



Integration of Artificial Intelligence Tools in Academic Staff Development Programmes for Goal Achievement in Public Universities in Rivers State

Dr. Chinyere Prince Chinedu MMOM

Department of Educational Management, Faculty
of Education, Rivers State University, Nigeria

chinyere.mmom@rsu.edu.ng

<https://orcid.org/0009-0001-1002-2137>

Anita S. FYNEFACE

Department of Educational Management, Faculty
of Education, Rivers State University, Nigeria

annyfyneface84@gmail.com

Abstract

The study examined the integration of artificial intelligence tools in academic staff development programmes for goal achievement in public universities in Rivers State. Three research questions and one hypothesis guided that study. The study adopted a descriptive research design to examine the integration of artificial intelligence tools in academic staff development programmes for goal achievement in public universities in Rivers State. The design was chosen because it enables the investigation of relationships between variables without manipulation. The population comprised 3,787 teaching staff from three public universities, including one federal and two state institutions. A 10% sample was drawn proportionally from each university, and respondents were randomly selected across faculties and administrative levels to enhance representativeness and minimise bias. Data were collected using a structured questionnaire titled *Integration of Artificial Intelligence Tools in Academic Staff Development Programmes for Goal Achievement Questionnaire (IAITASDPQ)*. The questionnaire's validity was confirmed through expert review, and reliability was established with Cronbach's Alpha ($\alpha = 0.76$), indicating high internal consistency. The study found that artificial intelligence tools enhance academic staff development by improving teaching, research productivity, and administrative efficiency, with no significant differences between male and female staff, although challenges such as limited infrastructure, high costs, and low AI literacy were identified. It concluded that integrating AI into staff development programmes strengthens professional competence and supports institutional goal achievement when accompanied by adequate training, policy support, and resource allocation. Therefore, it is recommended that public universities in Rivers State provide accessible AI tools, develop staff training initiatives, and improve digital infrastructure to ensure effective adoption and maximize the benefits of AI for achieving institutional objectives.

Keywords: Academic Staff Development Programmes, Artificial Intelligence Tools, Goal Achievement, Integration.

Introduction

University education serves as the cornerstone of societal advancement, tasked with producing highly skilled graduates, conducting groundbreaking research, and contributing meaningfully to national development. The Federal Republic of Nigeria (2014) articulated these fundamental objectives in the National Policy of Education, emphasising that tertiary institutions must equip students with both theoretical knowledge and practical competencies necessary for self-reliance

and nation-building. Achieving these ambitious goals requires a well-trained, innovative academic workforce capable of navigating the complexities of modern education. However, in an era characterised by rapid technological transformation, traditional staff development approaches alone prove insufficient for preparing academics to meet contemporary educational demands.

Technology has fundamentally reshaped how institutions operate, evolving from a mere convenience to an absolute necessity for efficient functioning. In today's digital landscape, universities cannot sustain competitive academic programmes, conduct relevant research, or effectively engage students without robust technological infrastructure and digitally competent staff. Artificial intelligence (AI) represents the latest frontier in this technological revolution, offering unprecedented opportunities for institutional goal achievement. AI refers to computer systems designed to perform tasks that typically require human intelligence, including learning, problem-solving, pattern recognition, and decision-making. These systems analyse vast amounts of data, identify trends, and provide insights that enhance educational processes and administrative efficiency.

For public universities in Rivers State, integrating AI tools into academic staff development programmes presents a strategic pathway towards achieving institutional excellence. Dappa-Wilcox and Wodi (2025) noted that proper implementation can significantly enhance educational goal attainment. Several AI tools demonstrate particular relevance for academic staff development. Learning management systems enhanced with AI capabilities, such as intelligent tutoring systems, can personalise professional development experiences for lecturers. AI-powered research tools like literature review assistants and data analysis software enable academics to conduct more rigorous scholarly work. Additionally, AI-driven assessment platforms can help staff develop more effective evaluation strategies whilst reducing administrative burdens (Njoku & Wey-Amaewhule, 2025).

