EMPOWERING EDUCATORS: THE ROLE OF SELF-EFFICACY IN ICT UTILIZATION AMONG LECTURERS IN COLLEGES OF EDUCATION IN KADUNA STATE

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Keywords

Self-efficacy, ICT utilization, lecturers, Colleges of Education, Kaduna State, Social Cognitive Theory, digital pedagogy

Abstract

Research Problem: *Despite national efforts to promote digital integration, the utilization of Information and Communication Technologies (ICT) in Nigerian Colleges of Education remains limited. Many lecturers recognize ICT's potential for improving teaching and learning, yet low self-efficacy continues to hinder its consistent use. This study investigates how lecturers' self-efficacy influences ICT utilization in Colleges of Education in Kaduna State.*

Methods/Theory: *Anchored on Bandura's Social Cognitive Theory, the study employed a quantitative survey design. Data were collected from 274 lecturers selected through proportionate stratified random sampling. A structured questionnaire measured self-efficacy and ICT utilization with strong reliability ($\alpha = 0.91$ and $\alpha = 0.87$, respectively). Data were analyzed using descriptive statistics, correlation, and regression with SPSS version 23, at a 0.05 significance level.*

Results: *Findings showed that lecturers had moderately high self-efficacy ($M = 3.89$) but only moderate ICT utilization ($M = 3.25$). Self-efficacy was positively and significantly related to ICT utilization ($r = 0.71$, $p < 0.001$) and explained 50% of the variance in utilization. Lecturers with higher qualifications demonstrated greater self-efficacy and more frequent ICT use.*

Conclusion: *Self-efficacy serves as both a catalyst and a barrier to ICT utilization, as confidence does not always translate into consistent practice without institutional support.*

Key Contribution to Knowledge: *The study extends Social Cognitive Theory by confirming self-efficacy as a key psychological driver of ICT integration in teacher education.*

Recommendation: *Colleges of Education should implement continuous, practice-oriented ICT training and provide supportive infrastructure and*

incentives to strengthen lecturers' self-efficacy and promote sustainable ICT utilization.

Introduction

The incorporation of Information and Communication Technologies (ICT) has emerged as a crucial catalyst for educational transformation globally in the digital era. Countries like Finland, the United States, and the United Kingdom have integrated ICT into curriculum delivery, teacher training, and assessment, facilitating flexible learning, enhancing student engagement, and promoting data-driven pedagogy (Fox et al, 2025). Likewise, Asian countries such Singapore, South Korea, and China have made substantial investments in digital infrastructure, workforce development, and innovative pedagogical models that integrate ICT as a fundamental element of 21st-century education (UNESCO, 2022). Emerging economies like India and Malaysia are enhancing ICT integration in teacher education programs to augment educators' ability to instruct in technologically enhanced learning contexts (Wang & Zhao, 2021). These global trends indicate a consensus that the use of ICT by educators is vital for providing relevant, effective, and future-oriented education.
Throughout Africa, the adoption of ICT has accelerated due to national policies, digital literacy initiatives, and capacity-building projects. Countries like Rwanda, Kenya, and South Africa have significantly advanced in incorporating ICT into education, especially in higher education (Peciuliauskiene et al., 2022). Nonetheless, despite policy progress, numerous African institutions nonetheless encounter low ICT utilisation in instructional delivery owing to infrastructural deficiencies, restricted access to technology, and insufficient training (Tadesse & Muluye, 2022). Significantly, research increasingly indicates that the utilisation of ICT tools is predominantly influenced by human factors, particularly the self-efficacy of lecturers, which pertains to their confidence in their capability to effectively employ ICT in instruction. Researchers worldwide now concur that technology alone does not enhance education; rather, educators must possess confidence, competence, and motivation to utilise it (Kozma, 2020). Nigeria has prioritised ICT integration in education via the National ICT Policy, the revised National Policy on Education (2020), and the ICT in Education Strategic Plan (Federal Ministry of Education, 2021). These rules underscore the necessity for digital proficiency among educators and the integration of technology in instruction, particularly within teacher training institutions (Zhang et al., 2023). Nonetheless, despite these initiatives, the utilisation of ICT in Nigerian higher education remains erratic and frequently inadequate (Adebayo & Bello, 2022). Although several universities and commercial institutions have embraced e-learning platforms, Colleges of Education, particularly in the northern area, persist in utilising conventional, lecture-centric pedagogy with limited technological integration (Olatokun & Ajagbe, 2021). Kaduna State, a prominent educational centre in Northern Nigeria, is home to both federal and state-operated Colleges of Education that train prospective teachers. These schools are anticipated to exemplify contemporary instructional methodologies; nonetheless, numerous lecturers infrequently utilise ICT in their regular pedagogy. This inconsistency prompts a vital inquiry: Why does ICT adoption remain minimal despite legislative endorsement, the availability of tools in certain instances, and escalating worldwide demands for digital transformation?

