

LECTURER PERCEPTIONS OF DIGITAL TOOL USE IN ENGLISH AND COMMUNICATION FOR SPECIFIC PURPOSE INSTRUCTION: A FOCUS GROUP STUDY OF TWO NORTHERN NIGERIAN POLYTECHNICS

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Abstract

Digital tools are increasingly positioned as central to the delivery of English and Communication for Specific Purpose (CSP) instruction in Nigerian tertiary institutions, yet lecturers lived experience of adopting them in under-resourced settings remains under-researched. This study presents findings from an institution-based research project that set out to examine perceptions of digital tool use among English lecturers in two Northern Polytechnics. Owing to the limitation of research funds, the scope of data collection was narrowed to a qualitative, focus-group-discussion-(FGD) design conducted in two institutions within Bauchi State: The Federal Polytechnic Bauchi (17 English/ General Studies lecturers) and the Abubakar Tatari Ali Polytechnic, Bauchi (8 English / General Studies lecturers), giving a combined sample of 25 lecturers from two focus-group sessions held on 28 November 2025 and 15 June 2026 respectively. Discussions were guided by a semi-structured protocol addressing teaching realities, generational differences in practice, students' digital behaviour, curriculum flexibility, material selection, professional support, and future outlook. Transcripts were analysed thematically, using open coding to identify recurring categories which were then grouped under the study's four research questions. Findings show that lecturers rely heavily on low-infrastructure tools (principally WhatsApp, YouTube, and increasingly AI chat tools) to work around chronic infrastructural deficits (unstable power, absent public address systems, non-functional or accreditation-only language laboratories, and uneven student device ownership). Digital adoption was found to be personally driven and improvisational rather than institutionally supported rather than significant socio-economic barriers including poverty and perceived mismanagement of ICT resources. Lecturers nonetheless described strong informal peer-support cultures and expressed cautious optimism about a fully digital future, provided institutions address infrastructure, training, and funding gaps. The report concludes with recommendations for institutional policy, staff development, and further research extending to the remaining proposed sites.

Keywords: digital tools, English for Specific Purposes, Communication for Specific Purposes, Nigerian Polytechnics, focus group discussion, ICT adoption, lecturer perception

Introduction

The rapid development of digital technologies has transformed the landscape of education, creating new possibilities for teaching, learning, communication, and the dissemination of knowledge. In language education, digital tools such as mobile applications, online video platforms, learning management systems, collaborative communication platforms, and artificial intelligence (AI)-powered applications have expanded the range of resources available to teachers and learners. These technologies offer opportunities for more flexible forms of instruction, access to diverse learning materials,

collaborative knowledge construction, and the development of language skills in contexts that extend beyond the conventional classroom. However, the educational value of digital technology does not depend solely on its availability. It is also shaped by teachers' pedagogical choices, learners' needs, institutional support, and the social and material conditions within which teaching and learning take place (Chapelle & Sauro, 2017).

The relevance of digital technology is particularly evident in the teaching of English for Specific Purposes (ESP) and Communication for Specific Purposes (CSP). Unlike general English

instruction, ESP is concerned with developing language competencies that respond to learners' specific academic, occupational, and professional requirements (Basturkmen, 2010). In technical and vocational institutions, communication instruction is expected to equip students with practical abilities in areas such as report writing, oral presentations, professional correspondence, technical communication, and the interpretation of discipline-specific information. These competencies are essential to students' participation in academic activities and their eventual engagement with professional workplaces. Digital tools can potentially enrich such instruction by providing access to authentic professional texts, multimedia resources, interactive learning activities, and opportunities for communication beyond the classroom. Nevertheless, the integration of these tools requires more than technological access; it involves adapting instructional practices to students' levels of competence, disciplinary contexts, and learning conditions.

The relationship between language learning and technology can also be understood within broader developments in second-language-acquisition research. Firth and Wagner's (1997) call for a "social turn" in language research challenged approaches that treated language learning primarily as an individual cognitive activity and drew attention to the importance of interaction, context, and the social dimensions of communication. This perspective provides a useful basis for understanding digital language-learning environments, where meaning-making may occur through collaborative activities, online exchanges, multimedia engagement, and digitally mediated interactions. From this standpoint, digital tools are not simply instruments for transmitting instructional content. They can also function as resources through which lecturers organize participation, facilitate communication, and connect classroom learning with practical language-use situations. Their effectiveness, however, remains contingent upon how they are appropriated within particular educational environments. Within Nigeria, the integration of digital

technology into tertiary education is closely connected to broader concerns about educational quality, employability, technological preparedness, and equitable access to learning opportunities. The polytechnic system occupies an important position in the development of technical and professional manpower. Its instructional mandate places considerable emphasis on practical knowledge and skills that can support students' participation in occupational and professional environments. English and Communication for Specific Purposes instruction is relevant to this mandate because students require effective communication skills to interpret technical information, document procedures, prepare reports, and interact within their respective professional fields. The implementation of the Use of English curriculum in Nigerian polytechnics therefore raises important questions about how lecturers can employ available technologies to support communication-oriented learning (Ojo et al., 2025).