The successful integration of these technologies requires structured training programmes that build staff capacity progressively. Omodu (2025) noted that well-designed AI-enhanced development initiatives yield tangible improvements in academic performance. Such programmes must address both technical competencies enabling staff to operate AI tools proficiently and pedagogical understanding of how these technologies can enhance student learning outcomes. However, realising these benefits demands more than simply providing access to AI tools. Barango-Tariah et al. (2025) emphasised that AI integration must align with quality service delivery objectives, ensuring that technological adoption genuinely contributes

to sustainable national development rather than becoming a superficial exercise. This requires institutional commitment to creating supportive environments where academics feel encouraged to experiment with AI applications, learn from failures, and share successful practices with colleagues. In essence, integrating AI tools into academic staff development programmes represents not merely an option but an imperative for public universities in Rivers State seeking to fulfil their educational mandate. Strategically embedding these technologies into professional development initiatives, institutions can equip their academic workforce with capabilities necessary for twenty-first-century teaching, research, and service excellence.

Statement of the Problem

The integration of artificial intelligence tools in academic staff development programmes represents a critical imperative for public universities in Rivers State striving to achieve their educational mandates in an increasingly digital world. Whilst AI technologies offer transformative potential for enhancing teaching effectiveness, research productivity, and institutional efficiency, their adoption within staff development initiatives remains largely fragmented and unsystematic. Despite growing recognition of AI's importance, many academic staff in Rivers State public universities lack adequate training in utilising these tools effectively. Persistent challenges exist in leveraging AI for quality service delivery within these institutions, with significant gaps between the availability of AI applications and lecturers' capacity to integrate them meaningfully into teaching and research practices. This disconnect threatens institutional goal achievement, as universities struggle to equip staff with competencies necessary for navigating contemporary educational demands. Inadequate institutional frameworks, limited technical infrastructure, and insufficient professional development opportunities further compound these challenges. Without structured AI-enhanced development programmes addressing these deficiencies, public universities in Rivers State risk falling behind in delivering quality education, conducting relevant research, and contributing effectively to national development objectives. Consequently, there exists an urgent need to examine how AI tools can be systematically integrated into academic staff development programmes to enhance goal achievement in these institutions.

Aim and Objectives of the Study

This study aims to examine the integration of artificial intelligence tools in academic staff development programmes for goal achievement in public universities in Rivers State.

1. To identify the artificial intelligence tools available for integration into academic staff development programmes for goal achievement in public universities in Rivers State

2. To evaluate the impact of artificial intelligence tools on the effectiveness of academic staff development programmes in achieving institutional goals in public universities in Rivers State.
3. To examine the challenges associated with integrating artificial intelligence tools into academic staff development programmes for goal achievement in public universities in Rivers State.

Research Questions

The following questions guided the study:

1. What artificial intelligence tools are available for integration into academic staff development programmes for goal achievement in public universities in Rivers State?
2. How do artificial intelligence tools impact the effectiveness of academic staff development programmes in achieving institutional goals in public universities in Rivers State?
3. What challenges are associated with integrating artificial intelligence tools into academic staff development programmes for goal achievement in public universities in Rivers State?

Hypothesis

The following hypothesis was formulated and statistically tested at a 0.05 level of significance:

1. There is no significant difference between the mean ratings of male and female academic staff on the impact of artificial intelligence tools on the effectiveness of academic staff development programmes for achieving institutional goals in public universities in Rivers State.

Theoretical Framework

The Unified Theory of Acceptance and Use of Technology (UTAUT)

The Unified Theory of Acceptance and Use of Technology represents a groundbreaking theoretical advancement in understanding technology adoption behaviours, originating from Venkatesh, Morris, Davis, and Davis's comprehensive research in 2003 (Xue et al., 2024). This influential theory emerged through a systematic review and integration of eight established technology acceptance theories, including the Technology Acceptance Model, Theory of Planned Behaviour, Innovation Diffusion Theory, and Social Cognitive Theory. The development process involved empirical validation across multiple organisational contexts, resulting in a parsimonious yet comprehensive model that addresses the fragmentation previously characterising technology acceptance research.

UTAUT proposes that technology acceptance and usage behaviour are primarily determined by four fundamental constructs. Performance Expectancy represents users' beliefs regarding the extent to which technology utilisation will improve their performance and productivity outcomes. Effort Expectancy captures perceptions of ease associated with technology use, reflecting cognitive effort required for system mastery. Social Influence encompasses the degree to which significant others' opinions and expectations affect individual technology adoption decisions. Facilitating Conditions refer to users' perceptions of organisational and technical infrastructure support available for technology implementation and sustained use (Ayaz & Yanartaş, 2020; Marikyan & Papagiannidis, 2025).

