Influence of Digital Technology in Language Education Towards Sustainable Teacher Education in Nigeria: Addressing the Digital Divide.

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Abstract
The rapid advancement of digital technology has revolutionized how education is delivered and accessed, particularly in language education. This paper explores the influence of digital technology in language education towards sustainable teacher education in Nigeria, thereby addressing the digital divide. The paper examines the current state of digital technology in language education in Nigeria, highlighting the challenges and opportunities it presents for sustainable teacher education. It also discusses the impact of the digital divide on teacher training programs and proposes strategies to bridge the gap. The findings of this study suggest that while digital technology has the potential to enhance language education and improve teacher training in Nigeria, the digital divide remains a major obstacle. The paper recommends investment in infrastructure, access to digital resources, training, and support for teachers and language educators. Finally, the paper underscores the importance of maximizing digital technology in language education to ensure sustainable teacher education in Nigeria by equipping teachers with the necessary skills and resources.
Keywords: digital technology, language education, teacher education, Nigeria, digital divide.

Introduction

Digital technology has become an essential component of education globally, especially in language learning. In Nigeria, the use of digital technology in language education has the potential to enhance teaching and learning outcomes and contribute to sustainable teacher education. The beginning of digital technology has fundamentally transformed various sectors globally, and education stands out as one of the most

significantly affected (Adeyemi,2021). In Nigeria, education is a critical index for national development and the introduction of digital technology into language education plays a principal role in building sustainable teacher education. Language is a means of communication and a channel for cultural expression and education, thus, leveraging digital tools will help language education greatly and will have far-reaching implications for teacher education in Nigeria. As digital technology plays an important role in educational practices, digital tools and resources will increase educators' and students' proficiency and global competitiveness. However, the digital divide presents a significant barrier, particularly in rural communities and some educational institutions in Nigeria. Addressing these challenges and disparities in digital access gives the teachers and the students equal opportunities to benefit from technology-enhanced language learning.

Language education is the mastery of linguistic skills; that encompasses the appreciation of cultural values, national identity, and effective communication in a multicultural and multilingual society like Nigeria. Nigeria has over five hundred spoken languages across the six geo-political zones. Consequently, a mutual language is essential for promoting social and national unity. The English language is filling the gap at present. As Nigeria engages in the international economy and trade, proficiency in global languages, especially English, has become essential. Therefore, the development of language education programs that are innovative and adaptive is necessary to meet these societal needs. Digital technology has the unique capacity to enhance and revolutionise language education through various tools and resources. E-learning platforms, mobile applications, interactive software, and online communities create avenues for language education (Motteram,2013). Such resources enable learners to engage in self-directed learning, allowing them to progress at their own pace while accessing a wealth of language materials that traditional classrooms may not provide. For instance, platforms like Duolingo and Babbel offer interactive language lessons that combine gamification with educational content, making the learning experience enjoyable and effective.

Language Education and Digital Technology in Nigeria

In the Nigerian educational context, where traditional teaching methods often dominate, these digital platforms can facilitate a departure from rote learning to a more interactive and learner-centred approach. Digital technology can significantly help address the challenges of inadequate teaching resources, especially in rural areas. Digital technology can offer teachers supplementary materials in diverse linguistic content and language learning experiences. This technology includes tools and resources that can be leveraged to enhance language learning. In Nigeria, where English is the official language and a lingua franca among educated Nigerians amidst Indigenous languages, introducing digital platforms into language education offers a unique opportunity to bridge linguistic divides. Tools such as online dictionaries, educational apps, and language learning platforms enable learners to access rich resources that promote literacy and linguistic proficiency. According to Adeyemi (2021), these tools facilitate interactive learning experiences, allowing students to engage with language in methods that were once beyond reach. Moreover, digital technology supports the development of critical thinking and communication skills essential for language proficiency

Benefits of Technology in Language Education.

Digital technology offers numerous benefits in language education, especially increased engagement, personalized learning experiences, and access to learning resources. Digital tools, including online platforms, educational apps, and multimedia resources, empower teachers to design interactive and engaging language lessons tailored to various learning styles and abilities. Moreover, digital technology allows for precise tracking of student progress, timely feedback, and enhanced collaborative learning experiences.

