



THE IMPACTS OF INFORMATION COMMUNICATION TECHNOLOGY (ICT) ON ENGLISH LANGUAGE TEACHER EDUCATION IN FEDERAL COLLEGES OF EDUCATION IN THE NORTH-WEST GEO-POLITICAL ZONE, NIGERIA.

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ABSTRACT :

This paper has addressed the issues of the influence of the Information Communication Technology (ICT) on English Language Teacher Education in Federal Colleges of Education in the North-West geo-political zone in Nigeria. It had three research questions that were based on the following: (1) What kinds of ICT tools and resources exist in the English language teacher training in these institutions? What are the perceived implications of ICT of teaching and learning of English language in teacher education programmes? (2) (3) What are the (challenges) constraints to Federal Colleges of Education in teaching the English Language Teacher Education in the North-West to implement ICT? The research design taken was descriptive survey. This was carried out among 320 English language teacher educators and pre-service teachers and a sample size of 280 respondents was taken randomly using stratified random sample so as to have equal representation among institutions. The key data collection tool was a structured questionnaire. Expert in educational technology/language educators validated the instrument and have made it content and face valid. The instrument had a reliability coefficient of 0.87 based on Cronbach Alpha method of reliabilities which means that reliability is high as in the external consistency is high. They found out that computers, projectors, and communication platforms (i.e., zoom, WhatsApp) as well as multimedia resources are part of essential ICT tools that are typically provided. ICT was seen by respondents to positively influence language instruction, including the improvement of interactivity, interest on the part of learners, access to authentic materials, as well as digital skills. Nonetheless, some of the identified key challenges are poor connection to internet, limited access to special software used in learning languages, continuous training, and frequent power blackouts. The research established that ICT can revolutionise the English Language Teacher Education but smart investment in infrastructure, training and policy need to be invested to actualise the full potential and results.

Keywords: English Language Education, ICT Impact, ICT Tools, Teacher Education, Teaching and Learning, Technology Integration

Introduction

In recent years, Information and Communication Technology (ICT) has emerged as a transformative force in education, reshaping how knowledge is created, delivered, and accessed across disciplines (Ekundayo & Daura, 2024). In teacher education, particularly for English language instruction, ICT offers tools that support both the pedagogical and content knowledge development of student-teachers (Okonkwo & Idris, 2022). With innovations such as online learning platforms, mobile language apps, interactive grammar tutorials, and virtual simulations, ICT helps English language educators engage learners in dynamic, personalized, and interactive ways (Olaitan & Sulaiman, 2025).

English language teacher education plays a pivotal role in preparing future educators to meet the linguistic and communicative needs of 21st-century learners. Proficiency in English is not only essential for academic success but also for social and global engagement, making teacher quality in this area critically important (Yusuf & Danladi, 2022). ICT empowers English language teacher trainees with digital literacy, resource access, and flexible learning modalities, thereby equipping them with the skills needed for modern classrooms (Agbaje & Mohammed, 2024). Through blended learning, flipped classrooms, and digital storytelling, trainees can enhance their instructional design and language teaching strategies (Garba & Aminu, 2023).

Despite its potential, the implementation of ICT in English language teacher education in Nigeria, especially in Federal Colleges of Education within the North-West zone, is fraught with challenges (Adamu & Lawal, 2024). These include inadequate ICT infrastructure, insufficient technical support, poor internet connectivity, and a lack of trained personnel (Hassan & Nwachukwu, 2023). Additionally, resistance to change among educators and limited awareness of digital tools among trainees further hinder the effective integration of ICT in language education (Adebayo & Tanko, 2025). Consequently, many English language teacher education programs still rely on traditional methods that are less interactive and fail to reflect 21st-century learning standards (Omorogiwa & Abdullahi, 2024).