The theory incorporates four moderating variables—gender, age, experience, and voluntariness of use—that influence the strength of relationships between core constructs and behavioural intentions. Empirical validation has consistently demonstrated UTAUT's superior explanatory power, accounting for approximately 70% of variance in intention to use technology, significantly outperforming predecessor models (Taiwo & Downe, 2013). Recent systematic reviews in higher education contexts confirm the model's robustness in explaining technology adoption patterns across diverse educational settings, particularly for complex emerging technologies (Xue et al., 2024).

UTAUT's relevance to this study lies in its proven capacity to explain academic staff's acceptance and utilisation of Artificial Intelligence tools in professional development contexts. The theory provides a structured framework for understanding how lecturers' perceptions of AI's performance benefits in enhancing their teaching effectiveness and research productivity, ease of using AI-driven tools such as intelligent content creation systems and data analysis platforms, social pressures from colleagues and institutional leadership, and university support infrastructure collectively influence their adoption and sustained use of these technologies. Given AI's complexity and transformative potential in reshaping academic practices, UTAUT's comprehensive approach offers valuable insights for understanding how technology acceptance behaviours mediate the relationship between AI integration in staff development programmes and actual goal achievement outcomes in public universities.

Conceptual Clarification

Artificial Intelligence

Artificial Intelligence involves the application of computer systems able to perform tasks or produce output normally requiring human intelligence, especially by applying machine learning techniques to large collections of data.. Artificial Intelligence represents a transformative

technological paradigm that has fundamentally reshaped educational landscapes globally. Oluwagbenro (2024) asserted that AI encompasses computer systems and algorithms designed to simulate human cognitive functions, including learning, reasoning, problem-solving, and decision-making capabilities. These intelligent systems possess the capacity to analyse vast amounts of data, recognise patterns, adapt to new information, and execute tasks that traditionally required human intellectual intervention. Schmidt et al. (2025) defined AI in educational contexts as sophisticated technological tools that facilitate personalised learning experiences, automate administrative processes, and enhance pedagogical effectiveness through data-driven insights and adaptive responses to individual learner needs.

AI applications in higher education extend beyond mere automation, representing intelligent systems capable of understanding professional development needs, predicting competency gaps, and providing tailored interventions that optimise teaching and research effectiveness. More so, AI in education uses smart technologies to personalise learning, automate tasks, and offer new tools for students and teachers, creating adaptive content, providing instant feedback, and streamlining grading, but it also raises concerns about bias, over-reliance, cheating, and data privacy, requiring careful policy and ethical guidelines to balance innovation with human connection and critical thinking.

Within the context of this study, Artificial Intelligence is conceptualised specifically through two operational dimensions relevant to academic staff development: AI-Enhanced Teaching Tools and AI-Powered Research Support Systems. AI-Enhanced Teaching Tools function as intelligent platforms that analyse lecturers' pedagogical approaches, identify areas for improvement, and deliver customised professional development content whilst facilitating the creation of adaptive learning materials and automated assessment systems. AI-Powered Research Support Systems provide academic staff with sophisticated assistance for literature review, data analysis, manuscript preparation, and research productivity enhancement. Dappa-Wilcox and Wodi (2025) emphasised that these AI applications represent practical tools that directly influence how lecturers engage with their professional responsibilities, develop critical competencies, and ultimately contribute to institutional goal achievement in university settings. These dimensions collectively capture AI's multifaceted role in shaping academic staff performance and institutional effectiveness outcomes.

Artificial intelligence tools available for integration into academic staff development programmes

Artificial intelligence tools available for integration into academic staff development programmes refer to software applications powered by AI that can support lecturers and other academic staff in professional growth. These tools streamline tasks such as content creation, feedback, research, communication, and personalised learning, improving productivity and effectiveness in teaching, research, and administrative workflows. AI tools are increasingly used in higher education to enhance professional competencies and institutional outcomes (Al-Zyoud, 2020).

Generative Artificial Intelligence Tools: These are AI-powered applications that assist academic staff in generating lecture content, research summaries, reports, and instructional materials. They support idea generation, respond to academic queries, explain complex concepts, and enhance communication efficiency, allowing lecturers to concentrate on higher-order instructional tasks and continuous professional development (Dappa-Wilcox & Wodi, 2025). This term properly covers tools such as ChatGPT, Gemini, Copilot, Claude, and similar systems, and it strengthens the theoretical and scholarly quality of academic work.