The benefits of technology in language education include.

1. Firstly, digital technology provides access to interactive and multimedia resources, including language learning apps, online courses, and virtual language exchange platforms, which cater to diverse learning styles and preferences.

2.   Digital tools offer immediate feedback and adaptive learning features, allowing students to receive personalized support and track their progress in real-time.

3.   It enables educators to create immersive learning experiences through virtual reality, video conferencing, and multimedia content, thereby enhancing students' exposure to authentic language use and cultural contexts.

4.   Digital technology facilitates communication and collaboration among language learners, both locally and globally, fostering cross-cultural understanding and language practice.

5.   It enhances engagement, promotes autonomy in learning, and provides access to authentic language use, thereby contributing to more effective and dynamic language acquisition.

Despite the potential benefits of integrating digital technology into language education, several challenges remain. Issues such as inadequate infrastructure, limited access to devices, and varying levels of digital literacy among teachers pose significant barriers to effective implementation (Okonkwo, 2022). Addressing these challenges requires a multifaceted approach, including investment in technological infrastructure, training for educators, and curriculum that incorporates digital literacy as a core component. Also, there is a need for a focused policy framework that promotes the integration of digital tools in both teacher education and language teaching. Stakeholders, including government agencies, educational institutions, and private sectors, must collaborate to develop actionable strategies supporting language learning and the goals in Nigeria.

The goals of language education in Nigeria typically include:

1. **Multilingual Proficiency**: Enhancing proficiency in major languages such as English (the official language), and indigenous languages like Yoruba, Igbo, and Hausa, to promote cultural heritage and communication.

2. **Communication Skills**: Developing effective communication skills, both written and spoken, to meet academic, professional, and social demands.

3. **Cultural Awareness**: Fostering an understanding and appreciation of Nigeria's diverse cultures and linguistic heritage, promoting unity and national identity.

4. **Global Competitiveness**: equipping students to participate in the global community by improving proficiency in international languages like English and French.

5. **Functional Literacy**: Ensuring functional literacy in multiple languages to enhance education and employment opportunities.

6. **Cross-Cultural** Interaction: Encouraging cross-cultural communication and understanding, promoting international collaborations and relationships.

7. **Critical Thinking and Creativity**: Enhancing critical thinking and creativity through a deeper understanding of language and literature.

8. **Academic Achievement**: Supporting general academic success, as language skills are foundational to learning across disciplines.

9. **Economic Participation**: Enabling individuals to participate more fully in the economy, where language skills are often pivotal.

10. **Peace and Unity**: Promoting peace, tolerance, and unity through effective and inclusive communication across various linguistic groups. These goals aim to empower individuals and enrich the nation's educational landscape.

Teacher Education in Nigeria

Teacher education in Nigeria has undergone significant changes over the years, reflecting the country's educational aspirations and challenges. The framework for teacher education in Nigeria was primarily established by the National Policy on Education (NPE), originally launched in 1977. It has been revised multiple times. The policy outlines the goals for teacher education, emphasizing the need for trained educators to promote quality of education nationwide (Federal Republic of Nigeria, 2013). Institutions such as universities, colleges of education, and specialized training centres play vital roles in producing qualified teachers. However, significant challenges hinder the effectiveness of these training programs. One major issue is the quality of education in teacher training institutions. Many colleges of education and universities face infrastructural deficits, inadequate funding, and a shortage of qualified teacher educators. According to Osokoya (2008), many teacher training institutions struggle to provide up-

to-date pedagogical skills, leaving graduates ill-prepared for the realities of the classroom. Furthermore, the content of teacher education programs often fails to integrate modern teaching methodologies and technology, which are crucial in today's digital learning environments (Ogunyemi, 2019).

Another pressing challenge is the issue of access to teacher education, particularly in rural areas. Many aspiring teachers face significant obstacles in enrolling in teacher training programs due to geographic, economic, and social factors. The disparity in access contributes to the inequity within the education system, as many remote regions are underserved by qualified teachers (UNESCO, 2020). This situation is worsened by migrating qualified teachers from rural to urban areas, seeking better opportunities, thus creating a critical shortage of educators in less developed towns.

