Extent of Utilization of E-Learning Technologies in the Teaching and Learning of Igbo Language in Senior Secondary Schools in Nsukka Local Government Area, Enugu State

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Abstract

This study examined the extent of utilization of e-learning technologies in the teaching and learning of the Igbo language in senior secondary schools in Nsukka Local Government Area (L.G.A) of Enugu State, Nigeria. A descriptive survey research design was adopted, guided by two research questions. The population comprised 600 Senior Secondary School II (SS II) students from public secondary schools in the study area, with a sample of 60 students (10%) selected using a simple random sampling technique. Data were collected using a researcher-developed instrument, the Extent of Utilization of E-Learning Technologies in Teaching and Learning of Igbo Language Questionnaire (EUELTQ), containing 37 items. Data were analyzed using descriptive statistics, including percentages, mean, and standard deviation. Findings revealed that although platforms such as WhatsApp, Facebook, Google Classroom, Google Meet, Zoom, and Telegram were available, their utilization was generally low. Students had positive perceptions of e-learning, recognizing its potential to reduce time and space barriers and promote practical and individualized learning. Key challenges included lack of policy enforcement, unstable electricity, inadequate computer laboratories, poor internet connectivity, and low bandwidth. The study recommends policy reinforcement, infrastructural

investment, teacher training, and awareness creation to enhance effective teaching and learning of Igbo through e-learning.

Keywords: extent, utilization, e-learning technologies, teaching and learning, Igbo language, senior secondary, schools.

Introduction

Language is one of the most distinguishing features of human beings, serving as a sophisticated system for expressing ideas, transmitting knowledge, and facilitating social interaction. Greenberg (1949) emphasizes that language functions not only as a communication tool but also as a primary vehicle for cultural expression. This interconnection highlights the reciprocal relationship between language and culture: culture shapes language, and language preserves and transmits cultural heritage. In Nigeria, the Igbo people of the Southeast region speak the Igbo language, which belongs to the Kwa subfamily of the Niger-Congo language family (Lewis, 2009). Estimates indicate that 18–27 million people speak Igbo, though most do not reside in the Igbo homeland.

The diversity of Igbo dialects prompted the development of Standard Igbo, which integrates elements from multiple dialects to ensure mutual intelligibility (Achebe, 2012). Achebe notes that standardization facilitates communication among speakers of different dialects, preserves linguistic heritage, and supports effective language instruction in schools. The adoption of Standard Igbo as the medium of instruction reflects a deliberate strategy to promote linguistic competence and cultural cohesion. Integrating cultural content further enhances learning outcomes. Abonyi, Eze, and Ezugwu (2025) demonstrate that incorporating Igbo traditional music into school curricula strengthens cultural revitalization while reinforcing language learning, highlighting the synergy between cultural heritage and pedagogy.

Digital technologies now offer additional avenues for enhancing language instruction. Zoraini (2019) observes that e-learning has created unprecedented opportunities for knowledge acquisition beyond traditional classrooms. E-learning involves the use of electronic media including the internet, audiovisual tools, and mobile devices to support instruction. Engelbrecht (2015) defines it as

structured knowledge acquisition through electronic platforms, allowing learners to engage asynchronously and interactively. Kyari, Adiuku-Brown, Abechi, and Adelakun (2018) describe e-learning as encompassing web-based learning, computer-assisted instruction, virtual classrooms, and multimedia content delivery, facilitated via networks and mobile technologies. Ossai et al. (2024) show that ICT strategies can enhance oracy skills for learners with expressive language disorders, underscoring e-learning's potential to support diverse learners in senior secondary schools.

E-learning is widely recognized as a transformative pedagogical innovation capable of addressing limitations inherent in conventional instruction (Fry, 2011). Hiltz (2016) frames it as Technology-Enhanced Learning (TEL), highlighting its capacity to foster socio-technical innovations, reduce costs, and promote learner-centered instruction that is flexible in time and space. TEL enables learners to access materials at their own pace, supporting personalized learning experiences. Obringer (2011) notes that e-learning has evolved from basic computer-assisted instruction to interactive platforms integrating multimedia resources, podcasts, blogs, videos, and discussion forums. This evolution marks a shift from teacher-centered to learner-centered pedagogy. Eze, Ossai, and Uwakwe (2024) provide empirical evidence that communicative language teaching enhanced through digital tools improves oral proficiency, highlighting the relevance of interactive, learner-centered approaches in both second-language and indigenous language education.