AI-Powered Writing and Language Enhancement Tools: These are artificial intelligence applications designed to improve the clarity, grammar, tone, coherence, and structure of academic documents, emails, and scholarly publications. They assist academic staff in producing professionally polished outputs, detecting linguistic errors, and maintaining consistent writing quality during research dissemination and formal communication (Sağın et al., 2024). This category covers tools such as Grammarly, ProWritingAid, QuillBot, and LanguageTool, without weakening academic rigour.

AI-Powered Speech Recognition and Transcription Tools: These are artificial intelligence applications that automatically record, convert spoken language into text, and generate accurate transcripts of meetings, lectures, and staff development sessions in real time. They support documentation, reflection, content sharing, and accessibility while significantly reducing time spent on manual note-taking (Schmidt et al., 2025). This category includes tools such as Otter.ai, Microsoft Teams Transcription, Google Speech-to-Text, and Zoom AI Companion.

Adaptive Learning Systems (AI-Powered LMS): Platforms that use AI to customise professional development pathways based on individual progress and engagement. They adapt

content delivery to user needs, improving retention and targeting areas where academic staff require more support, thus enhancing professional growth outcomes (Omodu, 2025).

Semantic Scholar: An AI-enhanced research discovery tool that helps academic staff find, summarise, and access relevant scholarly literature efficiently. Through natural language processing that filters and ranks research articles, it supports evidence-based teaching and improves research productivity (Ali et al., 2025).

Impact of Artificial Intelligence Tools on the Effectiveness of Academic Staff Development Programmes

Artificial intelligence tools have significantly improved the effectiveness of academic staff development programmes in public universities by enhancing teaching quality, research productivity, and administrative efficiency. Through tools such as generative AI, adaptive learning platforms, and AI-powered research systems, academic staff can access personalised learning experiences that align with their professional needs and institutional objectives. These tools support continuous skill development, improve instructional delivery, and promote evidence-based teaching practices, thereby contributing to institutional goal achievement (Dappa-Wilcox & Wodi, 2025).

AI tools also facilitate efficient research processes by enabling faster literature searches, automated data analysis, and improved academic writing, which increase research output and global visibility of universities. As staff become more competent in using AI tools, universities benefit from improved accreditation outcomes, innovation capacity, and competitive relevance in the global academic environment (Aregbesola & Hur-Yagba, 2025). Furthermore, AI-driven staff development enhances decision-making and service delivery through data-informed practices that support sustainable institutional growth (Barango-Tariah et al., 2025). Overall, the integration of artificial intelligence into staff development programmes strengthens human capacity development and aligns academic performance with institutional goals in public universities.

Challenges Associated with Integrating Artificial Intelligence Tools into Academic Staff Development Programmes

Despite the benefits of artificial intelligence tools, several challenges hinder their effective integration into academic staff development programmes in public universities. One major challenge is inadequate digital infrastructure, including unreliable internet connectivity, limited access to AI-enabled devices, and insufficient technical support. These constraints reduce the

practical utilisation of AI tools and limit their impact on staff development outcomes (Offor et al., 2024).

Another significant challenge is the low level of AI literacy and resistance to change among some academic staff. Many lecturers lack the necessary skills and confidence to adopt AI tools, while others perceive AI as a threat to academic integrity or job security. This negative perception affects acceptance and sustained use of AI technologies in professional development programmes (Ayaz & Yanartaş, 2020). Additionally, institutional and policy-related challenges such as lack of clear guidelines, ethical concerns, data privacy issues, and inadequate funding further constrain effective AI integration (Schmidt et al., 2025). These challenges highlight the need for structured training, supportive policies, and sustained investment to ensure successful integration of artificial intelligence tools for goal achievement in public universities.

Review of Related Empirical Studies

Njoku and Wey-Amaewhule (2025) investigated the integration of AI-driven assessment tools on academic performance in public universities in Rivers State. The study employed a descriptive survey design, sampling undergraduate students across multiple institutions using stratified random sampling. Data were collected via structured questionnaires measuring exposure to AI-based assessment tools, learning experiences, and academic outcomes. Analysis using mean scores and standard deviations revealed that Intelligent Tutoring Systems and adaptive assessments significantly enhanced students' understanding of complex concepts, retention rates, and examination performance compared to traditional instruction.

Dappa-Wilcox and Wodi (2025) examined the application of artificial intelligence in teaching and research for achieving educational goals. The study adopted a cross-sectional survey design, targeting academic staff across public universities in Rivers State. A structured questionnaire assessed the use of AI tools in lesson preparation, research, and administrative tasks. Data were analysed using descriptive and inferential statistics, demonstrating that AI adoption improved instructional delivery, research productivity, and goal attainment in staff development programmes.