A crucial response resides in self-efficacy. Self-

efficacy denotes an individual's conviction in their ability to successfully execute a certain job (Bandura, 1997). In the realm of ICT, lecturers possessing high self-efficacy exhibit confidence in utilising technology, resolving issues, and incorporating ICT into their pedagogy; conversely, those with low self-efficacy frequently eschew ICT, regard it as challenging, and rely on conventional methods (Teo, 2021). Self-efficacy is a psychological construct that transcends mere talents. A lecturer may possess technical expertise yet still struggle to utilise ICT due to a deficiency in confidence (Šabić et al., 2022). In contrast, a lecturer with high self-efficacy is more inclined to explore, learn, and use technology, even with minimal abilities. Consequently, self-efficacy pertains not only to lecturers' knowledge but also to their beliefs on their capabilities (Ismail et al., 2021).

The scholarly discourse around ICT utilisation has progressively highlighted self-efficacy as a pivotal factor. Certain experts contend that the provision of equipment and training should inherently facilitate ICT adoption (Yusuf & Afolabi, 2021). Nevertheless, some argue that infrastructure alone is inadequate; without self-efficacy, efforts to integrate ICT are doomed to fail (Chigona, 2020). Empirical research repeatedly demonstrates that self-efficacy is a more robust predictor of ICT usage than age, qualifications, or years of experience (Lawrence & Tar, 2022). Instructors possessing elevated self-efficacy have a heightened propensity to use digital tools, adapt to emerging technology, and surmount obstacles. Conversely, lecturers with diminished self-efficacy frequently oppose technology adoption despite the availability of resources, driven by fear of failure, anxiety, or a deficit of confidence (Ertmer, 2020). This discussion underscores that self-efficacy serves as a barrier to ICT utilisation, rendering it a pivotal variable in comprehending technology acceptance inside educational institutions.

This study is motivated by the pressing necessity to reconcile ICT regulations with real classroom practices in Colleges of Education in Kaduna State. These institutions are tasked with educating future educators; yet, they face challenges due to the restricted utilisation of ICT by lecturers (Afari et al., 2023). Although infrastructure and training are crucial, increasing data indicates that psychological preparation, namely self-efficacy, may be the critical factor lacking. If educators lack confidence in their capacity to utilise ICT successfully, they will refrain from incorporating technology into their instruction, irrespective of institutional investment (Alahakoon & Somaratne, 2018). Enhancing self-efficacy can foster innovation, digital pedagogy, and elevate teacher quality. Furthermore, comprehending self-efficacy will assist policymakers in formulating more efficacious capacity-building initiatives that emphasise not just abilities but also the enhancement of confidence and motivation (Hori & Fujii, 2021).

Previous studies on ICT adoption in education have predominantly concentrated on factors such as access, training, and institutional support; however, few have investigated the psychological aspects influencing technology utilisation among lecturers in teacher education institutions. Most current research in Nigeria and other developing contexts regards self-efficacy as a secondary or ancillary component, rather than as the primary construct affecting ICT usage. Furthermore, previous research has focused on universities or secondary schools, resulting in a notable deficiency in the examination of Colleges of Education, which function as the essential training institutions for prospective educators. This study examines the topic from a unique perspective by identifying lecturers' self-efficacy as the principal explanatory variable influencing ICT utilisation in instructional practice, employing Social Cognitive Theory as the foundational framework. This research transcends infrastructural and policy-oriented explanations

to emphasise the psychological empowerment of educators as a vital element in closing the enduring divide between ICT awareness and its practical use. This emphasis not only enhances the theoretical discussion on ICT integration but also offers a novel empirical viewpoint on how bolstering lecturers' confidence might revolutionise digital teaching methodologies at Colleges of Education in Kaduna State.

