Chatgpt in University Pedagogy: Lecturers' Adoption, Pedagogical Value, and Implications for Students' Critical Thinking in Southeast Nigeria

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ABSTRACT

The integration of Artificial Intelligence (AI) in higher education presents both opportunities and challenges for teaching practices. This study examines the pedagogical implications of ChatGPT adoption among lecturers in Southeast Nigerian universities, focusing on reliance, complementarity with traditional teaching, and perceived professional impacts. Guided by Uses and Gratifications Theory and Technological Determinism, a mixed-methods approach was employed, combining surveys of 370 lecturers with in-depth interviews of 24 purposively selected participants. Quantitative findings indicate high awareness and moderate reliance on ChatGPT, particularly for content generation and time efficiency. Lecturers perceive ChatGPT as enhancing teaching by simplifying complex concepts, fostering engagement, and providing instant feedback, without undermining instructional authority. Concerns regarding job security were minimal, supported by regression results showing no significant predictive relationship between ChatGPT use and perceived insecurity. Qualitative insights underscore lecturers' emphasis on professional judgment, classroom interaction, and mentorship, areas beyond AI's capacity. However, lecturers expressed concern over potential student over-reliance, which could impede critical thinking and independent problem-solving. The study concludes that ChatGPT functions as a pedagogical support tool, augmenting teaching efficiency while preserving lecturers' instructional control. Recommendations include developing institutional AI-use guidelines, integrating AI literacy into curricula, and designing assessment methods that encourage reflection and originality. This research contributes empirical evidence from a Global South context, reframing the discourse on AI adoption in higher education from labor displacement to cognitive and pedagogical enhancement.

Keywords: ChatGPT, Artificial Intelligence, Higher Education, Pedagogy, Lecturer Perceptions, Job Security, Southeast Nigeria

INTRODUCTION

In an increasingly interconnected world, the notion of a *global village*—first articulated by Canadian media theorist Marshall McLuhan—captures how advances in communication technologies bring distant communities into closer social and informational proximity. McLuhan argued that electronic media collapse spatial boundaries and create a shared global space of interaction and understanding, reshaping how knowledge circulates and is constructed across cultural and geographic divides.

In the past decade, the educational sector has been transformed by the rapid evolution of Artificial Intelligence (AI). Among the most influential of these technological innovations are *large language models (LLMs)*—AI systems trained on massive datasets to interpret and generate human-like text. A leading example is ChatGPT (Chat Generative Pre-trained Transformer), an AI tool developed by OpenAI that gained global attention

following its public release in late 2022. These models employ the GPT architecture to generate contextually relevant responses, making them valuable for a range of tasks, from drafting text to answering complex questions.

ChatGPT's integration into higher education has been rapid and widespread. Its capacity to produce instructional materials, generate learning prompts, and engage learners in interactive dialogue offers opportunities for personalised learning, continuous feedback, and educator support. Systematic reviews of ChatGPT in education highlight its potential to enhance the teaching–learning process, provided educators are adequately trained to use it effectively. Furthermore, research on AI in education suggests that such tools can automate content generation, support assessment practices, and offer real-time assistance to learners.

However, alongside these pedagogical benefits, there are concerns about the impact of ChatGPT on students' critical thinking abilities. Some scholars note that while AI can democratise access to information and reinforce learner autonomy, unchecked reliance on generative AI may reduce deep cognitive engagement and independent problem-solving. This duality—between enhanced accessibility and potential cognitive shortcuts—raises important questions about how lecturers adopt and integrate AI in ways that sustain intellectual rigor without undermining core academic goals.

In the context of Southeast Nigeria, where resource constraints and pedagogical challenges are well documented, the adoption of AI tools like ChatGPT carries both promise and complexity. Investigating how lecturers perceive and use ChatGPT, and understanding the implications for student learning and critical thinking, is essential for shaping effective educational strategies that balance innovation with academic integrity.

Artificial intelligence (AI) has increasingly transformed educational practices worldwide, with higher education institutions adopting digital tools to improve efficiency, engagement, and learning outcomes. Among recent innovations, ChatGPT has gained prominence due to its capacity to generate human-like text, assist in instructional material development, and support academic interactions. While these affordances present significant opportunities, they also raise concerns regarding the displacement of academic labour and the erosion of students' critical thinking skills.

In the Nigerian higher education context—characterised by large class sizes, limited instructional resources, and heavy academic workloads—ChatGPT presents both promise and challenge. This study therefore investigates lecturers' engagement with ChatGPT in Southeast Nigerian universities, focusing on reliance, pedagogical complementarity, and perceived job security implications.