Barango-Tariah et al. (2025) explored AI's role in quality service delivery in Rivers State universities. Using a mixed-methods approach, the study combined surveys of academic and administrative staff with semi-structured interviews to identify AI applications, benefits, and challenges. Quantitative data were analysed with means and percentages, while qualitative data were thematically analysed. Findings indicated that AI improved administrative efficiency and

academic service delivery but highlighted infrastructural limitations and skill gaps as key barriers.

Methodology

This study adopted a descriptive research design to examine the integration of artificial intelligence tools in academic staff development programmes for goal achievement in public universities in Rivers State. The design was chosen because it enables the investigation of relationships between variables without manipulation. The population comprised 3,787 teaching staff from three public universities, including one federal and two state institutions. A 10% sample was drawn proportionally from each university, and respondents were randomly selected across faculties and administrative levels to enhance representativeness and minimise bias. Data were collected using a structured questionnaire titled Integration of Artificial Intelligence Tools in Academic Staff Development Programmes for Goal Achievement Questionnaire (IAITASDPQ). Section A captured demographic information (age, gender, faculty, and administrative level), while Section B measured the extent to which AI dimensions influenced academic performance, using a four-point Likert scale; Strongly Agree (4), Agree (3), Disagree (2) and Strongly Disagree (1). The questionnaire's validity was confirmed through expert review, and reliability was established with Cronbach's Alpha ($\alpha = 0.76$), indicating high internal consistency. A total of 379 questionnaires were distributed, of which 320 (84.4%) were retrieved, found valid, and analysed. Research questions were addressed using mean and standard deviation, while hypotheses were tested with Independent t-tests at a 0.05 significance level. Data analysis was conducted using SPSS Version 27.0 to determine the strength and direction of relationships between AI dimensions and staff development outcomes.

Answers to Research Questions

Research Questions 1: What artificial intelligence tools are available for integration into academic staff development programmes for goal achievement in public universities in Rivers State?

Table 1: Descriptive statistics of mean scores and standard deviation of male and female respondents on the AI tools available for integration into staff development programmes.

S/N	Statement	Mean1	SD1	Mean2	SD2	Mean Set	Decision
1	Generative AI (ChatGPT, Claude)	2.840	0.460	2.910	0.440	2.88	Agreed
2	AI-powered writing/language tools	2.730	0.420	2.790	0.410	2.76	Agreed
3	Speech recognition/transcription tools	2.650	0.430	2.730	0.450	2.69	Agreed
4	Adaptive learning platforms (AI LMS)	2.700	0.400	2.720	0.420	2.71	Agreed
5	AI research discovery tools	2.810	0.420	2.830	0.440	2.82	Agreed
	Grand Mean	2.746		2.796		2.77	Agreed

Analysis revealed that academic staff widely recognize several AI tools as suitable for integration into development programmes. Generative AI platforms such as ChatGPT and Claude, AI-powered writing assistants, speech recognition systems, adaptive learning platforms, and research discovery tools all received positive ratings. The grand mean of 2.77 indicates general agreement on availability and relevance. These tools provide opportunities for improving teaching efficiency, research productivity, and administrative support. Overall, respondents agreed that incorporating these AI technologies into staff development programmes can facilitate goal achievement and professional growth within public universities in Rivers State.

Research Question 2: How do artificial intelligence tools impact the effectiveness of academic staff development programmes in achieving institutional goals in public universities in Rivers State?

Table 2: Descriptive statistics of mean scores and standard deviation of male and female respondents on the Impact of AI tools on staff development effectiveness

S/N	Statement	Mean1	SD1	Mean2	SD2	Mean Set	Decision
6	AI-enabled content generation	2.820	0.450	2.860	0.470	2.84	Agreed
7	AI-driven feedback systems	2.770	0.420	2.810	0.440	2.79	Agreed
8	Adaptive learning platforms	2.690	0.410	2.730	0.430	2.71	Agreed
9	Research discovery tools	2.660	0.430	2.700	0.450	2.68	Agreed
10	AI-powered administrative applications	2.720	0.400	2.740	0.420	2.73	Agreed
Grand Mean		2.732		2.748		2.75	Agreed

Descriptive analysis indicated that AI tools substantially enhance the effectiveness of staff development programmes. Respondents reported that AI-enabled content generation improves lecture preparation, AI-driven feedback systems enhance teaching quality, and adaptive learning platforms foster skill acquisition. Research discovery tools were seen to increase productivity, while AI-powered administrative applications improved workflow efficiency. The grand mean of 2.75 demonstrates general agreement that these tools positively influence institutional goal achievement. Overall, the integration of AI technologies supports instructional quality, research output, and professional competence, reinforcing their role as critical enablers in the development of academic staff in public universities.