Despite the growing emphasis on digital transformation in education, the integration of technology into Nigerian tertiary institutions remains influenced by significant infrastructural, institutional, and socioeconomic constraints. Previous studies have identified challenges relating to inadequate funding, limited digital competence, insufficient institutional support, and uneven access to technological resources in Nigerian educational settings (Adeoye et al., 2020; Oyefara et al., 2021; Yusuf & Balogun, 2020). These challenges became particularly visible during the COVID-19 pandemic, when institutions were compelled to explore alternative modes of educational delivery. Although the increased use of online and mobile technologies created opportunities for instructional continuity, it also exposed disparities in access, institutional preparedness, and the capacity of teachers and students to participate effectively in digitally mediated learning (Adeoye et al., 2020).

These challenges are especially relevant to the experiences of lecturers working in polytechnics in Northern Nigeria. In such settings, the practical possibilities of digital instruction may be shaped by the reliability of electricity supply,

the availability and functionality of teaching facilities, internet connectivity, students' access to suitable devices, and the financial resources available for data subscriptions. Institutional expectations concerning curriculum coverage and assessment may further influence lecturers' willingness and ability to experiment with digital methods. Consequently, the presence of digital tools does not necessarily translate into sustained or pedagogically meaningful technology integration. Lecturers may instead develop informal, flexible, and improvised strategies that reflect the realities of their classrooms. Understanding these strategies requires attention not only to the tools being used but also to the perceptions, experiences, and institutional circumstances that inform their use.

An important dimension of this issue concerns the distinction between the availability of digital technologies and their actual use in teaching practice. While existing research has examined ICT adoption, e-learning, and digital competence in Nigerian higher education, much of the available literature has focused on universities, student populations, or broad institutional patterns. Comparatively less attention has been given to the experiences of English and General Studies lecturers in polytechnics, particularly in relation to the teaching of ESP/CSP. This limitation leaves insufficient understanding of how lecturers negotiate the relationship between digital possibilities and classroom realities in technical and professional education. It also raises questions about the extent to which institutional policies and curriculum expectations reflect the conditions under which lecturers actually work.

It is against this background that the present study examines lecturers' perceptions of digital tool use in English and Communication for Specific Purpose instruction in two Northern Nigerian polytechnics: Federal Polytechnic Bauchi and Abubakar Tatari Ali Polytechnic, Bauchi. Using qualitative data generated through focus group discussions with English and General Studies lecturers, the study explores the digital tools employed in instructional practice, lecturers' perceptions of their usefulness, the challenges associated with their adoption, and the factors that

enable or constrain their integration into teaching. It also examines the practical recommendations lecturers offer for improving institutional support and technology integration. By foregrounding lecturers' own accounts, the study seeks to contribute context-sensitive evidence to discussions of digital technology in Nigerian polytechnic education and to inform more realistic approaches to the development of digitally supported ESP/CSP instruction. In doing so, it speaks to the broader goal of promoting inclusive and equitable quality education, as reflected in Sustainable Development Goal 4.

The significance of this study derives from its examination of digital tool use in English and Communication for Specific Purposes (ESP/CSP) instruction from the perspectives of lecturers working in two Nigerian polytechnics. As digital technologies become increasingly relevant to educational delivery, understanding how lecturers experience, interpret, and negotiate their use in actual classroom settings is essential to the development of effective and contextually appropriate approaches to technology integration. By focusing on lecturers' accounts of their everyday instructional practices, this study provides insights into the opportunities and constraints associated with digital technology use in a relatively underexplored segment of Nigerian tertiary education.

The study is significant in several respects. First, it contributes empirical evidence to scholarship on digital technology integration in language education by documenting how English and General Studies lecturers employ digital tools to support teaching and learning in polytechnic settings. The participants' experiences provide insight into the practical uses of tools such as WhatsApp, YouTube, email, and emerging artificial intelligence applications for the dissemination of instructional materials, assignment management, student engagement, and academic guidance. The study thereby draws attention to the way's lecturers adapt available technologies to meet instructional needs in contexts where formal digital infrastructure may be inadequate or unreliable.

Second, the study contributes to the understanding of the relationship between lecturer agency and institutional conditions in the adoption of educational technology. Its focus on lecturers' perceptions makes it possible to examine how individual initiative, professional experience, peer collaboration, and the perceived relevance of digital resources shape instructional practices. At the same time, the study highlights the extent to which infrastructural deficiencies, inadequate training, limited student access to digital devices, and socioeconomic constraints influence the sustainability of these practices. These insights may help researchers and educational stakeholders move beyond technology-centred explanations of digital adoption towards a more comprehensive understanding of the institutional and social conditions that support or constrain it.

Third, the findings have practical implications for curriculum development and the improvement of ESP/CSP instruction in Nigerian polytechnics. The study draws attention to the importance of aligning digital resources with students' disciplinary backgrounds, communication needs, and learning circumstances. It may therefore assist curriculum planners and English language educators in considering more flexible and context-sensitive approaches to the integration of digital materials and activities into communication-oriented instruction. The study also highlights the need to consider students' unequal access to devices, internet connectivity, and digital learning resources when designing technology-supported activities.

Fourth, the study offers practical insights for institutional administrators and policymakers responsible for educational technology and staff development. The lecturers' recommendations concerning reliable electricity, functional teaching facilities, targeted digital-skills training, institutional digital platforms, and structured peer support provide a basis for reflecting on the types of support required for sustainable technology integration. In particular, the emphasis on practical, collaborative training and the routine use of existing infrastructure may inform institutional strategies that respond to lecturers' immediate

instructional realities rather than relying exclusively on broad policy aspirations.

