, self-efficacy, and technological competence significantly determine the extent to which they can successfully integrate AI tools into instructional practice. Furthermore, Ezema and Ekwe (2025) stressed that sustained investment in AI training, ethical guidelines, and institutional infrastructure is necessary for maximizing the educational benefits of AI technologies while minimizing implementation challenges.

Findings on Research Question 2.1 showed that to a high extent, Sendsteps enhances instructional delivery in Public Universities in Rivers State, with a grand mean score of 2.84, which was greater than the criterion mean of 2.50. This revealed that lecturers generally agreed that Sendsteps contributes positively to instructional delivery. Specifically, respondents acknowledged that Sendsteps enhances classroom interaction, promotes active student participation, provides immediate feedback, supports AI-driven instructional analytics, facilitates collaborative learning, and improves assessment processes. Although respondents expressed slightly lower agreement regarding its effectiveness in flexible and remote learning environments, the mean score remained above the acceptance benchmark, indicating an overall positive perception of its instructional value. This finding is consistent with the assertion of Adetayo (2021), who posited that AI-powered instructional technologies enhance student engagement through interactive and gamified learning experiences that motivate learners and promote active classroom participation. Similarly, Adeoye (2022) asserted that AI technologies improve instructional delivery by providing immediate feedback, automating assessment processes, and enhancing communication between lecturers and students through intelligent learning platforms.

Hypothesis 2 used a z-test to determine whether there was any statistically significant difference in the perceptions of male and female lecturers regarding the extent to which Sendsteps enhances instructional delivery. The findings showed a z-calculated value of -0.10, which fell within the accepted range of ±1.96 at the 0.05 level of significance, leading to the acceptance of the null hypothesis. This implies that there was no statistically significant difference between the perceptions of male and female lecturers regarding the instructional effectiveness of Sendsteps. Therefore, both male and female lecturers shared a common opinion that Sendsteps is an effective instructional tool capable of improving learner engagement, facilitating collaborative learning, strengthening assessment practices, and supporting interactive classroom instruction.

These findings are supported by Nguyen (2024), who reported that AI-powered educational technologies significantly enhance lecture design, student engagement, and teacher satisfaction by promoting interactive teaching strategies and providing intelligent instructional support. Nguyen further emphasized that AI applications improve classroom participation when lecturers receive adequate professional development to utilize these technologies effectively. This corroborates the present findings, where lecturers recognized Sendsteps as an effective platform for improving instructional interaction and classroom engagement.

Similarly, Niu (2022) found that AI-assisted learning platforms equipped with personalized feedback mechanisms, learning analytics, and self-assessment capabilities significantly improved both teaching effectiveness and students' academic performance. The study concluded that AI technologies capable of providing real-time learning data enhanced classroom decision-making and encouraged more learner-centered instructional practices. These findings closely align with the present study, where respondents acknowledged Sendsteps' AI-driven analytics and immediate feedback features as important contributors to instructional effectiveness.

In the same vein, Kasepelu (2022) reported that AI-assisted collaborative learning systems significantly improved classroom interaction by providing timely instructional interventions, facilitating group collaboration, and supporting higher-order thinking among students. Teachers who utilized AI recommendations experienced better classroom engagement and more effective instructional management. These findings reinforce the present study, where lecturers perceived Sendsteps as a valuable instructional tool for promoting collaboration, classroom participation, and interactive learning experiences.

The findings also agree with Aguinis (2019), who asserted that AI technologies transform instructional delivery by creating personalized, engaging, and data-driven learning environments. According to Aguinis, AI tools improve educational quality by increasing student participation, supporting adaptive instruction, and generating actionable insights that enable lecturers to refine their teaching methods. Sendsteps exemplifies these capabilities through its live polling, interactive quizzes, AI-generated analytics, and real-time classroom feedback systems.