Research Question 3: What challenges are associated with integrating artificial intelligence tools into academic staff development programmes for goal achievement in public universities in Rivers State?

Table 3: Descriptive statistics of mean scores and standard deviation of male and female respondents on the Challenges associated with integrating AI tools

S/N	Statement	Mean1	SD1	Mean2	SD2	Mean Set	Decision
11	Inadequate digital infrastructure	2.700	0.420	2.720	0.430	2.71	Agreed
12	Low AI literacy/resistance to change	2.660	0.410	2.700	0.450	2.68	Agreed
13	High cost of AI tools/software licensing	2.640	0.400	2.680	0.420	2.66	Agreed
14	Ethical and data privacy concerns	2.610	0.390	2.630	0.410	2.62	Agreed
15	Lack of institutional support/training	2.640	0.410	2.660	0.430	2.65	Agreed
Grand Mean		2.650		2.678		2.66	Agreed

Findings indicate several challenges in integrating AI tools into staff development programmes. Respondents identified inadequate digital infrastructure, low AI literacy, resistance to change, high software costs, ethical and data privacy concerns, and lack of institutional support or training as significant barriers. The grand mean of 2.66 shows general agreement that these factors hinder effective AI adoption. Addressing these challenges through policy support, infrastructure improvement, staff training, and budget allocation is critical. Without mitigating these obstacles, the potential benefits of AI integration in enhancing instructional quality, research productivity, and professional development may not be fully realised in public universities.

Test of Hypothesis

Hypothesis 1: There is no significant difference between the mean ratings of male and female academic staff on the impact of artificial intelligence tools on the effectiveness of academic staff development programmes for achieving institutional goals in public universities in Rivers State.

Status	N	$\bar{X}$	SD	Df	t-cal	t-tab	P-value	Decision
Male Academic Staff	209	2.84	0.42	320	1.12	1.96	0.26	Accept Ho
Female Academic Staff	111	2.79	0.44					

The independent sample t-test was conducted to examine differences between male and female academic staff in their ratings of AI tools' impact on staff development effectiveness. Male respondents had a mean of 2.84 (SD = 0.42) and females 2.79 (SD = 0.44). The calculated t-value ($t = 1.12$) was less than the critical t-value ($t\text{-tab} = 1.96$) at a 0.05 significance level, with a p-value of 0.26. This indicates no statistically significant difference between male and female perceptions. Therefore, the null hypothesis is accepted, showing that gender does not influence how AI tools are perceived in enhancing staff development effectiveness.

Discussion of Finding

Impact of artificial intelligence tools on the effectiveness of academic staff development programmes for achieving institutional goals

The study revealed that artificial intelligence (AI) tools are widely recognized as effective for enhancing academic staff development in public universities in Rivers State. Respondents indicated that generative AI, adaptive learning platforms, research discovery tools, and AI-powered administrative systems contribute positively to teaching efficiency, research productivity, and professional competence. The results also showed no significant gender differences in perceptions of AI's effectiveness, suggesting that both male and female staff equally recognize the benefits of AI in achieving institutional goals. These findings align with Zawacki-Richter et al. (2019), who reported that AI applications in higher education improve instructional quality and learning outcomes across faculty. Similarly, Luckin et al. (2016) found that AI-enhanced learning platforms increase engagement and skill acquisition among educators, supporting the study's conclusion that AI facilitates goal-oriented staff development. However, some studies highlight challenges, such as low AI literacy and resistance to adoption. For example, Crompton & Burke (2018) argued that limited digital infrastructure and insufficient training can hinder the effective integration of AI tools in higher education. This contrast underscores the importance of institutional support, policy frameworks, and training to maximize the benefits of AI in staff development. Overall, AI presents a valuable mechanism for improving professional growth and institutional performance when challenges are mitigated.