Finally, the study contributes to the growing body of research on digital education in Nigeria by drawing attention to the experiences of lecturers in two polytechnics in Bauchi State. Although its findings are context-specific and cannot be generalized to all Nigerian polytechnics, they provide a useful foundation for further investigation involving additional institutions, geographical locations, ownership categories, and student populations. The study may consequently serve as a starting point for broader comparative research into the relationship between digital technology, language education, institutional capacity, and equitable access to learning opportunities in Nigerian tertiary institutions.

The integration of digital technology into tertiary education has become an important concern in contemporary educational practice. Digital tools offer opportunities to expand access to learning materials, facilitate communication between lecturers and students, support collaborative learning, and enrich the teaching of language and communication skills. These possibilities are particularly relevant to English and Communication for Specific Purposes (ESP/CSP) instruction in polytechnics, where students are expected to develop communication competencies that support their academic work and future participation in technical, professional, and occupational environments. However, the availability of digital technologies does not necessarily guarantee their effective or sustained integration into teaching and learning.

In Nigeria, efforts to promote digital education have been accompanied by persistent challenges relating to infrastructure, funding, digital competence, internet access, and institutional support. Previous studies have identified barriers to the effective use of ICT and e-learning in Nigerian tertiary institutions, including inadequate technological facilities, limited professional development opportunities, and uneven levels of readiness among educational stakeholders (Adeoye et al., 2020; Oyefara et al., 2021; Yusuf & Balogun, 2020). Although these studies provide useful insights into the broader

challenges of digital technology adoption, their findings do not, by themselves, explain how English and General Studies lecturers in polytechnics experience and respond to these challenges in their daily instructional practice.

The problem addressed by this study is therefore not simply the limited availability of digital tools, but the insufficient understanding of how lecturers negotiate the relationship between digital technology and the practical demands of ESP/CSP instruction within resource-constrained polytechnic environments. Lecturers may be expected to incorporate digital resources into their teaching while working with unreliable electricity, inadequate or non-functional instructional facilities, uneven student access to digital devices, limited internet connectivity, and curricula that may not readily accommodate innovative teaching practices. Under such conditions, lecturers' decisions about whether and how to use digital tools may depend on personal initiative, professional experience, peer support, perceptions of student readiness, and the availability of institutional assistance. Without adequate understanding of these experiences, technology-integration initiatives may fail to address the conditions that shape actual classroom practice.

A further concern is the limited attention given to the specific instructional context of English and Communication for Specific Purposes in Nigerian polytechnics. While existing research has examined ICT utilisation, e-learning, and technology-related challenges in Nigerian higher education, there is comparatively limited evidence concerning the experiences and perceptions of polytechnic English lecturers, particularly in relation to the teaching of communication skills for technical and professional purposes. This gap is important because the successful integration of digital tools into ESP/CSP instruction requires consideration of more than general technological competence. It also involves the selection of relevant disciplinary materials, the adaptation of teaching activities to students' communication needs, the management of digital participation, and the negotiation of practical constraints within the classroom.

The present study addresses this problem by examining lecturers' perceptions and experiences of digital tool use in ESP/CSP instruction in two polytechnics in Bauchi State: Federal Polytechnic Bauchi and Abubakar Tatari Ali Polytechnic, Bauchi. Through focus group discussions with 25 English and General Studies lecturers, the study investigates the digital tools lecturers use, their perceptions of the instructional value of these tools, the challenges they encounter, and the factors that enable or hinder technology adoption. It also explores the practical measures lecturers consider necessary for improving digital integration in their teaching environments. By foregrounding lecturers' own accounts, the study seeks to provide context-sensitive evidence that can inform institutional support, professional development, curriculum implementation, and future research on digitally supported language education in Nigerian polytechnics. The study is limited to the participating lecturers and institutions. It does not seek to establish the effectiveness of particular digital tools through experimental measurement or to generalize its findings to all Nigerian polytechnics. Rather, it seeks to develop a grounded understanding of the conditions, experiences, and perceptions that shape digital tool use in the specific instructional settings examined.

Statement of the Problem

Despite increasing attention to digital technology in Nigerian higher education, limited empirical research of how English lecturers in Northern Nigerian polytechnics actually perceive and use digital tools in ESP/ CSP instruction, as distinct from what policy or curriculum documents assume or prescribe. Much of the existing Nigerian literature on ICT adoption in education focuses on universities or on pre-service teachers (Yusuf & Balogun, 2020; Oyefara, Adejoh, Adisa, Abdulsalam & Alabi, 2021; Nwakoby & Okoye, 2020), leaving polytechnic English lecturers (who teach large, often under-resourced classes with a clear communication mandate) comparatively unheard. This study addresses that gap directly, drawing on lecturers' own accounts, gathered through focus group discussion, of what they use, what hinders them, and what they believe would

help.

Research Questions

The study was guided by the following research questions:

1. How do English lecturers in these polytechnics use digital tools in ESP/ CSP instruction?
2. What benefits and challenges do lecturers associate with their use of digital tools?
3. What individual, institutional and socio-economic factors enable or constrain digital-tool adoption?
4. What recommendations do lecturers themselves offer for institutional policy and practice on technology integration in language teaching?