The advantages of e-learning are extensive. Alu (2011) identifies flexibility in time and location, reduced costs, self-paced learning, and access to diverse resources as key benefits. Moses (2011) observes that e-learning compels educators to rethink instructional strategies, assess content relevance, and adopt innovative assessment methods. Zoraini (2019) adds that e-learning fosters collaboration, supports geographically dispersed learners, and ensures "just-in-time" access to information, particularly during disruptions such as the COVID-19 pandemic, emphasizing the need for resilient educational systems.

Theoretical frameworks provide critical insights into language learning and e-learning adoption. Vygotsky's (1978) Sociocultural Theory posits that learning is

socially mediated, occurring through interaction with more knowledgeable others. E-learning platforms offering discussion forums, interactive modules, and peer collaboration align with these principles, facilitating socially mediated learning. Bandura's (1977) Social Learning Theory emphasizes that learners acquire skills through observation, modeling, and imitation, processes supported by e-learning through demonstrations, simulations, and peer interaction.

Constructivist Learning Theory further complements these perspectives. Piaget (1972) and Bruner (1961) assert that learners actively construct knowledge by integrating new information with prior understanding. In Igbo language instruction, e-learning enables interaction with authentic materials, multimedia content, and culturally relevant resources, facilitating the internalization of linguistic and cultural knowledge. Siemens' (2005) Connectivism Theory highlights that knowledge exists across networks, and learning occurs through connections facilitated by digital technologies. Connectivism underscores that e-learning is not merely the digitization of instruction but a reconfiguration of learning to leverage networks and digital resources. Eze, Uwakwe, and Ugwuoke (2023) demonstrate that audiovisual aids improve oral English achievement, indicating the broader applicability of multimedia-enhanced strategies to indigenous language teaching.

Conventional classroom instruction presents challenges that e-learning can mitigate. Compass (2011) identifies structural constraints such as overcrowded classrooms, poor ventilation, insufficient audiovisual resources, and limited instructional materials, which impede engagement and interaction. Alu (2011) observes that e-learning provides digital content accessible anytime and anywhere, enabling self-paced learning and repeated access to materials. Moses (2011) emphasizes that e-learning fosters learner autonomy, confidence, and problem-solving skills. Abonyi, Eze, and Ezugwu (2025) note that integrating cultural content enhances student motivation, engagement, and learning depth.

E-learning also reshapes pedagogical strategies and teacher roles. Engelbrecht (2015) highlights that educators must shift from knowledge providers to facilitators who guide learners in navigating digital platforms, critically engaging with content, and collaborating effectively. Achieving this shift requires

professional development, technological literacy, and pedagogical innovation. Abonyi (2020) stresses that effective e-learning utilization necessitates careful planning, sustained teacher engagement, and alignment with curricular objectives. Ossai et al. (2024) demonstrate that structured ICT strategies support learners with expressive language challenges, underscoring the inclusive potential of well-designed e-learning interventions.

Despite its promise, e-learning adoption in Nigerian secondary schools faces barriers. Kyari et al. (2018) note that technological infrastructure is uneven, with unreliable internet connectivity, limited access to devices, and insufficient technical support. Cultural and attitudinal factors may also hinder teachers' adoption of new methods, especially when diverging from traditional practices. Coordinated interventions involving policy support, infrastructure development, professional development, and stakeholder engagement are needed to address these challenges.

The post-COVID-19 era further underscores the relevance of e-learning. Zoraini (2019) observes that digital platforms maintain educational continuity during crises, enabling remote access, collaborative engagement, and asynchronous learning. In Igbo language instruction, e-learning supports multimedia resources—including audio recordings, videos, and interactive exercises—enhancing learning and reinforcing cultural knowledge. Furthermore, it enables differentiated instruction, accommodating diverse learning styles and promoting inclusive education. By combining cultural integration, digital pedagogy, and flexible access, e-learning represents a critical strategy for advancing Igbo language education in contemporary Nigerian classrooms.