Globally, teacher education institutions are aligning with digital transformation by incorporating ICT competencies into training curricula (World Bank, 2024). In Nigeria, policy frameworks like the National Policy on ICT in Education and the NCCE's ICT Competency Standards for Teachers have been designed to promote ICT integration in teacher education programs (Federal Ministry of Education, 2022; NCCE, 2023). However, in practice, many Federal Colleges of Education, particularly in the North-West zone, struggle with policy implementation, funding gaps, and institutional inertia (Umeh & Ibrahim, 2024). This has resulted in uneven access to ICT and a disparity in the quality of training received by student-teachers in English language departments.

Effective integration of ICT into English language teacher education requires more than just hardware and internet access—it necessitates a shift in pedagogy, mindset, and training philosophy (Bala & Nwankwo, 2024). Teacher educators must be equipped with digital pedagogical skills to model ICT usage for their trainees (Muktar & Emmanuel, 2024). Likewise, student-teachers must receive structured opportunities to apply ICT tools in microteaching, practicum, and lesson planning to ensure that they can deliver technologically enhanced English language instruction upon graduation (Sanni & Uba, 2025).

Therefore, this study aims to examine the impacts of ICT on English language teacher education in Federal Colleges of Education in the North-West geopolitical zone of Nigeria. It seeks to assess the extent to which ICT is used in teaching and learning processes, evaluate the digital competence of both lecturers and trainees, and identify existing barriers to ICT integration. By doing so, the research hopes to provide data-driven recommendations that can guide educational stakeholders toward improving teacher training programs and strengthening the quality of English language education in the country (Oladeji & Danlami, 2025).

Statement of the Problem

In the contemporary era, Information and Communication Technology (ICT) has become a transformative tool in the field of education, offering new possibilities for teaching and learning. However, despite the recognized potential of ICT in enhancing English Language Teacher Education (ELTE), its integration into teacher training programmes in Federal Colleges of Education within the North-West Geo-Political Zone of Nigeria appears to be inadequate, inconsistent, or poorly implemented. Many pre-service English language teachers continue to rely on traditional, teacher-centered methods, with limited exposure to digital teaching tools and online language learning platforms.

The lack of sufficient ICT infrastructure, limited access to digital resources, poor internet connectivity, and insufficient ICT skills among both teacher educators and trainees pose significant challenges. Furthermore, there appears to be a gap between policy provisions on ICT integration and actual classroom practices in English language teacher education. As a result, the effectiveness of English language instruction and the digital readiness of future teachers remain questionable.

This situation raises critical concerns: To what extent is ICT being utilized in the training of English language teachers in these colleges? What are the perceived impacts of ICT on teacher education outcomes? Are teacher educators equipped with the necessary competencies to model effective ICT use? Without addressing these issues, there is a risk that English language teacher education may fail to meet global standards and the digital demands of the 21st-century classroom. Therefore, it becomes necessary to assess the impact of ICT on English Language Teacher Education in order to identify gaps and propose sustainable solutions for improvement.

Research Questions

1. 1. What types of ICT tools and resources are available in the training of English language teachers in these institutions?
2. 2. What are the perceived impacts of ICT on the teaching and learning of English language in teacher education programmes?
3. 3. What challenges do Federal Colleges of Education in the North-West face in implementing ICT in English Language Teacher Education?

Research Objectives

1. 1.To identify the types of ICT tools and resources available and utilized in the training of English language teachers in these institutions.
2. 2.To evaluate the perceived impacts of ICT on the teaching and learning of English language in teacher education programmes.
3. 3.To investigate the major challenges hindering the effective implementation of ICT in English Language Teacher Education.

Literature Review

Concept of Information and Communication Technology (ICT) in Education

Information and Communication Technology (ICT) in education refers to the effective use of digital tools and resources—such as computers, the internet, mobile devices, software, and multimedia platforms—to support teaching, learning, administration, and research in educational institutions. ICT is reshaping educational environments by enabling access to knowledge, fostering communication, and enhancing instructional methods (Adeyemi & Ogunlade, 2023). The integration of ICT into education is widely recognized as a catalyst for transforming traditional learning into more interactive, personalized, and flexible models (Ahmed & Suleiman, 2023). ICT also bridges geographical and temporal gaps, providing opportunities for lifelong and distance learning (Ojo & Tanko, 2022).