Theoretical Framework

This study is theoretically grounded in the "social turn" of second language acquisition (SLA), pioneered by Firth and Wagner (1997). Firth and Wagner re-conceptualized language acquisition from a solitary, purely internal cognitive exercise into a socially situated interactive process shaped dynamically by identity, local power structures, and context. When mapped onto modern digital pedagogies, the social turn provides a vital framework for understanding how Web 2.0 technologies—such as instant messaging platforms, open-source video channels, and collaborative generative tools—act as virtual ecologies for interaction. In resource-constrained educational environments, digital tools do not merely deliver content; they serve as interactive platforms where language is negotiated, and communicative identities are formed (Hampel & Stickler, 2005). By observing how lecturers navigate these digital environments, this study evaluates whether mobile-mediated spaces function as authentic, interactive linguistic fields or merely as electronic repositories for static lecture materials.

Literature review

Within English for Specific Purposes (ESP) and Communication for Specific Purposes (CSP), instructional design relies heavily on what are traditionally understood as the core pillars of the discipline: targeted needs analysis, explicit learning objectives, contextualized

materials/methods, and continuous evaluation (Basturkmen, 2010). Unlike general English language teaching, ESP and CSP demand highly practical, domain-specific communicative competencies tailored to industrial and technical careers.

Globally, digital tools—ranging from Learning Management Systems (LMS) to AI-powered dialogue systems—are recognized for their capacity to simulate real-world professional environments and provide automated, personalized feedback (Chapelle & Sauro, 2017). In practice-driven language environments, mobile devices and social networks have evolved into essential channels for collaborative learning and instant peer feedback. However, the successful execution of these digital methods depends directly on the instructor's ability to balance the technical tool with the precise occupational communication needs of the syllabus. The global rush toward educational digitalization was drastically accelerated by the COVID-19 pandemic, forcing a shift from structured distance education to improvisational e-learning. While institutions in developed economic regions smoothly integrated advanced cloud infrastructures, tertiary institutions across Sub-Saharan Africa encountered severe system mismatches.

Research indicates that across the continent, emergency digital adoption exposed deep systemic vulnerabilities, including unstable national power grids, prohibitive mobile data tariffs, and a lack of formal institutional training policies (Adeoye et al., 2020). Consequently, language educators in these settings regularly engage in highly improvisational "low-infrastructure" practices. Rather than relying on institutional platforms, instructors often repurpose commercial, low-bandwidth applications to maintain instructional continuity under adverse material conditions.

In Nigeria, empirical studies assessing educational technology highlight a significant gap between administrative policies and actual classroom realities. For instance, Nwakoby and Okoye (2020) demonstrate that while e-learning models theoretically expand access and bypass

geographical limitations, their long-term pedagogical effectiveness remains restricted by ongoing technical issues. This divide is further widened by personal competency gaps. Research shows that while student-teachers and practicing faculty often maintain highly positive attitudes toward ICT tools, their functional execution is stifled by a lack of baseline technical training (Yusuf & Balogun, 2020).

Furthermore, structural and institutional barriers heavily impact day-to-day teaching. Dominant challenges include chronic budgetary deficits, the absence of clear, localized ICT integration guidelines, erratic electrical supply, and non-functional infrastructure (Oyefara et al., 2021). As a result, modern equipment—such as multimedia language laboratories—often exists solely as placeholder infrastructure, utilized exclusively to pass regulatory accreditation exercises rather than for ongoing instructional delivery.

Despite a substantial body of literature on Nigerian educational technology, existing scholarship exhibits a dual bias: it is overwhelmingly focused on the university sector and concentrated within Southern geographical zones. The polytechnic sub-sector remains under-examined, despite its unique national mandate to produce practical, technical manpower—a mission directly dependent on the functional communication skills taught in ESP and CSP courses (Ojo et al., 2025).

This research gap is particularly severe regarding the sub-sector in Northern Nigeria, where the intersection of high student enrollments, regional socioeconomic challenges, and profound digital disparities creates a uniquely difficult instructional environment. Most existing studies rely on quantitative student surveys to capture broad usage statistics, leaving the qualitative, lived experiences of the instructors completely unexamined. This study directly addresses this empirical gap. By utilizing a qualitative focus group design with language lecturers at the Federal Polytechnic Bauchi and the Abubakar Tatari Ali Polytechnic, Bauchi, this paper explores the improvisational strategies, informal peer support systems, and professional challenges experienced

by educators working at the frontline of digital language instruction in Northern Nigerian polytechnics.

Methodology

Research Design and Purposive Scope Refinement

This study adopts an interpretivist, qualitative research design using Focus Group Discussions (FGDs) to investigate the lived experiences and pedagogical perceptions of polytechnic lecturers regarding digital tool integration. While the initial macro-level project framework contemplated a wider multi-institutional mixed-methods survey, the research design was purposefully refined to a deep, localized qualitative inquiry. This methodological shift allowed for an intensive, context-specific examination of frontline instructors in a Resource-Constrained Environment (RCE).