Moreover, the recruitment and retention of qualified teachers remain contentious issues. Despite ongoing reforms, teacher salaries in Nigeria often do not reflect the professional demand or the rising cost of living. This disparity leads to low morale and high attrition rates among classroom teachers, further destabilizing the education system (Ajayi, 2018). Inadequate professional development opportunities for current teachers also hinder their growth and adaptability, resulting in a workforce that struggles to meet evolving educational standards. On a more positive note, recent efforts by the Nigerian government and private organizations to improve teacher education are worth mentioning. Initiatives such as the National Teacher Education and Professional Development Programme aim to address some of the challenges by enhancing the skills of both pre-service and in-service teachers (Federal Ministry of Education, 2021). Moreover, partnerships with international organizations have introduced innovative practices and teaching methods that strengthen teacher education frameworks.

Sustainable Teacher Education and Digital Technology

Digital technology has emerged as a cornerstone for economic development and educational advancement especially for sustainable teacher education. Sustainable teacher education ensures that student teachers acquire the essential knowledge, pedagogical skills, and the ability to adapt to changing educational demands. Language

instructors in Nigeria encounter diverse student backgrounds and varying levels of language proficiency, so they must effectively use technology to enhance learning outcomes. Digital technology fosters continuous professional development among language educators. It helps teachers improve their skills and pedagogical strategies by participating in online courses, digital workshops, and webinars. Digital technology removes geographical limitations and high financial costs, making professional development more accessible. This ongoing professional development is essential for sustainable teacher education, ensuring that educators stay updated with best practices in language teaching and innovative strategies involving digital tools. Digital tools have become essential in language and teacher education, offering diverse resources and methodologies for effective learning and teaching. Here are some key tools:

1. **Language Learning Apps:** Platforms like Duolingo, Babbel, and Rosetta Stone provide interactive language practice through gamified lessons, quizzes, and real-world scenarios.

2. **Online Courses and MOOCs**: Websites such as Coursera and edX offer language courses and teacher training programs, accessible anytime and adaptable to different learning paces.

3. **Virtual Classrooms:** Tools like Zoom, Microsoft Teams, and Google Meet facilitate live language classes, enabling interactive lessons, discussions, and group activities.

4. **Learning Management Systems (LMS):** Platforms like Moodle and Blackboard help educators organize course materials and assessments and track student progress, facilitating a structured learning experience.

5. **Language Exchange Platforms:** Apps like Tandem and HelloTalk allow learners to practice with native speakers, providing immersive language practice and cultural exchange opportunities.

6. **Digital Flashcards:** Tools like Anki and Quizlet aid vocabulary building through spaced repetition and flashcard-based learning.

7. **Interactive Whiteboards:** Tools such as Google Jamboard and Miro enable collaborative writing and teaching, enhancing engagement and visual learning.

8. **Speech Recognition Software:** Technologies like Google Assistant and Dragon NaturallySpeaking help learners improve pronunciation and speaking fluency by providing instant feedback.

9. **Translation Tools:** Google Translate and DeepL assist learners in understanding grammar and vocabulary, supporting translation and comprehension in various languages.

10. **Webinars and Online Workshops:** Platforms hosting webinars, like Webex and Zoom, are valuable for teacher professional development, offering training on instructional strategies and tech integration.

11. **Social media and Forums:** Networks like Facebook groups, Reddit, and LinkedIn offer community support, resource sharing, and networking for language learners and educators.

12. **E-books and Audiobooks:** Resources like Kindle and Audible provide access to language literature and listening practice, supporting different learning styles.

These tools enrich language learning and teacher education, making education more accessible, engaging, and personalized, and have helped to establish a community of practice among educators through online forums and networks that facilitate knowledge sharing. They have allowed teachers to exchange experiences and collaboratively solve challenges they encounter in the classroom. Also, the accessibility of digital technology creates opportunities for pre-service teacher education programs to incorporate technology-infused methodologies into their curricula. Teacher education programs now prepare future educators to use digital tools effectively in language instruction, ensuring graduates are trained to face the realities of modern classrooms. These tools support teaching practices and create a sustainable education model that meets the needs of upcoming generations of learners. Therefore, sustainable teacher education is characterized by long-term strategies that empower educators and promote continuous professional development. Thus, Nigerian teacher training programs often face challenges

such as inadequate resources and outdated curricula. Integrating digital technology can serve as a transformative solution. E-learning platforms and webinars offer educators access to up-to-date teaching methodologies and resources, enabling them to refine their instructional practices and stay current with global trends in language education (Igbokwe, 2020).