ICT in education enables teachers and learners to access digital libraries, simulations, e-books, online courses, and collaborative tools like Google Classroom, Zoom, and Moodle. These platforms have been particularly useful in responding to global disruptions such as the COVID-19 pandemic, which accelerated the adoption of remote teaching and learning across all levels of education (Musa & Raji, 2022). According to Ogundele

and Fatimah (2024), ICT not only supports curriculum delivery but also enhances students' cognitive engagement and motivation. Additionally, it provides real-time feedback, which is critical for formative assessment and adaptive learning (Usman & Isah, 2024).

Beyond classroom instruction, ICT plays a vital role in educational management by improving communication, record keeping, resource allocation, and decision-making processes (Afolabi & Zubairu, 2023). For instance, Learning Management Systems (LMS) and school information systems (SIS) simplify the tracking of students' academic progress and facilitate data-driven interventions (Umar & Yusuf, 2023). ICT also fosters professional development among educators through access to Massive Open Online Courses (MOOCs), webinars, and peer collaboration platforms (Adamu et al., 2024). As highlighted by Gambo and Hassan (2023), the continuous evolution of ICT tools requires educators to adapt and upgrade their digital literacy skills to remain effective.

Despite its transformative potential, the integration of ICT into education in many developing contexts, including Nigeria, is fraught with challenges such as poor infrastructure, limited internet connectivity, lack of digital skills, and inadequate policy implementation (Salihu & Zainab, 2023). Rural schools often face more significant barriers compared to their urban counterparts, widening the digital divide (Ibrahim & Danjuma, 2022). Furthermore, some educators are resistant to change due to unfamiliarity with digital tools or fear of being replaced by technology (Oyetunde & Bala, 2024). Addressing these challenges requires targeted investment, capacity building, and policy reforms to create an enabling environment for ICT in education (Akinola & Olabisi, 2022).

ICT in English Language Teacher Education

The integration of Information and Communication Technology (ICT) in English Language Teacher Education has become an essential component of modern teacher training programs. ICT offers dynamic tools that enhance the teaching and learning of language skills such as reading, writing, listening, and speaking (Okonkwo & Yusuf, 2024). Technologies like language learning software, virtual classrooms, podcasts, and online dictionaries allow pre-service teachers to engage with authentic and diverse linguistic content. These tools not only support language acquisition but also expose trainees to innovative pedagogical strategies suited for 21st-century classrooms (Ahmed & Lawal, 2023).

Moreover, ICT enables teacher educators to model effective digital pedagogies, equipping pre-service teachers with skills they can transfer to their own future classrooms. For example, educators use platforms like Moodle or Edmodo to design interactive lessons, administer quizzes, and provide feedback, demonstrating how technology can streamline instructional delivery and assessment (Yusuf & Hassan, 2022). This hands-on exposure helps trainees build confidence in using technology and encourages the adoption of student-centered learning approaches (Adebayo & Tanko, 2023).

However, the integration of ICT in English Language Teacher Education faces several challenges. Many colleges lack adequate infrastructure, stable internet connectivity, and access to up-to-date digital tools (Yahaya & Aliyu, 2023). Furthermore, some teacher educators and trainees are not sufficiently trained to use ICT tools effectively. The digital divide between urban and rural institutions also contributes to unequal access and implementation (Afolabi & Zubairu, 2024). These limitations hinder the full realization of ICT's potential in teacher education and underscore the need for institutional support, regular training, and investment in digital infrastructure.

Benefits of ICT Integration in Teacher Education

The integration of Information and Communication Technology (ICT) in teacher education has transformed the way educators teach and learners acquire knowledge. One of the primary benefits is improved access to diverse teaching and learning resources, including e-books, journals, multimedia content, and virtual libraries. These resources enrich the curriculum and allow pre-service teachers to explore topics beyond textbooks, promoting independent and research-oriented learning (Ibrahim & Salisu, 2024). ICT also enables flexible learning opportunities through blended and online courses, especially beneficial in overcoming time and location constraints (Chukwuma & Bello, 2022).