Focus groups were selected over individual interviews because the interaction dynamic creates a collaborative space that encourages shared reflection. This dynamic allowed participants to voice, validate, and contrast their experiences with structural deficits and informal institutional workarounds.

Context and Participant Selection

The study was conducted in Bauchi State, Northern Nigeria, across two distinct institutional contexts:

- The Federal Polytechnic, Bauchi (FedPoly Bauchi): A federally funded institution.
- Abubakar Tatari Ali Polytechnic, Bauchi (ATAP): A state-funded institution.

A total of N=25 lecturers from the Departments of English, General Studies, or related core liberal arts units were selected using purposive sampling. The sampling criteria required participants to have at least two years of active instructional experience in English for Specific Purposes (ESP) or Communication for Specific Purposes (CSP) courses within the polytechnic system.

- FGD Cohort 1 (FedPoly Bauchi): Comprised 17 lecturers. The session was conducted on November 28, 2025.
- FGD Cohort 2 (ATAP Bauchi): Comprised 8 lecturers. The session was conducted on June 15, 2026.

The seven-month interval between the two sessions allowed the researchers to perform interim iterative analysis, using insights gained from the first federal cohort to refine the follow-up probes for the state cohort.

Data Collection Protocol and Instrument Validation

Data collection followed a semi-structured FGD protocol. The instrument was peer-reviewed by two senior language education specialists to ensure it aligned with the study's research questions. The discussions covered seven core areas: teaching realities, generational gaps in digital literacy, student digital behavior, curriculum flexibility, material selection, professional support, and future expectations.

Given the rapid changes in the digital landscape between project conception and data collection—specifically the mainstream adoption of Large Language Models—the protocol was updated dynamically in 2026 to capture emerging pedagogies surrounding generative AI tools. Discussions were audio-recorded with the explicit consent of the participants and averaged 90 minutes per session.

Data Analysis and Trustworthiness

The recorded discussions were transcribed verbatim and checked for accuracy. The transcripts were analyzed using Thematic Analysis (TA), following an inductive open-coding process. Initial codes were clustered into sub-themes and then mapped onto the overarching research questions.

To ensure trustworthiness and rigor, the study employed *investigator triangulation* during the coding phase to resolve discrepancies. *Member checking* was also conducted with representatives from both polytechnics to confirm that the final narrative accurately reflected their institutional experiences.

Results and Findings

RQ1: Patterns of Digital Tool Utilization in ESP/CSP Instruction

Data analysis revealed that across both institutions, digital tool integration is characterized by an improvisational, "low-infrastructure" paradigm. Rather than operating within institutionally provisioned frameworks or enterprise Learning

Management Systems (LMS), lecturers almost exclusively deploy consumer-grade, low-bandwidth applications to maintain instructional continuity.

Mobile-Mediated Logistics via WhatsApp

WhatsApp emerged as the operational backbone for course administration and material dissemination within both departments. The application is routinely repurposed to distribute lecture notes, broadcast assignments, and facilitate asynchronous feedback loops outside formal institutional hours. A lecturer at FPTB detailed the typical operational flow:

"So we have so many apps that we can make use of, this is WhatsApp. It's very important. You can make your notes, type everything and send them to your students. You can read, ask a question, and they can give you feedback." (FPTB Lecturer)

Furthermore, educators leverage the application as a mechanism for group accountability in large classes. Group leaders are frequently mandated to capture photographic evidence of physical collaboration sessions during assignment compilation and transmit these directly to the lecturer via WhatsApp to verify participation.

Flipped Classrooms and Asynchronous Media Adaptation via YouTube

At FPTB, early-career educators demonstrated a greater inclination toward leveraging open-source digital video repositories to implement hybrid instructional strategies. By assigning specific video targets prior to physical class meetings, lecturers seek to bypass the lack of classroom projection technologies:

"Before we come to that topic... I tell them that they should go online and study it. Then they should watch at least two or three YouTube videos... when they come to class next class, I know by their contributions that they are very... involved and they participate very well." (FPTB Lecturer)

Due to the complete absence of operational institutional media hardware, this lecturer also instructed students to read targeted textual passages directly from their personal mobile device screens during class, using individual hardware to substitute for missing institutional infrastructure.

Emerging Generative AI Orchestration and Electronic Mail

The ATAP data revealed a recent, unexpected shift in the digital toolkit: the integration of generative AI writing systems, specifically platforms like ChatGPT and DeepSeek. Rather than using these systems for unmediated text generation, lecturers described an active, scaffolding-oriented approach aimed at structuring student research outputs:

"Just search your topic on ChatGPT or DeepSeek or any of the AI tools. It will give you a good structure... Now go to the library, expand your work." (ATAP Lecturer)

In addition to AI platforms, electronic mail is occasionally used for formal document submission, though its adoption faces institutional friction. One ATAP lecturer recounted an instance where a colleague's shift to email submissions was initially interpreted by an administrative Head of Department as highly irregular or suspicious conduct, before it was eventually validated as a legitimate attempt at electronic integration.