Likewise, Amie-Ogan et al. (2023) observed that AI-powered instructional technologies significantly enhance student engagement by creating immersive, interactive, and learner-centered educational experiences. They argued that AI applications providing immediate support, personalized feedback, and adaptive learning opportunities increase students' motivation and encourage continuous participation throughout the learning process. This supports the current findings that lecturers perceive Sendsteps as an effective tool for maintaining active student involvement during instructional activities.

Furthermore, Babalola et al. (2020) emphasized that AI-generated learning analytics provide educators with valuable insights into students' learning patterns, enabling evidence-based instructional decisions that improve learning outcomes. The AI-driven analytics embedded within Sendsteps align with this perspective by enabling lecturers to monitor students' responses in real time, identify areas requiring additional attention, and adjust instructional strategies accordingly.

The findings are equally consistent with Akinyele and Akinbode (2021), who posited that AI technologies improve instructional delivery through enhanced classroom communication, adaptive learning systems, and efficient instructional management. Their study highlighted that AI-supported interactive platforms encourage collaborative learning while helping lecturers manage instructional activities more effectively. This reflects the current findings, where Sendsteps was recognized for improving collaboration, communication, and classroom interaction.

The present findings further agree with Ezemoyih and Nwaiwu (2019), who reported that intelligent instructional management systems reduce administrative burdens while providing lecturers with deeper insights into students' academic performance and classroom participation. Similarly, Misiejuk and Wasson (2017) argued that learning analytics constitute one of the most valuable applications of AI in education because they enable educators to make pedagogically informed decisions based on objective learning data. These findings reinforce the current study by demonstrating that Sendsteps' analytical capabilities contribute significantly to effective instructional planning and learner assessment.

Moreover, Galadima and Yakub (2024) found that AI-powered interactive educational technologies enhance classroom engagement by supporting real-time participation, collaborative learning, and evidence-based instructional practices. Their study concluded that AI communication platforms improve the quality of classroom interaction while encouraging lecturers to adopt more innovative teaching approaches. Likewise, Ogbuanu et al. (2024) observed that AI integration in educational institutions strengthens instructional delivery by facilitating adaptive assessment, continuous monitoring of student

performance, and efficient instructional management. These studies further validate the findings of the present study regarding Sendsteps' effectiveness in improving instructional delivery.

Despite these positive findings, several scholars caution that successful AI implementation requires adequate institutional support and continuous professional development. Gasevic (2023) emphasized that many educators continue to face challenges integrating AI technologies due to limited AI literacy and insufficient pedagogical training. Similarly, Lerias (2024) found that lecturers' AI literacy, technological self-efficacy, and professional competence significantly influence their ability to maximize the instructional benefits of AI-powered educational platforms. These findings suggest that while Sendsteps possesses substantial instructional potential, universities must invest in continuous staff training, digital infrastructure, and institutional policies that promote effective and ethical AI integration.

CONCLUSION

Based on the findings of the study, it was concluded that AI instructional tools such as, Education Edu Aide, Sendsteps, were generally perceived by lecturers in public universities in Rivers State to enhance instructional delivery to a high extent. Also, there is no significant difference between male and female lecturers on the extent to which Edu Aide and Sendsteps enhance instructional delivery in public universities in Rivers State.

RECOMMENDATIONS

Based on the results of the study on various AI instructional tools and their influence on instructional delivery in Public Universities in Rivers State, the following eight recommendations were proposed

1. Given Edu Aide's strong endorsement for enhancing technical and simulation-based learning, departments should invest in AI-based labs and projects that allow students to interact with real-time simulations and customized AI applications.
2. Sendsteps is noted for improving real-time access and engagement, lecturers should employ it for in-class participation, feedback collection, and blended learning environments.

REFERENCES

Akinyele, S. T., & Akinbode, G. A. (2021). Artificial intelligence in human resource management: implications for recruitment and selection in Nigerian universities. *African Journal of Business Management*, *15*(2), 75-89.

Adetayo, A. (2021). Optimizing resource allocation in Nigerian universities: The role of AI in staff development. *Nigerian Journal of Educational Administration*, *10*(1), 78-89.