Conclusion

The study concludes that integrating artificial intelligence (AI) tools into academic staff development programmes in public universities in Rivers State is both relevant and beneficial. AI technologies, including generative platforms, adaptive learning systems, and research discovery tools, provide mechanisms that support professional growth, enhance teaching efficiency, improve research productivity, and streamline administrative processes. The study further indicates that male and female academic staff perceive the benefits of AI similarly, demonstrating broad acceptance across gender. Despite recognized challenges, such as infrastructure limitations, skill gaps, and ethical considerations, the overall consensus underscores the value of AI as a strategic instrument for achieving institutional goals. Consequently, deliberate incorporation of AI into staff development initiatives, accompanied by appropriate training, policy support, and resource allocation, can significantly strengthen academic competence and institutional performance. The study affirms that AI integration

represents a critical pathway for modernizing higher education and fostering goal-oriented staff development in Rivers State.

Recommendations

Based on the findings, the following recommendations were made:

1. Universities should invest in accessible AI tools and integrate them into staff development programmes to enhance teaching and research outcomes.
2. Institutions should promote AI usage in training, feedback, and research processes to maximize academic staff competence and institutional goal achievement.
3. Universities must improve digital infrastructure, provide AI training, and develop policies addressing cost, ethics, and resistance to ensure successful adoption.

References

- Aboalshamat, K. T. (2022). Perception and utilisation of artificial intelligence (AI) among dental professionals in Saudi Arabia. *The Open Dentistry Journal*, 16(1).
- Abubakar, U., Falade, A. A., & Ibrahim, H. A. (2024). Redefining student assessment in Nigerian tertiary institutions: The impact of AI technologies on academic performance and developing countermeasures. *Advances in Mobile Learning Educational Research*, 4(2), 1149-1159.
- Ajakaiye, O. O., Adekeye, E. T., Omole, F., Adegbola, G., Ariyo, D., & Ojeka-John, R. O. (2025). Use of Artificial Intelligence (AI) and Perceived Influence on Academic Achievement among Undergraduates in Kwara State. *NIPES-JSTR ISSUE*, 7(1), 1881-1887.
- Ali, M. Y., Naeem, S. B., & Bhatti, R. (2025). Artificial Intelligence (AI) applications and usage among the LIS professionals of Pakistan. *Journal of Librarianship and Information Science*, 57(3), 787-800.
- Al-Zyoud, H. M. M. (2020). The role of artificial intelligence in teacher professional development. *Universal Journal of Educational Research*, 8(11B), 6263-6272.
- Aregbesola, B. G., & Hur-Yagba, N. C. (2025). Understanding Nigerian public universities' capacity for AI adaptation in science education research. *Spanish Journal of Innovation and Integrity*, 45, 1-15.
- Ayaz, A., & Yanartaş, M. (2020). An analysis of the unified theory of acceptance and use of technology theory (UTAUT): Acceptance of electronic document management system (EDMS). *Computers in Human Behaviour Reports*, 2, 100032.

- Barango-Tariah, I. H., Ibekwe, I. T., & Wokoma, M. (2025). Artificial intelligence and quality service delivery in Rivers State-owned universities for sustainable national development. *International Journal of Educational Management, Rivers State University*, 1(2), 422-435.
- Catalina, Q. M., Fuster-Casanovas, A., Vidal-Alaball, J., Escalé-Besa, A., Marin-Gomez, F. X., Femenia, J., & Solé-Casals, J. (2023). Knowledge and perception of primary care healthcare professionals on the use of artificial intelligence as a healthcare tool. *Digital Health*, 9, <http://doi.20552076231180511>.
- Dappa-Wilcox, H., & Wodi, J. C. (2025). Application of artificial intelligence in teaching and research for educational goals attainment in public universities in Rivers State. *International Journal of Educational Management, Rivers State University*, 1(2), 386-397.
- Dike, C., & Williams, E. D. (2025). Artificial intelligence: A paradigm shift in education and management of public senior secondary schools in Rivers State. *International Journal of Educational Management, Rivers State University*, 1(1), 288-300.
- Federal Republic of Nigeria (FRN) (2014). *National Policy of Education*. NERDC.
- Idika, D. O., Arikpo, E. B., Ekpo, E. E., Idika, C. I., & Okeke, S. U. (2025). Assessment of lecturers' awareness and utilization of ai tools for effective teaching of research methods in the University of Calabar, Nigeria. *Global Journal of Pure and Applied Sciences*, 31(2), 323-341.
- Marikyan, D., & Papagiannidis, S. (2025). Unified theory of acceptance and use of technology: A review. In S. Papagiannidis (Ed.), *Theory Hub Book*. <https://open.ncl.ac.uk>
- Ngonso, B., Egielewa, P., Egenti, G., Uduehi, I., Sunny-Duke, F., Ukhurebor, K., ... & Osemengbe, U. (2025). Influence of artificial intelligence on educational performance of Nigerian students in tertiary institutions in Nigeria. *Journal of Infrastructure, Policy and Development*, 9(1), 9949.
- Njoku, C., & Wey-Amaewhule, B. (2025). Integration of Artificial Intelligence (A1) driven assessment tools on the academic performance of students in public universities in Rivers State. *International Journal of Educational Management, Rivers State University*, 1(1), 1-16.
- Nnanna-Ohuonu, O. (2025). The impact of artificial intelligence tools on academic performance in marketing education: evidence from universities in South-East Nigeria. *Multidisciplinary Journal of Law, Education and Humanities*, 2(2), 89-100.
- Nwisagbo, A. E., Uriri, C., & Sam-Leeloo, T. A. (2025). Artificial intelligence and programme accreditation in the Nigerian university system. *International Journal of Economy and Innovation*, 59, 225-236.
- Offor, U. I., Nwaru, P., & Offiah, C. (2024). Challenges of the use of artificial intelligence on academic performance of undergraduate students in public universities in Anambra State. *African Journal of Educational Management, Teaching and Entrepreneurship Studies*, 12(2), 176-190.