Statement of the Problem

Although e-learning technologies offer innovative approaches to teaching and learning, including flexibility, individualized learning, and improved engagement, their adoption in senior secondary schools in Nsukka L.G.A is still low. Despite the availability of platforms such as WhatsApp, Facebook, Google Classroom, Google Meet, and Zoom, teachers and students utilize these platforms to a limited extent. Additionally, challenges such as unstable electricity, inadequate computer laboratories, poor internet connectivity, and lack of policy

enforcement hinder the effective integration of e-learning into Igbo language education. Understanding the extent of utilization, students' perceptions, and the challenges of e-learning is essential for devising strategies to improve language teaching outcomes.

Research Questions

1. What is the extent of utilization of e-learning technologies and available web platforms for teaching and learning Igbo language in senior secondary schools in Nsukka L.G.A, Enugu State?
2. What are the perceptions and challenges associated with the use of e-learning technologies in the teaching and learning of Igbo language in senior secondary schools in Nsukka L.G.A, Enugu State?

Methodology

This study adopted a **descriptive survey research design**, which involves collecting data from a representative sample to describe the characteristics, behaviors, or opinions of a larger population (Nworgu, 2016; Eze, 2022). This design was considered appropriate as it enabled the researcher to examine both the **extent of utilization of e-learning technologies** and the **perceptions and challenges** associated with their use in the teaching and learning of Igbo language in senior secondary schools in Nsukka Local Government Area (L.G.A), Enugu State.

The **population** for the study comprised **600 Senior Secondary School II (SS II) students** enrolled in public secondary schools in Nsukka L.G.A during the 2024/2025 academic session. SS II students were selected because they are preparing to write the Senior Secondary Certificate Examination (SSCE) in 2026 and are actively engaged in learning the Igbo language.

A **sample of 60 students**, representing 10% of the total population, was drawn using a **simple random sampling technique.** This approach ensured that each student had an equal chance of being selected, making the sample representative of the population.

Data were collected using a **researcher-developed instrument** titled the *Extent of Utilization of E-Learning Technologies in Teaching and Learning of Igbo Language*

Questionnaire (EUELTQ). The instrument consisted of **37 items** designed to address the study's two research questions. Responses were recorded on a **four-point Likert scale**, with Very Great Extent (VGE) = 4 points, Great Extent (GE) = 3 points, Low Extent (LE) = 2 points, and Very Low Extent (VLE) = 1 point. Students were required to indicate their level of agreement with each item based on their experience, perceptions, or opinion.

The instrument underwent **face and content validation** by experts in Igbo language education and measurement and Evaluation to ensure relevance, clarity, and alignment with the research objectives. A **pilot study** conducted on 10% of the population in Iheaka Girls secondary School, a neighboring local government area yielded a **Cronbach's alpha of 0.87**, indicating high internal consistency and reliability.

The questionnaire was **self-administered** to the selected students with the assistance of trained research assistants. Respondents were briefed on the purpose of the study and assured of confidentiality before completing the instrument.

Data collected were analyzed using **descriptive statistics,** including percentages, mean, and standard deviation. A **criterion mean of 2.5** was set for interpretation: items with a mean ≥ 2.5 were considered to indicate high utilization, positive perception, or significant recognition of a challenge, while items with a mean < 2.5 indicated low utilization, negative perception, or minimal challenge. This analytical approach allowed the researcher to answer both research questions effectively, providing insights into the availability and use of e-learning platforms, as well as students' perceptions and challenges in the teaching and learning of Igbo language.