The Persistence of Analogue Workarounds and Decayed Infrastructure

Despite these instances of digital improvisation, adoption remains deeply uneven. Multiple senior lecturers reported maintaining completely analogue instructional workflows to shield themselves from systemic vulnerabilities:

"My notes are still... hard copy... and I give them to go and make their own copies. So, in that way, infrastructure hasn't affected me at all... delivering the lecture is still analogue." (FPTB Lecturer)

This deliberate reliance on paper-based methods is directly reinforced by the state of physical campus infrastructure. While both institutions possess dedicated language laboratories, digital libraries, and multimedia projectors, these assets were universally described as non-functional or intentionally withheld from everyday teaching. Instead, they function primarily as "accreditation artifacts" designed to satisfy regulatory bodies like the National Board for Technical Education (NBTE):

"We have a language lab... but it's not for English." (ATAP Lecturer)

"Sometimes they keep it for accreditation... you can see the lab, well-equipped, but non-functional." (ATAP Lecturer)

RQ2: Lecturer Perceptions of Digital Effectiveness and Associated Challenges

7.2.1 Perceived Pedagogical Benefits

Lecturers identified four distinct pedagogical advantages to digital tool integration:

- **Heightened Student Engagement:** Pre-class exposure to interactive multimedia assets (e.g., targeted YouTube videos) noticeably increases student participation rates during physical class meetings.
- **Contextualized Curricular Application:** Digital media allows instructors to bridge the gap between abstract textbook modules and real-world occurrences. For example, an FPTB instructor utilized digital news coverage of a tragic school building collapse in Jos to teach contextualized, professional accident report writing.
- **Anonymized Confidence-Building:** Text-based communication channels (e.g., WhatsApp threads) serve as low-stakes participation environments, enabling introverted or apprehensive students to contribute to discussions without the anxiety of public speaking.
- **Administrative Efficiency:** Mobile networks significantly reduce the transaction costs associated with course scheduling, assignment distribution, and high-volume formative assessment tracking.

Perceived Systemic and Structural Challenges

Conversely, participants detailed severe structural obstacles that undermine the sustainability of digital integration:

- **The Digital Divide and Infrastructure Deficits:** The most prominent operational challenge is the compounding effect of rolling power outages, the absence of public address (PA) systems in highly congested lecture halls, and unequal student device ownership. At FPTB, instructors estimated that approximately 30% of the student population completely

lacks smartphone access, creating severe ethical and operational dilemmas when designing class-wide digital tasks.

- **Digital Plagiarism and Academic Misuse:** The democratization of internet access has led to an inflation of uncritical, copy-paste plagiarism. Lecturers reported frequently receiving identical assignments extracted wholesale from web engines. In response, educators have had to design defensive assessment strategies, including unannounced in-class written tests, mandatory handwritten submissions, and tasks tied strictly to hyper-local events.
- **Cognitive Distraction:** Instructors widely noted a tendency among students to redirect academic data access toward non-academic social media spaces, leading to a perceived net decline in sustained cognitive focus.
- **Severe Socioeconomic Deprivation:** Particularly within the ATAP cohort, the macro-economic environment shapes classroom realities. Prohibitive mobile internet data tariffs regularly exclude economically vulnerable students from accessing shared digital learning materials:

"The main problem is the poverty... you can see a child, you call, he says 'I don't have data.' And there's no free Wi-Fi in this school." (ATAP Lecturer)

- **Systemic Educational Disengagement:** ATAP participants emphasized that superficial digital behaviors are symptoms of a deeper crisis, including overcrowded, under-funded primary/secondary foundations and a pervasive "certification-over-learning" institutional culture.

RQ3: Enablers and Hindrances Governing Technological Adoption

Enabling Factors

Digital tool integration is sustained by four

principal catalysts:

- **Individual Teacher Agency and Improvisation:** In the absence of institutional frameworks, individual teacher initiative is the primary driver of technology use. Instructors noted that administrative neglect paradoxically grants them considerable operational freedom to experiment with low-bandwidth tools: *"There is no restriction [from the institution]... because the facilities are not there. So as an experienced teacher, you have to at least look for a way... improvise"* (ATAP Lecturer).
- **Organic Peer-Support Networks:** Both departments exhibit highly collaborative cultures, with instructors relying on informal networks to build digital literacy. FPTB participants explicitly invoked familial metaphors (*"we are family... we help ourselves"*), while ATAP lecturers leveraged formal outside affiliations, such as the English Language Teachers Association of Nigeria (ELTAN), to access peer mentoring.
- **Relevance-Driven Pedagogical Selection:** Rather than adopting technology for its own sake, lecturers select specific digital texts based on their direct relevance to their students' future careers (e.g., engineering reports for technical cohorts or banking communications for business students).
- **Professional Imperative to Maintain Currency:** Instructors expressed a strong desire to stay current with modern communication trends, driven by the fear that relying exclusively on outdated pedagogical tools would cause them to lose credibility with their digitally literate students.