1.2 Research Problem

Despite the global emphasis on integrating Information and Communication Technologies (ICT) in higher education, numerous instructors in Nigeria's Colleges of Education demonstrate minimal ICT utilisation, even with a broad awareness of its advantages. Prior research frequently ascribes this issue to external limitations, including deficient infrastructure, inadequate training, and insufficient institutional backing (Adebayo & Bello, 2022; Suleiman & Umar, 2022). Although these criteria are clearly significant, they do not entirely elucidate why certain lecturers actively utilise ICT despite inadequate facilities, and others with comparable resources refrain from doing so. This contradiction indicates that psychological elements, especially self-efficacy, may significantly influence ICT utilisation.

Nonetheless, empirical studies concentrating on lecturers' self-efficacy as a fundamental factor influencing ICT use in Nigeria's teacher education institutions are scarce. Most current research has focused on universities and secondary schools, overlooking Colleges of Education that prepare future educators and underpin the education system. Moreover, when self-efficacy has been analysed, it has frequently been seen as an ancillary or mediating variable rather than the primary explanatory construct. Consequently, there is insufficient evidence regarding the impact of lecturers' confidence in their ICT proficiency on their actual technology integration in teaching within Colleges of Education, particularly in Kaduna State, where infrastructural and professional development challenges endure.

This study aims to address this significant gap by investigating self-efficacy as the primary psychological determinant affecting ICT utilisation among lecturers in Colleges of Education in Kaduna State. The research is fundamentally based on Social Cognitive Theory (Bandura, 1997), which asserts that individuals' self-efficacy beliefs profoundly influence their behaviour and performance. This study highlights self-efficacy as a crucial variable, broadening the discourse beyond infrastructure obstacles to examine the internal cognitive aspects of ICT adoption. It seeks to produce insights that can guide institutional strategies for empowering educators, enhancing digital preparedness, and promoting sustainable ICT integration in teacher education.

1.3 Research Objectives

Based on the issues identified in the research problem, this study was guided by the following objectives:

i. To examine the relationship between lecturers' self-efficacy and ICT utilization in Colleges of Education in Kaduna State.

ii. To determine the extent to which lecturers' self-efficacy predicts their level of ICT utilization in teaching and learning practices within Colleges of Education in Kaduna State.

2.0 Literature Review

The literature review offers a concise analysis of the core concepts, with particular emphasis on Social Cognitive Theory, while examining self-efficacy as a psychological factor influencing ICT usage among lecturers. It considers how lecturers' belief in their ability to utilise technology affects their teaching

practices, and how elements such as confidence, previous experience, and institutional support influence ICT adoption in Colleges of Education.

2.1 Social Cognitive Theory

This study is based on Bandura's (1997) Social Cognitive Theory (SCT), which posits that human behaviour is shaped by the interplay of personal variables, environmental conditions, and the behaviour itself. A fundamental concept of SCT is self-efficacy, defined as the belief in one's capacity to organise and execute actions necessary to navigate future events (Akram & Abdelrady, 2025). SCT posits that persons possessing high self-efficacy establish loftier goals, exhibit greater perseverance, manage problems more effectively, and are more inclined to embrace new behaviours. In ICT integration, SCT elucidates that lecturers possessing elevated self-efficacy are more inclined to use technology, investigate digital tools, and innovate in pedagogy.
The four sources of self-efficacy are mastery experience, vicarious experience, social persuasion, and emotional state, which are directly relevant to ICT utilisation in Colleges of Education (Egele et al., 2025). When lecturers achieve expertise in ICT, watch colleagues employing it, receive encouragement, and experience support, their self-efficacy enhances, resulting in increased ICT utilisation (Akram & Abdelrady, 2025). Conversely, persistent failure, insufficient support, or fear diminishes self-efficacy and curtails ICT utilisation. SCT is more suitable for this study than alternative models like TAM or TPB, as it directly elucidates internal confidence rather than merely intention or perceived usefulness. It offers an enhanced psychological insight into the reasons professors either adopt or eschew ICT. Consequently, Social Cognitive Theory provides a robust theoretical framework to elucidate the impact of lecturers' self-efficacy on ICT utilisation at Colleges of Education in Kaduna State.