Statement of the Problem

The integration of Artificial Intelligence (AI) tools, particularly ChatGPT, into higher education has introduced both opportunities and challenges for university teaching in Southeast Nigeria. While AI technologies have the potential to enhance content delivery, personalise learning experiences, and support interactive teaching, their rapid adoption raises critical questions about how lecturers engage with these tools and the implications for their professional roles.

In the Nigerian university context, limited research exists on the extent to which lecturers rely on ChatGPT for pedagogical purposes, how they perceive its value in complementing traditional teaching methods, and the degree to which it may influence their job security. Concerns have emerged that while AI can streamline instructional practices and provide immediate access to teaching resources, excessive reliance may inadvertently diminish lecturers' creativity, autonomy, and students' critical thinking development. At the same time, the transformative capabilities of ChatGPT present an opportunity for educators to rethink pedagogical strategies and leverage technology to improve teaching effectiveness.

Given this duality, there is a pressing need to examine lecturers' adoption patterns, perceptions of pedagogical value, and concerns regarding professional roles in the context of ChatGPT use. Understanding these dynamics

is essential to ensure that AI integration strengthens the quality of teaching and learning while safeguarding the professional interests of educators and fostering the critical thinking abilities of students.

Objectives of the Study

The general objective of this study is to examine the pedagogical implications of ChatGPT adoption in university teaching in Southeast Nigeria.

The specific objectives are to:

1. Determine the extent to which lecturers rely on ChatGPT for content creation and pedagogical practices.
2. Examine lecturers' perceptions of ChatGPT as a complement to traditional teaching methods.
3. Explore lecturers' perceptions of the potential impact of ChatGPT on job security and professional roles.

Research Questions

The study is guided by the following research questions:

1. To what extent do lecturers rely on ChatGPT for content creation and pedagogical practices?
2. How can ChatGPT complement traditional teaching methods to enhance teaching and learning?
3. How do lecturers perceive the potential impact of ChatGPT on their job security and professional roles?

Theoretical Framework

This study is anchored on Uses and Gratifications Theory (UGT) and Technological Determinism Theory, which together provide a robust lens for examining the adoption and pedagogical implications of ChatGPT in university teaching. A theory offers a systematic perspective for understanding phenomena and guides research objectives (Owuamalam, 2010).

Uses and Gratifications Theory (UGT), developed by Blumler and Katz (1974), posits that users actively select media to satisfy specific needs, including cognitive, affective, and social integrative needs. In education, UGT explains why lecturers and students adopt ChatGPT: lecturers use it to enhance instructional efficiency, generate content, and support professional development, while students rely on it for instant learning support, personalized guidance, and problem-solving. By emphasizing active engagement, UGT suggests that ChatGPT can enhance learning experiences, facilitate critical thinking, and reinforce educators' professional competence (Ruggiero, 2000; Sundar & Limperos, 2013).

Technological Determinism Theory asserts that technology is a driving force shaping social structures, behaviours, and cultural norms (Smith & Marx, 1994; McLuhan, 1964). Applied to ChatGPT, this theory highlights how AI tools can influence pedagogical methods, student cognition, and educator roles. ChatGPT's capabilities—such as providing tailored instructional support and instant access to information—can transform traditional teaching dynamics, promote equitable learning, and redefine curriculum delivery (Carr, 2020; Luckin et al., 2021). Technological Determinism frames ChatGPT not merely as a supplementary tool but as a transformative force capable of reshaping educational structures and student engagement.

Together, UGT and Technological Determinism provide complementary perspectives: UGT focuses on user motivations and need satisfaction, while Technological Determinism emphasizes how ChatGPT as a technological force shapes pedagogical practices, curriculum design, and learning outcomes in Southeast Nigerian universities. This combined framework enables a nuanced understanding of both the opportunities and challenges presented by AI integration in higher education.

RESEARCH METHODOLOGY

Research Design

This study employed a mixed-method research design, integrating surveys and in-depth interviews to examine the pedagogical implications of ChatGPT adoption among university lecturers in Southeast Nigeria. The mixed-method approach allowed the triangulation of quantitative and qualitative data, providing both breadth and depth in understanding lecturers' usage patterns, perceptions, and experiences with AI tools (Creswell, 2022; Flick, 2018). Surveys captured general patterns of adoption, while interviews offered contextual insights into challenges, benefits, and professional implications.

Area of Study

The research focused on eight universities across four Southeast states—Anambra, Enugu, Abia, and Imo—comprising a mix of federal and state institutions. These universities were selected for their academic prominence and likely engagement with AI tools, ensuring representation of diverse institutional and technological contexts.

Population and Sample Size

The population consisted of 10,616 lecturers across the eight selected universities (Personnel Units, 2024). Faculties were purposively chosen based on their potential use of AI in teaching, including Education, Engineering, Social Sciences, Medicine, and Health Sciences. Using Dusick's (2014) sample size formula with a 95% confidence level and 5% margin of error, a sample of 370 lecturers was determined.