Another significant benefit of ICT integration is the enhancement of teaching and assessment practices. With digital tools like Kahoot, Quizlet, and Edmodo, teacher educators can assess learners' progress in real time, provide instant feedback, and adapt instruction accordingly (Yahaya & Raji, 2022). Pre-service teachers also learn to use these tools for formative and summative assessments, improving their competence in tracking and supporting learners' development. Moreover, ICT enables digital portfolios and reflective blogs, which help trainees monitor their teaching growth and receive constructive feedback from mentors.

ICT integration in teacher education also promotes lifelong learning and professional development. Teacher educators and trainees can enroll in online training, attend webinars, and participate in professional learning communities across borders (Mohammed & Zubair, 2023). This access to global teaching practices and innovations allows educators to stay current with educational trends and integrate evidence-based strategies into their teaching. According to Nwachukwu and Musa (2024), these experiences enhance the quality of instruction and align teacher education with international standards.

Challenges Facing ICT Integration in Colleges of Education

Despite the recognized potential of Information and Communication Technology (ICT) to enhance teaching and learning, its integration in Colleges of Education in Nigeria faces persistent challenges. One of the most pressing issues is inadequate infrastructure, including outdated computers, insufficient internet connectivity, and lack of multimedia facilities (Nwachukwu & Salisu, 2023). Many Colleges of Education, particularly those in rural areas, operate with minimal digital equipment, making it difficult for teacher educators and pre-service teachers to engage in meaningful ICT-based activities. This infrastructural deficit creates a digital divide and reinforces inequalities in access to quality education.

Another major challenge is the lack of ICT competence among teacher educators and trainees. While some staff possess basic computer skills, many lack the pedagogical knowledge to integrate ICT meaningfully into instruction (Okafor & Lawal, 2024). Pre-service teachers are often not

exposed to practical ICT training due to limited hands-on opportunities, resulting in low confidence and poor readiness to use technology in their future classrooms (Ogundele & Hassan, 2023). This skills gap weakens the potential impact of ICT on instructional delivery and undermines the goal of producing digitally literate teachers.

Inadequate funding and policy implementation also hinder ICT integration. Many institutions lack the financial resources to invest in digital infrastructure, software licenses, and regular maintenance (Oyetunde & Bala, 2024). Even when national policies promote ICT in teacher education, poor enforcement and institutional inertia limit their effectiveness. As noted by Yahaya and Raji (2022), there is often a disconnect between ICT-related policies at the national level and practical implementation at the institutional level, resulting in poor prioritization of ICT in educational planning.

Resistance to change and negative attitudes toward technology among some educators present another obstacle. Some teacher educators perceive ICT as a threat to their traditional teaching methods or lack motivation to explore new digital tools (Usman & Bello, 2023). Without institutional support and incentives, these educators may remain reluctant to adopt technology-driven approaches. Additionally, the lack of ongoing professional development means that even willing teachers are often unable to keep up with the rapid pace of technological change (Aliyu & Haruna, 2022).

Lastly, technical support and maintenance issues are significant barriers. Many Colleges of Education do not have dedicated ICT technicians or support staff to manage and troubleshoot digital tools and networks (Danladi & Gambo, 2024). When systems fail or software crashes, classes are disrupted, discouraging further use of ICT. To address these challenges, a holistic strategy involving funding, training, infrastructure development, and policy enforcement is essential for successful and sustainable ICT integration in Colleges of Education.

Methodology

The study employed a descriptive survey research design to examine the impacts of Information Communication Technology (ICT) on English Language teacher education in Federal Colleges of Education located in the North-West Geo-Political Zone of Nigeria. The total population comprised 320 English Language educators and student-teachers from these institutions. A sample size of 280 respondents was selected using the stratified random sampling technique, which ensured that each Federal College and respondent category was proportionately represented. Data were collected using a structured questionnaire titled ICT and English Language Teacher Education Questionnaire (ICTELTEQ). The instrument was divided into sections covering demographic information, availability of ICT tools, perceived impacts of ICT, and challenges of ICT integration. To ensure the validity of the instrument, the questionnaire was reviewed by experts in Educational Technology and English Language Education, and their suggestions were incorporated. A pilot study was also conducted using 30 participants from a non-sampled Federal College of Education within the same zone. The reliability of the instrument was determined using the Cronbach Alpha method, which yielded a coefficient of 0.83, indicating high reliability. Data collection was carried out in person with the assistance of trained field workers, while the data were analyzed using descriptive statistics such as frequency counts, percentages, means, and standard deviations through SPSS version 25. This methodology provided a structured approach to understanding the availability, use, and challenges of ICT in English Language teacher education across the region.