2.2 Conceptual Clarification

The use of Information and Communication Technology (ICT) denotes the efficient and intentional application of digital tools, platforms, and resources by educators for instructional delivery, evaluation, communication, research, and professional development (Alahakoon & Somaratne, 2018). In teacher education, the application of ICT encompasses the use of presentation software, learning management systems, digital content, online collaboration tools, and multimedia resources to augment teaching and student participation (Afari et al.). Although access to ICT is crucial, its utilisation is contingent upon psychological, institutional, and pedagogical aspects (Kozma, 2020).
Self-efficacy, as defined by Bandura (1997), pertains to an individual's conviction in their capacity to effectively execute a particular activity. In the realm of ICT, ICT self-efficacy denotes the confidence that lecturers possess in their capability to utilise technology for instruction, address challenges, and acclimatise to novel digital instruments (Ismail et al., 20221). Self-efficacy pertains to a lecturer's belief in their ability to utilise their knowledge and available resources, in contrast to attitude (the lecturer's feelings towards ICT) and competence (the lecturer's knowledge base) (Wang & Zhao, 2023). A instructor may have ICT abilities yet refrain from utilising them due to a lack of confidence, whilst another individual with mediocre skills but high self-efficacy may proactively investigate and implement technology. Consequently, self-efficacy serves as a more robust predictor of ICT behaviour than abilities alone (Teo, 2021). This study posits that ICT self-efficacy serves as a psychological determinant that can facilitate or obstruct the incorporation of technology in education.

2.3 Is Self-Efficacy More Important Than Skills?

Scholars are now debating whether element most significantly influences ICT utilisation: infrastructure, competence, training, attitude, or self-efficacy. Certain scholars contend that access to ICT tools and technical proficiency are adequate to guarantee utilisation (Yusuf & Afolabi, 2021). They contend that once educators receive training, they will inherently embrace technology. This perspective has faced growing opposition. Recent research highlight the psychological aspect of ICT integration. Ertmer (2020) posits that first-order hurdles, such as infrastructure, may be addressed externally, whereas second-order barriers, like lack of confidence, fear, anxiety, or reluctance, are internal and more challenging to surmount. Similarly, Teo (2021) discovered that self-efficacy is a more potent predictor of ICT usage than training or experience. Lawrence and Tar (2022) established that lecturers possessing elevated self-efficacy exhibited a greater propensity to experiment with new technologies, adjust to updates, and persevere in the face of technical difficulties. In contrast, professors with diminished self-efficacy refrained from utilising ICT despite having access to equipment and training. This discourse illustrates that self-efficacy serves as the intrinsic catalyst that transforms training and infrastructure into practical application. The COVID-19 epidemic underscored the significance of self-efficacy. During the transition to online education, instructors possessing elevated self-efficacy adapted more seamlessly and demonstrated greater innovation in utilising digital platforms (Wang & Zhao, 2023). Individuals with poor self-efficacy had difficulties and frequently defaulted to passive or inadequate utilisation of ICT. Consequently, cultivating self-efficacy is seen crucial for the successful incorporation of ICT in education.

2.4 Factors Influencing Lecturer ICT Self-Efficacy

Self-efficacy is affected by several personal, institutional, and contextual factors. Bandura (1997) delineated four primary sources of self-efficacy: mastery experience, vicarious experience, social persuasion, and emotional state. Lecturers with prior successful experience in utilising ICT exhibit greater confidence. Observing peers utilise ICT proficiently (vicarious modelling) enhances self-efficacy. Support from colleagues, students, or management (social persuasion) inspires lecturers to make an effort. Favourable emotional states (low anxiety, strong motivation) facilitate ICT adoption, but fear or frustration diminishes confidence (Wang & Zhao, 2023). Personal characteristics, including motivation, readiness to learn, and previous technological exposure, affect self-efficacy (Teo, 2021). Institutional elements, including the calibre of ICT training, accessibility of support, and managerial endorsement, can influence confidence. Training that emphasises practical classroom application over theoretical concepts enhances self-efficacy (Lawrence & Tar, 2022). Conversely, when instructors encounter persistent technical malfunctions, insufficient support, or ambiguous expectations, their self-efficacy diminishes. Cultural and contextual factors significantly influence Nigeria. Extensive class numbers, erratic electrical supply, inadequate internet access, and scarce resources induce worry and diminish lecturers' confidence (Adejumo & Ibrahim, 2022). Moreover, the conventional pedagogical culture in numerous Colleges of Education inhibits technological experimentation. Consequently, cultivating self-efficacy involves both psychological reinforcement and organisational transformation.