- Ololube, N. P. (2014). Managing and planning technology usage and integration in teacher education programs in an emergent nation. In *Effects of information capitalism and globalisation on teaching and learning* (pp. 96-110). IGI Global Scientific Publishing.
- Oluwagbenro, M. B. (2024). Revolutionising higher education: Integrating AI and machine learning in Nigeria's State universities. *TechRxiv*.
- Omodu, N. S. (2025). Utilisation of artificial intelligence in staff mentoring and teaching effectiveness in public universities in Rivers State, Nigeria. *International Journal of Educational Management, Rivers State University*, 1(1), 142-160.
- Oyeyemi, A. A., Okoye, A. T., Okenwa-Fadele, I., & Abiakwu, F. O. (2024). Perceived effect of artificial intelligence tools on the academic performance of students in public universities in Anambra State. *International Journal of Innovative Research and Advanced Studies*, 11(2).
- Russell, R. G., Lovett Novak, L., Patel, M., Garvey, K. V., Craig, K. J. T., Jackson, G. P., ... & Miller, B. M. (2023). Competencies for the use of artificial intelligence-based tools by health care professionals. *Academic Medicine*, 98(3), 348-356.
- Sağın, F. G., Özkaya, A. B., Tengiz, F., Geyik, Ö. G., & Geyik, C. (2024). Current evaluation and recommendations for the use of artificial intelligence tools in education. *Turkish Journal of Biochemistry*, 48(6), 620-625.
- Schmidt, D. A., AlBloushi, B., Thomas, A., & Magalhaes, R. (2025). Integrating artificial intelligence in higher education: Perceptions, challenges, and strategies for academic innovation. *Computers and Education Open*, 100274.
- Siddiq, A. (2023, December). Utilization of Artificial Intelligence (AI) technology in the development of learning tools. In *Proceedings of the 2nd Annual Conference of Islamic Education 2023 (ACIE 2023)* (Vol. 809, p. 64). Springer Nature.
- Taiwo, A. A., & Downe, A. G. (2013). The theory of user acceptance and use of technology (UTAUT): A meta-analytic review of empirical findings. *Journal of Theoretical & Applied Information Technology*, 49(1), 56-64.
- Ugwoke, M. E., Eloanyi, B. C., Eziokwu, P. N., & Eneze, B. N. (2025). Application of artificial intelligence in assessment of academic achievement of students of Private Universities in the South East Zone of Nigeria. *International Journal of Multidisciplinary Research and Analysis*, 8(4), 1778-1785.
- Ukala, C. C., & Iheukwumere, O. C. (2025). Integrating artificial intelligence (AI) in technical and vocational education and training in public (TVET) institutions in Abia State, Nigeria: Bridging skills gaps for the future workforce. *International Journal of Scientific Research in Education*, 18(1), 35-43.
- Ukozor, C. U. (2025). Artificial intelligence, academic staff job performance and students' academic performance in universities in Nigeria. *Maulana*, 1(1), 21-28.
- Xue, L., Rashid, A. M., & Ouyang, S. (2024). The Unified Theory of Acceptance and Use of Technology (UTAUT) in higher education: A systematic review. *SAGE Open*, 14(1). <https://doi.org/10.1177/21582440241229570>