Results

Research Question 1: What types of ICT tools and resources are available in the training of English language teachers in these institutions?

Types of ICT Tools and resources

S/N	Types of ICT tools and resources	Available	% Available	Not available	% Not available
1	Computers (Desktops and Laptops)	213	76.07%	67	23.93%
2	Projectors and Interactive Whiteboards	195	69.64%	85	30.36%
3.	Language Laboratories	168	60.00%	112	40.00%
4.	Multimedia Resources (e.g., YouTube, Educational Podcasts)	207	73.93%	73	26.07%
5.	Learning Management Systems (e.g., Google Classroom, Moodle)	175	62.50%	105	37.50%
6.	Language Learning Software and Apps (e.g., Rosetta Stone, Duolingo)	138	49.29%	142	50.71%
7.	Communication Tools (e.g., Zoom, WhatsApp, Email)	227	81.07%	53	18.93%

The analysis reveals that a wide range of ICT tools and resources are available for training English language teachers in Federal Colleges of Education in the North-West geo-political zone of Nigeria, though availability levels vary. The most widely available resource is communication tools such as Zoom, WhatsApp, and Email, reported by 81.07% of respondents. This is closely followed by computers (76.07%), multimedia resources like YouTube and podcasts (73.93%), and projectors or interactive whiteboards (69.64%). These results suggest that core infrastructure for digital communication and content delivery is largely present, which supports both synchronous and asynchronous teaching and learning methods. However, the data also indicate notable gaps in the availability of more specialized tools. Only 60.00% of respondents reported access to language laboratories, and just 62.50% confirmed the use of Learning Management Systems such as Google Classroom or Moodle. More critically, only 49.29% acknowledged the availability of language learning software and mobile apps, making this the least accessible resource. This implies that while basic ICT infrastructure is in place, there is still a lack of advanced digital tools specifically designed to enhance language learning. These gaps may limit the depth and variety of digital instruction methods available to teacher educators and student-teachers in these institutions.

Research Question 2: What are the perceived impacts of ICT on the teaching and learning of English language in teacher education programmes?

The perceived impacts of ICT on the teaching and learning of English language

S/N	Statements	SA	A	D	SD	Mean	StD
1	ICT provides interactive tools such as language apps, audio-visual materials, and online games that support the development of listening, speaking, reading, and writing skills among pre-service teachers	137	92	28	17	3.2036	2.8359
2	ICT encourages the adoption of innovative, learner-centered teaching approaches such as blended learning, flipped classrooms, and project-based tasks, enhancing teaching effectiveness and engagement	120	109	36	15	3.1929	2.7813
3.	Teacher trainees can explore a wide range of authentic English materials such as e-books, journals, videos, and digital libraries, expanding their language exposure beyond the classroom.	135	104	32	9	3.3036	2.8710
4.	Multimedia content, animations, and gamified platforms make learning English more interesting and participatory, which boosts students' enthusiasm and commitment	127	112	28	13	3.2607	2.8359
5.	Through consistent use of ICT tools, both teacher educators and trainees build competence in digital communication, content creation, and online collaboration, skills essential for modern classrooms	144	104	21	11	3.3607	2.9240
6.	ICT facilitates interaction between peers and instructors via forums, email, and messaging apps, promoting knowledge sharing and peer learning.	145	106	19	10	3.3786	2.9362
	Cumulative mean					3.2834	2.8641

The analysis of respondents' perceptions shows that ICT has a broadly positive impact on the teaching and learning of English language in teacher education programmes within the North-West geo-political zone. The highest levels of agreement were recorded for statements indicating that ICT enhances interaction and communication (Mean = 3.38, Std = 2.94) and builds competence in digital collaboration and content creation (Mean = 3.36, Std = 2.92). These findings suggest that ICT is not only enriching classroom engagement but also equipping both teacher educators and pre-service teachers with critical 21st-century digital skills. Similarly, the use of multimedia tools like animations and gamified platforms received high support (Mean = 3.26), reinforcing the role of ICT in making language learning more interactive and enjoyable.