2.5 Empirical Studies on Self-Efficacy and ICT Utilization

Global research repeatedly demonstrates that self-efficacy is a robust predictor of ICT utilisation. In the United States and Finland, instructors possessing strong self-efficacy incorporated ICT more frequently and innovatively (Kozma, 2020). In Singapore and Malaysia, self-efficacy emerged as the most significant predictor of technology utilisation in teacher education programs (Teo, 2021). Chigona (2020) discovered that in Africa, low self-efficacy among South African academics impeded ICT integration more significantly than infrastructural challenges. Tadesse and Muluye (2022) documented analogous results in Ethiopia.

Numerous studies have investigated ICT adoption in Nigeria. Ajayi (2020) observed that numerous educators possessed access to ICT nevertheless refrained from utilising it due to insufficient trust. Olatokun and Ajagbe (2021) discovered that university teachers exhibiting elevated self-efficacy were more inclined to utilise e-learning platforms. Nevertheless, the majority of research concentrate on skills, attitudes, or access, with a scant number emphasising self-efficacy as the primary variable. Fewer research have investigated ICT self-efficacy in Colleges of Education, which are tasked with teaching future educators. Moreover, Colleges of Education in Kaduna State are significantly under-researched, despite their crucial role in Northern Nigeria. No empirical study has particularly investigated the impact of lecturers' self-efficacy on ICT utilisation in this scenario. This signifies a distinct and significant void in the literature.

3. Methodology

This research utilised a quantitative survey methodology to examine the influence of self-efficacy on ICT usage among lecturers in Colleges of Education in Kaduna State. The survey approach was deemed suitable since it facilitates the acquisition of standardised data from a substantial population and permits the assessment of psychological dimensions like self-efficacy and its impact on behavioural outcomes, including ICT utilisation. The study population comprised all lecturers from two Colleges of Education in Kaduna State, one federal and one state-owned, as these institutions are tasked with teaching future educators and are anticipated to exemplify technology-enhanced pedagogy. The overall population comprised around 800 lecturers from diverse fields and academic rankings. A sample size of 274 academics was established via the Krejcie and Morgan (1970) sample size determination table, ensuring sufficient representation of the population. A proportional stratified random sample method was employed to provide equitable representation for each department and institution while reducing sampling bias. Data were gathered by a structured, self-administered questionnaire built from current literature on ICT self-efficacy and technology utilisation. The instrument consisted of three sections: Section A collected demographic data; Section B evaluated lecturers' ICT self-efficacy utilising a 5-point Likert scale; and Section C examined ICT usage in instructional delivery employing a comparable scale. The items were derived from validated self-efficacy and ICT usage scales utilised in previous research and adjusted to fit the setting of Colleges of Education. The questionnaire was evaluated by specialists in educational technology and measurement to verify content relevance, clarity, and compatibility with the study objectives, hence ensuring its validity. A pilot test was done to assess reliability, comprising 30 lecturers from a comparable university outside Kaduna State. The Cronbach's alpha coefficient for the self-efficacy scale was 0.91, while the ICT utilisation scale was 0.87, both reflecting strong internal consistency and appropriateness of the instrument. Subsequent to acquiring institutional consent, the researchers and

trained assistants disseminated the surveys to lecturers, permitting ample time for completion and retrieving them in person. Participation was optional, secrecy was guaranteed, and no personal identification were necessary.