Results

The result of this study are presented in tables as according to the 2 research questions that guided the study

Table 1: Availability and Extent of Utilization of E-Learning Platforms for Teaching and Learning Igbo Language

S/N	Platform	Availability (Freq/%)	Mean Utilization	Extent of Utilization
1	WhatsApp group	260 (100%)	2.28	Low
2	Facebook group	260 (100%)	2.36	Low
3	Zoom	180 (69%)	1.42	Very Low
4	Google Meet	200 (77%)	2.18	Low
5	Google Classroom	195 (75%)	2.11	Low
6	Telegram	180 (69%)	1.72	Very Low
7	Ulesson	0 (0%)	1.08	Very Low
8	Canvas	0 (0%)	1.34	Very Low
9	Edu.Tinker	0 (0%)	1.38	Very Low
10	Teachmint	0 (0%)	1.06	Very Low
Grand Mean	—	—	1.69	Low

Interpretation:
Table 1 shows that **WhatsApp, Facebook, Google Classroom, Google Meet, and Telegram** are the most available platforms, but overall utilization of all e-learning technologies for teaching Igbo language is **low**, as indicated by a grand mean of 1.69. Other platforms are largely unavailable or barely used.

Table 2: Student Perceptions and Challenges of E-Learning in Teaching and Learning Igbo Language

S/N	Item Statement	Mean	Std Dev	Decision	Category
1	Reduces barriers of time and space	3.58	0.56	Strongly Agree	Perception
2	Makes teaching practical-oriented	3.55	0.51	Strongly Agree	Perception
3	Facilitates individualized learning	3.48	1.00	Agree	Perception
4	Promotes student-centered learning	3.25	1.04	Agree	Perception
5	Enables learning at own pace	3.24	1.17	Agree	Perception
6	Allows teachers to update content	3.21	1.19	Agree	Perception
7	Provides access to educational resources	3.09	1.26	Agree	Perception
8	Enables teaching beyond face-to-face	3.09	1.35	Agree	Perception
9	Makes learning interesting	2.89	1.29	Agree	Perception
10	Lack of policy mandating e-learning	3.62	0.57	Strongly Agree	Challenge
11	Unstable electric power supply	3.60	0.80	Strongly Agree	Challenge
12	Lack of functional computer labs	3.43	1.19	Agree	Challenge
13	Poor internet connectivity	3.34	1.13	Agree	Challenge
14	Low internet bandwidth	3.33	1.03	Agree	Challenge
15	Lack of ICT skills (teachers/students)	2.25	1.07	Disagree	Challenge
16	Low awareness of smartphone apps	2.23	1.07	Disagree	Challenge

S/N	Item Statement	Mean	Std Dev	Decision	Category
17	Technophobia	2.18	0.63	Disagree	Challenge
Grand Mean	—	3.03	0.96	Agree	Overall

Interpretation:
Table 2 reveals that students have **positive perceptions** of e-learning (grand mean = 3.03), agreeing that it improves accessibility, individualization, and engagement in learning Igbo. Major challenges are **policy gaps, unstable electricity, lack of labs, poor internet, and low bandwidth**, while ICT skills, app awareness, and technophobia were not significant barriers.

Discussion of Findings
The findings of this study were analyzed and presented according to the two research questions:

Table 1 revealed that several e-learning platforms, including **WhatsApp, Facebook, Telegram, Google Classroom, Google Meet, and Zoom,** are available to students in the study area. This finding confirms that students have access to commonly used digital platforms that could potentially support teaching and learning. However, the study also found that platforms such as **Ulesson, Canvas, Edu.Tinker, and Teachmint** were unavailable, suggesting limited access to more specialized or advanced e-learning tools.

Despite the availability of certain platforms, the extent of their utilization was generally **low**, with a grand mean of 1.69. WhatsApp, Facebook, Google Classroom, Google Meet, and Telegram were utilized to a low extent, while Zoom, Edu.Tinker, Ulesson, Teachmint, and Canvas were hardly used. This indicates that although technology exists to facilitate e-learning, there is a significant **gap between availability and actual usage**, which aligns with previous studies highlighting challenges in e-learning adoption in Nigerian secondary schools (Ossai, Oluikpe, Eze, Nnamani, Amadi, Eze, Menakaya, Odezue, Ogele, & Ogbu, 2024).