Furthermore, access to authentic digital materials such as e-books, journals, and videos was also highly rated (Mean = 3.30), highlighting ICT's role in broadening English language exposure beyond the classroom. The adoption of innovative teaching approaches like blended learning and flipped classrooms also gained favorable responses (Mean = 3.19), indicating a shift toward learner-centered pedagogy due to ICT integration. Overall, the cumulative mean of 3.28 reflects a strong consensus among respondents that ICT positively influences English language instruction, despite some variability in agreement as reflected in the standard deviations. This underscores the need for sustained investment in ICT infrastructure and training to maintain and enhance these benefits in teacher education programmes.

Research Question 3: What challenges do Federal Colleges of Education in the North-West face in implementing ICT in English Language Teacher Education?

Challenges hindering the effective implementation of ICT in English Language Teacher Education.

S/N	Statements	SA	A	D	SD	Mean	StD
1	Many institutions lack sufficient hardware like computers, projectors, and interactive whiteboards, limiting access to digital tools needed for language teaching and learning.	133	97	34	16	3.2393	2.8322
2	Unreliable or slow internet access hampers the use of online platforms, digital libraries, and real-time communication tools essential for ICT-based instruction	139	105	24	12	3.3250	2.8946
3.	Budgetary constraints prevent the purchase, maintenance, and upgrading of ICT facilities, as well as the provision of licensed language software and learning platforms	125	102	36	18	3.2000	2.7929
4.	Some teacher educators and pre-service teachers have limited skills or confidence in using ICT tools effectively for teaching English, affecting classroom integration	129	104	28	19	3.2250	2.8208
5.	There is a shortage of continuous professional development programs to keep teacher educators and students updated on emerging ICT tools and teaching methods	137	102	27	14	3.2929	2.8723
6.	Frequent electricity outages make it difficult to operate ICT equipment consistently, disrupting digital classes and computer-based instruction	134	105	26	15	3.2786	2.8598
	Cumulative mean					3.2601	2.8454

The analysis reveals that Federal Colleges of Education in the North-West geo-political zone of Nigeria face multiple challenges in implementing ICT effectively within English Language Teacher Education programmes. The most critical issue reported by respondents is poor internet connectivity, with a high mean score of 3.33 and standard deviation of 2.89, indicating that slow or unreliable internet access significantly hinders the use of digital libraries, real-time instructional tools, and online learning platforms. Additionally, frequent electricity outages (Mean = 3.28) and lack of continuous professional development programmes (Mean = 3.29) are prominent obstacles, disrupting consistent ICT use and leaving teacher educators and students inadequately prepared for modern digital instruction. Other notable barriers include insufficient hardware (Mean = 3.24), budgetary constraints (Mean = 3.20), and limited ICT skills among educators and pre-service teachers (Mean = 3.23). These challenges collectively reflect structural, technical, and human capacity issues that restrict the full integration of ICT in language education. The cumulative mean of 3.26 further confirms that these constraints are widely acknowledged by respondents. The relatively high standard deviations (ranging from 2.79 to 2.89) suggest some variability in experience across different institutions, but the consistency of high means across all items indicates that these are systemic issues requiring urgent institutional and policy-level attention to ensure ICT can be effectively harnessed for English Language teacher education.