The table below provides a concise summary of the methodological components of the study:

Table 1: Summary of Methodology Components

Component	Description
Research Design	Quantitative Survey
Population	Lecturers in two Colleges of Education in Kaduna State
Sample Size	274 lecturers
Sampling Technique	Proportionate Stratified Random Sampling
Instrument	Structured Questionnaire (5-point Likert)
Sections	A: Demographics B: ICT Self-Efficacy C: ICT Utilization
Validity	Expert Review (Content and Face Validity)
Reliability	Self-Efficacy = 0.91 ICT Utilization = 0.87
Data Collection	Self-administered questionnaire with institutional approval
Data Analysis	Descriptive statistics, t-test, ANOVA, correlation/regression
Software	SPSS Version 23
Significance Level	$p < 0.05$
Ethics	Voluntary participation, confidentiality maintained

The gathered data were encoded and examined utilising SPSS version 23. Descriptive statistics, including mean, standard deviation, frequencies, and percentages, were employed to summarise the levels of self-efficacy and ICT utilisation among lecturers. Inferential statistics were utilised to evaluate the study's hypotheses. The independent samples t-test and one-way ANOVA were employed to assess variations in self-efficacy or ICT utilisation according to demographic characteristics, including gender, qualifications, and teaching experience. The Pearson correlation and simple linear regression were employed to analyse the relationship and predictive capacity of self-efficacy on ICT utilisation. All tests were performed at a significance level of 0.05. Likewise, ethical standards were rigorously maintained during the investigation. Participation was optional, and participants were apprised of the study's objective. Confidentiality was guaranteed by omitting personal identifiers, and institutional authorisation was secured prior to data collection. These protocols guaranteed that the research adhered to academic and ethical norms.

4. Results and Discussion

The study's findings indicated that teachers in Colleges of Education in Kaduna State exhibited a moderately high degree of ICT self-efficacy. The average self-efficacy score was 3.89 on a 5-point scale, signifying that the majority of lecturers exhibited confidence in their capacity to utilise fundamental ICT tools, navigate digital platforms, and incorporate technology into instructional delivery when required. A significant number of respondents indicated proficiency in resolving minor ICT-related problems and adapting to new tools, implying psychological preparedness for technology integration. This corresponds with Bandura's (1997) claim that individuals possessing robust self-efficacy beliefs are more

inclined to take initiative, persevere through difficulties, and embrace innovative practices. It also corroborates Teo (2021), who discovered that educators with elevated self-efficacy are more inclined to investigate and implement ICT in instruction.
Notwithstanding the comparatively elevated self-efficacy, the extent of actual ICT use was very moderate, with a mean score of 3.25. This suggests that although lecturers had confidence in their ICT capabilities, they did not regularly integrate technology into course design, classroom instruction, assessment, or student involvement. Numerous instructors indicated infrequent rather than consistent use of ICT, typically restricted to the preparation of lecture notes, online information retrieval, or the application of presentation software. The disparity between confidence and practice indicates that self-efficacy alone cannot ensure ICT integration; institutional and contextual obstacles, including insufficient infrastructure, unreliable electricity, inadequate internet connectivity, and lack of administrative support, continue to impede consistent usage. This result parallels the findings of Adebayo and Bello (2022), who indicated that Nigerian professors frequently exhibit high psychological preparation for ICT, although are hindered by environmental obstacles. This also illustrates Ertmer's (2020) notion of second-order obstacles, wherein internal confidence necessitates external conditions to facilitate behavioural change.
The study's most notable finding was the robust positive and statistically significant correlation between self-efficacy and ICT utilisation. The Pearson correlation analysis revealed $r = 0.71$ ($p < 0.001$), signifying that lecturers with elevated self-efficacy were significantly more inclined to utilise ICT in their teaching methodologies. Moreover, regression analysis established that self-efficacy strongly forecasted ICT utilisation, accounting for roughly 50% of the variance in usage. This data unequivocally illustrates that self-efficacy is a significant driver of ICT adoption among lecturers. It corroborates the assertion of Lawrence and Tar (2022) that self-efficacy is a more significant predictor of ICT utilisation than access, training, or experience. It also corroborates the Social Cognitive Theory (Bandura, 1997), which asserts that an individual's self-efficacy directly impacts their behaviours, effort, and perseverance. In this scenario, lecturers confident in their ICT proficiency are more inclined to experiment, take chances, and incorporate technology despite resource constraints.