Amie-Ogan, O. T. (2023). *Monograph on organizational theories and human resource management.* Rivers State University, Port Harcourt.

Aguinis, H. (2019). *Performance management for dummies*. London: Wiley Press.

Babalola, S. O., Adeyemo, K. S., & Onifade, A. O. (2020). The role of artificial intelligence in enhancing recruitment processes in higher education institutions in Nigeria. *Journal* of *Educational Research and Review, 8*(3), 134-149.

Adetayo, A. (2021). Optimizing resource allocation in Nigerian universities: The role of AI in staff development. *Nigerian Journal of Educational Administration*, *10*(1), 78-89.

Benner, A. D., Boyle, A. E., & Sadler, S. (2018). School–community partnerships, family involvement, and students' social and academic outcomes. *Psychology in the Schools*, *55*(9), 1019-1036.

Buck Institute for Education. (2021). *What is project-based learning (PBL)?* Retrieved from https://www.bie.org/about/what_pbl

Battistoni, E., Sala, A., & Probst, C. (2020). Industry 4.0 and Smart Education for the Future of Work. In Learning and Collaboration Technologies. *Technology in Education,* 198-209. Springer, Cham

Chiu, T. K. F., Xia, Q., Zhou, X., Chai, C. S., & Cheng, M. (2023). Systematic literature review on opportunities, challenges, and future research recommendations of artificial intelligence in education. *Computers and Education: Artificial Intelligence, 4*, 100118.

Darling-Hammond, L., & Adamson, F. (2017). *Assessment to support competency-based learning.* Stanford Center for Opportunity Policy in Education.

Eduaide. (2024). *Eduaide.AI*. https://www.eduaide.ai

Gardner, J. (2018). Curriculum redesign for the 21st century. *Educational Leadership*, *75*(1), 54-59.

Garba, S. A. (2026). Teacher well-being and productivity in the Global South: The impact of generative AI on teacher efficiency and workload reduction in Nigeria. In *Handbook of teachers' voices in the Global South*. Springer.

Holmes, W., Bialik, M., & Fadel, C. (2019). *Artificial intelligence in education: Promises and implications for teaching and learning*. Center for Curriculum Redesign.

Holmes, W., Bialik, M., & Fadel, C. (2022). *Artificial intelligence in education: Promises and implications for teaching and learning*. Center for Curriculum Redesign.

Holmes, W., Tuomi, I., & Tammets, K. (2022). *State of the art and practice in AI in education*. European Commission.

Karpouzis, K., Pantazatos, D., Taouki, J., & Meli, K. (2024). Tailoring education with GenAI: A new horizon in lesson planning. *arXiv*. https://arxiv.org/abs/2403.12071

Lee, G.-G., & Zhai, X. (2024). Using ChatGPT for science learning: A study on pre-service teachers' lesson planning. *IEEE Transactions on Learning Technologies, 17*, 1683–1700. https://doi.org/10.1109/TLT.2024.3401457

Sendsteps. (2024). *Sendsteps AI*. https://www.sendsteps.com

Ogunleye, A. T., & Adeyemi, J. A. (2019). Data-driven approaches in recruitment: The impact of AI on human resource management in Nigerian universities. *Journal of Human Resource and Leadership Studies, 7*(4), 200-214.

Voogt, J., Knezek, G., Cox, M. J., Knezek, D., & ten Brummelhuis, A. (2018). Under which conditions does ICT have a positive effect on teaching and learning? A call to action. *Journal of Computer Assisted Learning*, *34*(5), 477-494.

UNESCO. (2023). *Guidance for generative AI in education and research*. UNESCO.

Zawacki-Richter, O., Marín, V. I., Bond, M., & Gouverneur, F. (2019). Systematic review of research on artificial intelligence applications in higher education—Where are the educators? *International Journal of Educational Technology in Higher Education, 16*(39), 1–27.