Discussion of Findings

The findings of this study indicate that Federal Colleges of Education in the North-West geo-political zone of Nigeria have made notable progress in the availability and utilization of ICT tools for English language teacher education. The presence of communication tools such as Zoom, WhatsApp, and Email, reported by over 80% of respondents, suggests that foundational platforms for digital interaction are in place and actively used. Similarly, high availability of computers, multimedia resources, and projectors reinforces the existence of essential hardware for digital instruction. These tools play a significant role in enhancing synchronous and asynchronous teaching methods, and contribute to improved access to instructional materials and interactive learning experiences. However, the availability of more specialized language learning tools remains a challenge. Less than half of the respondents reported access to language learning software and apps, which are critical for enhancing the development of reading, writing, listening, and speaking skills. The limited use of Learning Management Systems and language laboratories further suggests that while basic ICT infrastructure exists, the full potential of ICT in language pedagogy has not been realized.

In terms of impact, the data show a strong positive perception of ICT's contribution to teaching and learning English, particularly in areas such as interactive learning, access to authentic materials, digital skill development, and collaborative instruction. The cumulative mean of 3.28 indicates agreement that ICT enriches classroom practices, supports learner-centered pedagogies like blended and flipped learning, and enhances the engagement of both educators and students. Despite this, the study also exposes serious implementation challenges that hamper the consistent and effective use of ICT. Poor internet connectivity, electricity instability, and a lack of professional development were among the top concerns. Structural and technical issues, such as insufficient hardware and financial constraints, along with human capacity gaps like limited ICT competence, pose significant barriers. These findings underscore the need for targeted investments and policies that address these multifaceted challenges. For ICT to achieve its full impact in English language teacher education, institutions must prioritize infrastructure upgrades, build educator competencies, and establish sustainable frameworks for professional development and digital resource integration.

Conclusion

This study investigated The Impacts of Information Communication Technology (ICT) on English Language Teacher Education in Federal Colleges of Education in the North-West Geo-Political Zone of Nigeria, addressing three core research questions. Findings revealed that a wide range of ICT tools and resources—such as computers, communication platforms (Zoom, WhatsApp, Email), multimedia tools (YouTube, podcasts), and projectors—are generally available and actively used in these institutions. However, specialized instructional tools like language learning software, mobile apps, and language laboratories remain limited in availability, highlighting infrastructural gaps in tailored language education support.

In terms of perceived impact, the study found that ICT positively contributes to English language teacher education by enhancing interaction, digital collaboration, access to authentic materials, and the adoption of learner-centered pedagogies like blended learning. These outcomes are fostering 21st-century teaching and learning skills among both educators and pre-service teachers. Nevertheless, the implementation of ICT continues to face notable challenges, including poor internet connectivity, erratic electricity supply, limited professional development opportunities, budgetary constraints, and insufficient digital competencies. To fully harness the potential of ICT in English language teacher education, there is a critical need for sustained investment in infrastructure, continuous digital training, and policy reforms that prioritize both access and pedagogy-driven ICT integration.

Recommendations

Based on the findings of this study on The Impacts of Information Communication Technology (ICT) on English Language Teacher Education in Federal Colleges of Education in the North-West Geo-Political Zone of Nigeria, the following recommendations are:

Federal and state governments, in collaboration with the management of Colleges of Education, should prioritize the provision of more advanced ICT tools such as language learning software, interactive applications, and functional language laboratories. These tools are crucial for enhancing language-specific teaching and learning outcomes.

There is a pressing need to address infrastructural issues, particularly poor internet connectivity and frequent power outages. Reliable internet and consistent electricity are fundamental to supporting synchronous and asynchronous ICT-based teaching.

Continuous training and capacity-building workshops should be organized for English language teacher educators to improve their digital literacy, pedagogical ICT integration skills, and familiarity with emerging technologies such as Learning Management Systems, gamification, and blended learning tools.

Colleges should develop clear institutional ICT policies that guide the use of technology in teacher education. Additionally, dedicated funding should be allocated for ICT procurement, maintenance, and training to ensure sustainability.

Institutions should foster collaborations with tech companies, NGOs, and international organizations to gain access to resources, technical expertise, and innovative practices in language instruction.

Establishing a robust monitoring and evaluation framework will help assess the effectiveness of ICT integration, identify gaps, and inform future policy and administrative decisions for continuous improvement in English language teacher education.

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