Sampling Procedure

A multistage sampling approach was adopted:

1. Purposive sampling to select universities and relevant faculties likely to interact with ChatGPT.
2. Cluster sampling to group universities by state, ensuring regional representation.
3. Proportional random sampling within faculties to allocate respondents according to population size.
4. Accidental sampling during questionnaire administration ensured each cluster achieved the required sample size.

Instruments of Data Collection

Data were collected using a structured questionnaire and an interview guide. The questionnaire addressed demographic information and lecturers' perceptions of ChatGPT's pedagogical relevance, while 24 lecturers were purposively interviewed to provide deeper insights into AI usage, challenges, and impacts on professional roles and teaching practices.

Validity and Reliability

Validity was ensured through content, construct, and face validity, with expert review confirming alignment of instruments with the study objectives. Reliability was established via a pilot study involving 10 lecturers, yielding a Cronbach's Alpha of 0.86, indicating high internal consistency. Triangulation with interview findings further enhanced reliability.

Data Analysis

Quantitative data were analyzed using SPSS v20, employing descriptive statistics (frequencies, percentages, means, SDs) to summarize lecturers' characteristics and perceptions. Multiple regression analysis and ANOVA tested relationships between ChatGPT usage and outcomes such as perceived job security and teaching efficiency. Qualitative interview data underwent thematic analysis, focusing on two main themes: ChatGPT and lecturer job security, and ChatGPT and pedagogical adaptation. The integration of both data types provided a comprehensive understanding of lecturers' experiences with AI tools in higher education.

RESULT

Analysis of Research Questions

Research Question 1

To what extent do lecturers rely on ChatGPT for content creation and pedagogical practices?

Table 1.0: Extent to which Lecturers Rely on ChatGPT

Statement	Mean	SD	Decision
I am aware of ChatGPT AI tool	3.68	0.562	Accept
I frequently use ChatGPT to generate teaching materials	2.63	0.915	Accept
ChatGPT helps me save time in preparing course materials	2.76	0.869	Accept
I rely on ChatGPT to assist in designing lesson plans	2.46	0.862	Reject
Using ChatGPT enhances lecture quality	2.63	0.855	Accept
Average Mean Score	2.83		Accept

The results indicate high awareness and moderate reliance on ChatGPT, particularly for time-saving and content generation.

Table 1.1: One-Sample T-Test Analysis

Metric	Value
Test Value	2.5
Mean Difference	0.334
t-value	85.896
df	373
Sig. (2-tailed)	.000
95% CI	[2.77, 2.89]

The result confirms that lecturers' reliance on ChatGPT is significantly higher than the neutral benchmark.

Research Question 2

How can ChatGPT complement traditional teaching methods?

Table 2: ChatGPT and Traditional Teaching Methods

Item	Mean	SD	Decision
Enhances teaching materials	2.70	0.839	Accept
Shifts focus to engagement	2.58	0.853	Accept
Simplifies complex concepts	2.99	0.731	Accept
Offers instant feedback	2.90	0.770	Accept
Composite Mean	2.79	0.588	Accept

Table 2.1 One-Sample T-Test

T	df	Sig.	Mean Diff.	95% CI
93.144	384	.000	2.79286	2.7339–2.8518

This confirms strong agreement that ChatGPT complements traditional pedagogy.

Research Question 3

How do lecturers perceive ChatGPT's impact on job security?

Table 3: Lecturer Perception of ChatGPT on Job Security

Statement	Mean	SD	Decision
ChatGPT can replace lecturers	2.15	0.875	Reject
Reduces lecturer importance	2.11	0.844	Reject
Threatens job security	2.04	0.822	Reject
May cause future insecurity	2.17	0.843	Reject
Composite Mean	2.11	0.660	Reject

Table 4: One-Sample T-Test Result

T	df	Sig.	Mean Diff.	95% CI
62.135	376	.000	2.11406	2.0472–2.1810

Hypothesis Testing

Test of Hypothesis

H_0: ChatGPT use does not significantly increase lecturers' perception of job insecurity.

Table 5: Regression Analysis of ChatGPT Use and Job Insecurity

Statistic	Value
R	.059
R^2	.003
F	1.278
Sig.	.259

The regression result shows no significant predictive relationship between ChatGPT usage and perceived job insecurity ($p > .05$). The null hypothesis is therefore retained.

Findings show a weak negative, non-significant relationship between ChatGPT usage and job insecurity ($R = .059$, $p = .259$). The null hypothesis is therefore retained.

Qualitative Analysis of Lecturers' Perceptions of ChatGPT

To complement the quantitative findings, in-depth interviews were conducted with twenty-four lecturers across Federal and State universities in Southeast Nigeria. The interviews provided nuanced insights into how lecturers perceive ChatGPT, beyond numerical indicators.