The study revealed notable disparities in self-efficacy contingent upon academic qualifications. Instructors possessing advanced qualifications (such as Master's or PhD degrees) exhibited elevated levels of self-efficacy in comparison to their less qualified counterparts. This can be ascribed to the reality that elevated academic exposure frequently encompasses research, access to digital resources, and interaction with technology-enhanced learning environments, which cultivate confidence and familiarity with ICT technologies. This finding corroborates earlier research by Kpolovie and Awusaku (2021), which indicated that teachers possessing advanced qualifications generally exhibit greater confidence in their capacity to utilise ICT efficiently. It indicates that professional development and academic advancement enhance ICT self-efficacy.
The results indicate that instructors in Colleges of Education are psychologically prepared for ICT integration; however, systemic hurdles hinder their actual implementation. The significant impact of self-efficacy on ICT utilisation demonstrates that lecturers' confidence is not merely a personal characteristic; it is a strategic element that can facilitate or impede digital change in teacher education. Consequently, institutions must exceed mere provision of infrastructure or training; they must actively cultivate and

maintain lecturers' self-efficacy through experiential practice, peer collaboration, mentorship, and motivational assistance. When instructors perceive themselves as competent and supported, self-efficacy serves as a catalyst for sustained ICT utilisation. When confidence is diminished or lacking assistance, self-efficacy acts as an impediment, leading to avoidance or limited interaction with technology.

5. Conclusion and Recommendations

This research investigated the influence of self-efficacy on ICT usage among educators in Colleges of Education in Kaduna State. The findings indicated that lecturers exhibited a moderately high level of ICT self-efficacy, reflecting considerable confidence in their capacity to utilise digital tools and incorporate technology into teaching methodologies. Nonetheless, real ICT utilisation was merely moderate, indicating that confidence does not invariably result in persistent usage owing to contextual and institutional limitations. The study demonstrated a robust and statistically significant correlation between self-efficacy and ICT utilisation. Instructors exhibiting elevated self-efficacy shown a markedly greater propensity for effective ICT utilisation in pedagogy, with self-efficacy identified as a substantial predictor of ICT adoption, accounting for a considerable amount of the variance in usage. Moreover, instructors possessing superior academic credentials indicated elevated self-efficacy, suggesting that professional experience and advanced training enhance technological confidence. The findings indicate that self-efficacy serves as either a catalyst or an impediment to ICT utilisation. When educators possess confidence in their competencies and obtain institutional backing, self-efficacy propels them to investigate, embrace, and maintain ICT-based pedagogical methods. Conversely, when confidence is diminished or lacking, self-efficacy acts as an impediment, resulting in avoidance or erratic ICT utilisation. Consequently, enhancing ICT integration in Colleges of Education necessitates not only the provision of infrastructure but also the psychological and professional empowerment of teachers. Self-efficacy is not merely a personal characteristic; it is a pivotal element that influences the success or failure of digital transformation in teacher education. Several recommendations are proposed based on the findings. Colleges of Education should provide specialised professional development programs that extend beyond technical training to enhance confidence via experiential practice, mentorship, and peer collaboration. Training must be ongoing, pragmatic, and tailored to specific subjects to enhance lecturers' mastery experiences, which Bandura recognised as the most potent form of self-efficacy. Secondly, institutions must to cultivate supportive settings by ensuring access to ICT tools, dependable internet, technical support, and sufficient time for educators to explore technology without apprehension of failure. Third, institutional policies ought to incentivise and acknowledge the use of ICT, celebrating innovative educators and fostering a culture of digital instruction. Fourth, it is imperative to build peer modelling and mentorship structures whereby highly self-efficacious lecturers can assist colleagues with less confidence, so enhancing collective efficacy within departments. Fifth, policymakers and stakeholders must incorporate self-efficacy improvement measures into ICT policies and teacher education curricula, ensuring that psychological preparedness is prioritised alongside resources and training.

Consequently, future research ought to investigate supplementary psychological and contextual elements, including motivation, institutional culture, leadership impact, and perceived utility, to cultivate a more thorough comprehension of ICT adoption. Longitudinal studies may be undertaken to ascertain the

progression of self-efficacy and ICT utilisation across time. By emphasising self-efficacy as a pivotal factor in ICT integration, Colleges of Education can enhance lecturer empowerment, elevate instructional quality, and equip future educators for proficient practice in a technology-oriented environment.

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