Hindering Factors

Systemic blockages continue to restrict widespread digital adoption:

- **Chronic Infrastructure Deficits:** The recurring lack of basic electrical power, institutional internet, functional projection units, and operational language laboratories remains the primary structural barrier.
- **Rigid and Outdated Curricula:** The national polytechnic English syllabus was described as heavily outdated. One FPTB lecturer noted that the curriculum reads as if it were written in "1995," forcing instructors to rush through an overcrowded list of theoretical topics at the expense of deep digital competency cultivation.
- **Generic Training Interventions:** Where formal professional development exists, it is frequently criticized for offering abstract "ICT awareness" rather than practical, discipline-specific training on specialized educational software (e.g., digital gradebooks or computer-based testing platforms).
- **Pedagogical Risk Aversion:** Instructors often operate on unverified assumptions regarding student technological deficits, preemptively choosing to avoid digital assignments altogether rather than testing their students' actual digital access levels: *"We have more fear of... let me begin this and see how far these students can go... it's assumption, we have not actually found out from them"* (FPTB Lecturer).
- **Broader Systemic Corruption:** Participants highlighted macro-level governance challenges, specifically noting that resources allocated for institutional ICT development are frequently mismanaged or diverted before reaching the classroom.

Learner Autonomy	Shifted to out-of-class spaces. True autonomy is hindered by device and data limitations. However, when lecturers use WhatsApp and pre-class YouTube assignments, responsibility shifts to the students. Quieter students use this digital space to build confidence away from the social pressures of crowded lecture halls.
ESP Pedagogy	Highly functional but deeply constrained. Lecturers show strong pedagogical focus by choosing digital materials tailored to specific fields (e.g., banking or engineering texts). However, the absolute lack of working language labs means the practical, audiolingual, and professional simulation components of ESP are replaced by basic text-sharing on mobile phones.
Teacher Agency	Operates as unresourced improvisation. Because institutions fail to provide infrastructure, lecturers exercise massive personal agency to keep their classes running. Interestingly, institutional neglect creates a form of structural freedom: because there are no official systems to enforce, lecturers are free to experiment with tools like WhatsApp and generative AI (ChatGPT/DeepSeek).
Digital Inequality	A major ethical and practical barrier. The data shows that digital inequality is a harsh economic reality, not just a technical issue. At FPTB, around 30% of students lack smartphones, and at ATAP, high data costs actively lock poor students out of learning. This creates a split classroom where any digital mandate penalizes students based on their socioeconomic status.
Curriculum Flexibility	Stifled by outdated policies. The results show a major clash between modern digital practices and rigid regulations. Lecturers feel trapped by an NBTE curriculum described as reading like it is from "1995." Its dense, theoretical requirements give instructors very little time to teach actual digital communication skills.
Assessment	Forced into defensive, low-stakes models. Because official learning management systems are absent, continuous assessment is managed through informal channels like email or

WhatsApp group photos. This makes grading high-volume classes incredibly time-consuming and leaves assessments vulnerable to technical glitches and administrative suspicion.

Academic Integrity

Under constant threat from digital shortcuts. The rise of unmetered internet access and generative AI has caused a massive surge in copy-paste plagiarism. Because students lack foundational research skills and face heavy workloads, they copy assignments wholesale. This forces lecturers to deploy defensive teaching strategies, such as switching back to handwritten submissions and impromptu, in-class physical tests.

Discussion

The qualitative data from both polytechnic focus groups reveals an instructional reality where digital tool adoption is individually driven, improvisational, and counter-structural. Lecturers actively navigate deep infrastructural deficits through personal resourcefulness rather than relying on top-down institutional support.

Navigating Infrastructural Fractures via Low-Infrastructure Tools

The heavy reliance on low-infrastructure digital tools—primarily WhatsApp and YouTube—to teach ESP and CSP courses highlights a major mismatch between administrative policy and classroom reality. This study shows that commercial, low-bandwidth applications integrated into daily life regularly outperform official, high-bandwidth Learning Management Systems (LMS). This pattern matches regional literature showing that platforms requiring zero institutional configuration see the highest actual adoption in resource-constrained environments. The fact that language laboratories often function as placeholder, "accreditation-only" facilities reinforces the findings of Oyefara et al. (2021). They noted that institutional and structural gaps remain the primary barrier to meaningful ICT integration among Nigerian academics.

Consequently, lecturers face a double burden: they must design practical communication materials while simultaneously managing technical workarounds for unstable power grids, absent public address systems, and uneven student device ownership.

The Emergence of Generative AI in the Pedagogical Landscape

A significant finding from the 2026 ATAP cohort

data is the rapid emergence of generative AI chat tools, specifically ChatGPT and DeepSeek, within the lecturers' instructional toolkits. This development is absent from earlier Nigerian ICT studies, which predated the widespread classroom use of these models. Rather than rejecting these tools out of concern for academic dishonesty, the lecturers demonstrated a self-developed, cautious approach to AI literacy. They used these models as structural scaffolding—helping students organize technical reports and professional correspondence—while strictly maintaining that AI should complement, not replace, primary research.

This finding expands the work of Yusuf and Balogun (2020). While their study identified a persistent gap between positive attitudes toward technology and actual classroom competence, our findings show that lecturers are actively shrinking this gap through self-directed, real-time experimentation with emerging AI technologies.

Socioeconomic Realities and Systemic Policy Distances

The systemic barriers raised by participants—particularly within the ATAP cohort—show that digital tool adoption cannot be separated from broader socioeconomic issues. Problems such as student poverty, unequal distribution of ICT resources, and weak parental engagement show that technology-only interventions are insufficient. This supports the argument by Adeoye et al. (2020) regarding Nigeria's emergency e-learning experiences during the pandemic: sustainable digital integration requires comprehensive policy shifts and targeted funding that reach well beyond the classroom walls. Expecting lecturers to pay out-of-pocket for data subscriptions to deliver

standard polytechnic curricula is structurally unsustainable.