Theme One: ChatGPT as a Pedagogical Support Tool

Most lecturers described ChatGPT as a *support system* rather than a substitute for teaching. A senior lecturer from a federal university noted:

"ChatGPT helps me structure my thoughts quickly, especially when I am overwhelmed with scripts and lectures. But it does not replace my voice or judgment in the classroom."

This perception reinforces the quantitative finding that lecturers rely on ChatGPT primarily for content support and efficiency, not instructional authority.

Theme Two: Professional Control and Human Judgment

Lecturers consistently emphasised that teaching involves contextual judgment, emotional intelligence, and classroom interaction—elements ChatGPT cannot replicate.

"Teaching is not just about giving answers. It is about reading faces, adjusting explanations, and mentoring students. AI cannot do that."

This aligns with existing scholarship which argues that AI tools function best as cognitive scaffolds, not autonomous educators (Luckin et al., 2016).

Theme Three: Anxiety over Student Dependence, Not Job Loss

Interestingly, lecturers expressed stronger concern about students' intellectual habits than about their own job security.

"My fear is not losing my job; my fear is losing students' ability to think for themselves."

This concern directly links lecturers' perceptions to debates on cognitive offloading and automation bias in education (Carr, 2010; Salomon, 1990).

DISCUSSION OF FINDINGS

This section integrates quantitative and qualitative findings and situates them within existing scholarly literature.

Lecturers' Reliance on ChatGPT (Research Question 1)

The study found a moderate-to-high level of reliance on ChatGPT among lecturers (Mean = 2.83), particularly for content generation and time-saving. This finding aligns with international studies indicating that AI tools are increasingly used to reduce academic workload and enhance efficiency (Kasneci et al., 2023; Zhai, 2022).

However, the rejection of reliance on ChatGPT for full lesson planning suggests that lecturers maintain pedagogical control, consistent with the technology-as-assistant model proposed by Selwyn (2019).

In the Nigerian context—where lecturers manage large class sizes and limited institutional support—ChatGPT appears to function as a *pragmatic coping tool*, not a pedagogical shortcut.

ChatGPT as a Complement to Traditional Teaching (Research Question 2)

Findings show strong agreement that ChatGPT complements traditional teaching methods (Composite Mean = 2.79). Lecturers acknowledged its usefulness in simplifying complex concepts, generating illustrative examples, and facilitating engagement.

This supports constructivist learning perspectives, which argue that technology enhances learning when it supports interaction and meaning-making rather than replacing instruction (Vygotsky, 1978; Jonassen, 1999).

Similar findings have been reported by Mollick and Mollick (2023), who argue that generative AI enhances learning outcomes when used as a guided instructional aid.

Perception of Job Security and Professional Roles (Research Question 3)

Contrary to popular media narratives, lecturers overwhelmingly rejected the notion that ChatGPT threatens their job security (Composite Mean = 2.11). Regression analysis further confirmed that ChatGPT usage does not significantly predict job insecurity.

This aligns with Frey and Osborne's (2017) argument that professions involving creativity, social intelligence, and contextual reasoning are less vulnerable to automation.

The qualitative data further reinforce this position: lecturers perceive AI as extending professional capacity, not undermining it.

Emerging Concern: Students' Critical Thinking

Although not the primary focus of the lecturers' survey, concerns about students' over-reliance on ChatGPT emerged strongly. Lecturers fear that unchecked use could weaken independent reasoning, echoing earlier concerns raised about calculators, search engines, and digital automation (Carr, 2010; Salomon, 1990).

This finding underscores the need for pedagogical regulation, not technological rejection.

CONCLUSION

This study demonstrates that ChatGPT is increasingly integrated into university teaching practices in Southeast Nigeria, with lecturers adopting it as a supportive pedagogical tool rather than a replacement for traditional teaching. Lecturers exhibit high awareness, moderate reliance, and strong confidence in their professional relevance despite AI advancements.

The study concludes that the real pedagogical challenge lies not in lecturers' displacement, but in students' cognitive engagement. Without guided use, ChatGPT risks encouraging surface learning and intellectual dependency.

RECOMMENDATIONS

Based on the findings, the study recommends that:

1. Universities develop AI-use guidelines for teaching and learning.
2. Lecturers incorporate AI literacy and critical evaluation tasks into coursework.
3. Assessment methods emphasise process, reflection, and originality, not just output.
4. Continuous professional development programmes be organised to help lecturers integrate AI responsibly.

Contribution to Knowledge

This study contributes empirical evidence from a Global South context, demonstrating that AI adoption in higher education does not automatically translate into job insecurity. It also reframes the AI debate from *labour displacement* to *cognitive development*.

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