The low utilization may be attributed to factors such as insufficient teacher training on e-learning tools, lack of structured integration of e-learning in the curriculum, and limited student familiarity with some platforms (Abonyi, Eze, & Ezugwu, 2025). This finding supports the assertion that availability of digital platforms alone does not guarantee effective use in teaching and learning; **adequate training, motivation, and infrastructural support are crucial for meaningful adoption.**

Table 2 showed that students had **positive perceptions** of e-learning technologies, with a grand mean of 3.03. Specifically, students strongly agreed that e-learning reduces barriers of time and space and makes teaching more practical-oriented. Other benefits, including individualized learning, student-centered approaches, content updates, and access to educational resources, were also affirmed by respondents. This aligns with global literature, which emphasizes that e-learning promotes flexibility, learner autonomy, and engagement (Engelbrecht, 2015; Fry, 2011; Zoraini, 2019).

However, the findings also highlighted significant **challenges** affecting the effective use of e-learning. The major constraints identified were **lack of policy enforcement, unstable electricity supply, absence of functional computer laboratories, poor internet connectivity, and low internet bandwidth**. These infrastructural and policy-related barriers confirm previous reports in the Nigerian context that infrastructural deficits often limit the effective implementation of e-learning initiatives (Kyari, Adiuku-Brown, Abechi, & Adelakun, 2018). On the other hand, low ICT skills, limited awareness of e-learning apps, and technophobia were not perceived as major constraints, indicating that students and teachers may possess basic digital competencies but are hindered primarily by environmental and institutional factors.

Implications of the Findings

The findings suggest several practical implications for improving e-learning utilization in the teaching and learning of Igbo language. First, there is a need for **strengthened policy frameworks** mandating the integration of e-learning technologies in secondary school curricula. Second, **investments in infrastructure**, such as reliable electricity, computer laboratories, and internet access, are essential

to enhance effective utilization. Third, teacher training programs should emphasize **effective use of available e-learning platforms** to bridge the gap between availability and actual utilization.

Moreover, the positive perception of e-learning among students indicates a **readiness to adopt digital learning tools**, which provides a strong foundation for future initiatives aimed at integrating e-learning into Igbo language instruction. Harnessing this positive attitude, combined with policy and infrastructural support, could significantly improve teaching and learning outcomes.

Conclusion

In summary, the study found that while some e-learning platforms are available to senior secondary students in Nsukka L.G.A, their utilization for teaching and learning Igbo language remains low. Students perceive e-learning positively, recognizing its benefits for practical, individualized, and student-centered learning. Nonetheless, infrastructural and policy-related challenges constrain effective utilization. These findings underscore the need for **comprehensive strategies** involving policy enforcement, infrastructural investment, and teacher capacity building to maximize the benefits of e-learning in Igbo language education.

Recommendations

Based on the findings of this study, the following recommendations are made:

Enhancing Utilization of E-Learning Platforms

1. The government and educational authorities should formulate and enforce policies mandating the use of e-learning technologies in the teaching and learning of Igbo language in senior secondary schools in Nsukka L.G.A, Enugu State.
2. Schools should be equipped with functional e-learning facilities, including computers, projectors, and software applications, to improve access and utilization.
3. Provision of **stable electricity** and alternative power sources, such as solar energy, is necessary to ensure uninterrupted use of e-learning platforms.

4. Internet connectivity should be improved, with sufficient bandwidth to allow smooth access to online platforms like WhatsApp, Google Classroom, Zoom, and Google Meet.
5. Awareness of available e-learning platforms should be increased among teachers and students through **seminars, workshops, and training programs**, enabling them to make full use of these tools in teaching and learning.

Addressing Perceptions and Challenges of E-Learning

1. Secondary school teachers should undergo **training and retraining programs** to enhance their digital literacy and competence in using e-learning technologies effectively.
2. Teachers and students should be encouraged to develop a **positive attitude toward adopting e-learning platforms**, emphasizing the benefits for practical, individualized, and student-centered learning.
3. Schools should implement **guidelines and monitoring systems** to prevent misuse of e-learning platforms, ensuring that these tools are used appropriately for educational purposes.
4. Educational stakeholders should address infrastructural and policy-related challenges, including unstable electricity, inadequate computer laboratories, and low internet bandwidth, to facilitate smooth implementation and adoption of e-learning technologies.

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