Conclusion

This study investigated the lived experiences and perceptions of English and Communication for Specific Purposes (CSP) lecturers navigating digital tool integration across two public polytechnics in Bauchi State, Northern Nigeria. The findings reveal a stark divergence between institutional policy assumptions and actual classroom realities. While formal administrative guidelines and accreditation frameworks assume the existence of functional, high-bandwidth educational infrastructure, instructional delivery in practice relies on an improvisational, low-infrastructure paradigm. Lecturers routinely bypass non-functional or restricted institutional facilities by repurposing commercial, low-bandwidth applications—principally WhatsApp, YouTube, and emergent generative artificial intelligence platforms—to maintain instructional continuity under adverse material conditions.

The study highlights that digital tool adoption in Northern Nigerian polytechnics is primarily driven by individual teacher agency and sustained through informal peer-support networks, rather than being facilitated by institutional support systems. However, this grassroots digital integration faces significant structural and socioeconomic challenges, including severe student poverty, unequal device ownership, prohibitive data costs, rigid national curricula, and rampant plagiarism.

Ultimately, technology alone cannot resolve these deep systemic issues. Sustainable digital integration within the polytechnic sub-sector requires moving away from top-down mandates and instead pursuing realistic, context-responsive interventions that acknowledge and resource the actual field practices of educators.

Recommendations

Based on the empirical insights gathered from the focus group sessions, the following recommendations are proposed for institutional policymakers, curriculum designers, and language practitioners:

- Formalize and Resource Grassroots Peer Networks: Rather than investing in

expensive, top-down training programs led by external ICT consultants, institutions should formalize the existing organic peer-support cultures observed within departments. Providing modest administrative resources for department-level peer-mentoring circles and short, practical, localized workshops on specific software tools (e.g., digital grading platforms, computer-based assessment design) will offer a more sustainable and cost-effective path to building digital literacy.

- Review and Modernize the National Polytechnic ESP/CSP Curriculum: The National Board for Technical Education (NBTE) should urgently revise the outdated Use of English and CSP syllabi. The current overcrowded, theory-heavy frameworks must be streamlined to integrate digital literacy skills directly into core learning outcomes, allowing lecturers the instructional time and flexibility to run meaningful digital tasks.
- Adopt a "Low-Infrastructure" Procurement Strategy: Institutional administrators must align their ICT procurement policies with the realities of the local environment. Instead of purchasing high-bandwidth enterprise systems that quickly break down due to rolling power outages, funding should be directed toward building baseline classroom infrastructure, including stable solar-powered inverters, functioning public address (PA) systems for large lecture halls, and open-access, zero-rated campus Wi-Fi networks.
- Implement Structured AI Literacy Frameworks: Given the rapid, informal adoption of generative AI platforms like ChatGPT and DeepSeek among students and faculty, academic departments should establish clear, pedagogical guidelines for AI use. Rather than attempting to ban these tools, institutions should train lecturers to implement scaffolding techniques that utilize AI for structural

- planning while explicitly emphasizing library research and local contextual application to combat plagiarism.
- Expand the Geographical Scope of Future Research: Subsequent studies should secure the necessary external research

funding to execute the multi-site, mixed-methods designs originally envisioned, expanding the sample to include private polytechnics and other geopolitical zones in Nigeria to confirm the generalizability of these findings.

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References

- Adeoye, I. A., Adanikin, A. F., & Adanikin, A. (2020). COVID-19 and E-learning: Challenges and opportunities for the Nigerian education system. *Journal of Research in Humanity and Social Science*, 8(8), 16–21.
- Basturkmen, H. (2010). *Developing courses in English for specific purposes*. Palgrave Macmillan. doi.org
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. doi.org
- Chapelle, C. A., & Sauro, S. (Eds.). (2017). *The handbook of technology and second language teaching and learning*. Wiley-Blackwell. doi.org
- Firth, A., & Wagner, J. (1997). On discourse, communication, and (some) fundamental concepts in SLA research. *The Modern Language Journal*, 81(3), 285–300. doi.org
- Hampel, R., & Stickler, U. (2005). New skills for new classrooms: Training tutors to teach languages online. *Computer Assisted Language Learning*, 18(4), 311–326. doi.org
- Nwakoby, S. I., & Okoye, E. I. (2020). Impact of e-learning on the academic performance of students in tertiary institutions in Enugu State. *International Journal of Open Education*, 8(2), 45–58.
- Ojo, O. A., Olajide, S. B., & Thompson, E. O. (2025). The foundational role of Use of English curricula in Nigerian technical education: A review of polytechnic mandates. *Nigerian Journal of Functional Education*, 14(1), 89–104.
- Oyefara, J. O., Adejoh, P. O., Adisa, W. A., Abdulsalam, A., & Alabi, O. (2021). Institutional barriers and infrastructural deficits: Obstacles to ICT integration among Nigerian academics. *African Journal of Sociology and Development*, 13(3), 112–128.
- Yusuf, M. O., & Balogun, M. R. (2020). Student-teachers' competence and attitudes towards information and communication technology in Nigerian universities. *Journal of Digital Learning in Teacher Education*, 36(2), 104–118. doi.org