The Challenge of Digital Technology Divide in Nigeria

Nigeria faces a significant challenge known as the digital divide, which refers to the gap between those who have easy access to digital technology and those who do not. This divide poses considerable implications for the nation's socio-economic growth and the well-being of the populace. The digital divide in Nigeria is diverse and influenced by geographic, economic, and educational factors. Urban areas, such as Lagos, Abuja, Kano, Port Harcourt, Kaduna, Enugu, etc. have better access to digital infrastructure compared to rural areas, where internet connectivity is often limited or non-existent. According to the National Communications Commission (2020), about 46.6% of Nigerians had access to the internet, with considerable disparities between urban and rural populations. This rural-urban gap hinders equitable access to information and opportunities, perpetuating cycles of poverty and limiting the potential for economic advancement in less-developed regions (Olufowose & Daramola, 2021). Consequently, the economic divide worsens the digital technology divide in Nigeria. With a significant portion of the population living below the poverty line, the affordability of digital devices and services remains challenging. A report by the International Telecommunication Union (2019) highlighted that nearly 90 million Nigerians lack access to mobile broadband, primarily due to financial constraints. Consequently, individuals from lower socio-economic backgrounds are at a disadvantage, affecting their access to education, employment opportunities, and essential information services. Education also plays a crucial role in the digital technology divide. A lack of digital literacy in Nigeria restricts the effective use of available technologies. Many individuals, especially in rural communities, receive little to no formal training in digital skills, limiting their ability to fully engage with technology-

driven opportunities (Afolabi, 2020). This lack of education can hinder participation in the digital economy, which increasingly relies on technological proficiency.

To bridge this digital divide, strategic interventions must be pursued. Government policies aimed at enhancing digital infrastructure in rural areas are essential. Investments in internet connectivity, affordable devices, and digital literacy programs can help mitigate the existing gap. For instance, initiatives such as the National Broadband Plan aim to improve internet access across the country, particularly for underserved populations (NITDA, 2020). Moreover, public-private partnerships can be instrumental in providing affordable technology solutions and community-based digital literacy training. Thus, the digital technology divide in Nigeria represents a significant barrier to socio-economic development. Addressing this challenge requires concerted efforts from the government, private sector, and civil society to ensure that all Nigerians, regardless of their geographic or economic status, have access to the benefits of digital technology. Bridging this divide is not only a matter of economic necessity but also a fundamental step toward fostering a more equitable society in Nigeria. Furthermore, the use of digital technology in teacher training fosters a culture of lifelong learning. Educators equipped with digital skills can harness various online tools to develop innovative teaching strategies that engage students actively. As noted by Aydin (2021), this adaptability is crucial in preparing teachers to address the diverse needs of learners in an increasingly interconnected world.

Conclusion

Integrating digital technology into language education presents a significant opportunity for sustainable teacher education in Nigeria. This can be done through improved pedagogical practices and by fostering a culture of continuous improvement among educators. Digital tools play an instrumental role in addressing the challenges of language learning in the context of Nigeria's linguistic diversity. However, overcoming infrastructural and accessibility barriers is critical to realizing the full potential of these technologies. With collaborative efforts, Nigeria can cultivate a robust educational environment that supports the teachers and the students in linguistic proficiency and

professional excellence. Besides, Nigerian teacher education faces significant challenges, however, there are ongoing efforts aimed at reforming and improving the system. Ensuring that teachers receive quality training, improving access, and retaining qualified educators are crucial steps for enhancing the educational landscape in Nigeria. Continued investment and commitment to reform are essential to foster an effective and equitable teacher education system that ultimately benefits all learners in the country

Recommendations

1. One of the key challenges in integrating digital technology into language education in Nigeria is the lack of access to digital resources and infrastructure. To address this, the government and educational institutions should invest in improving access to digital resources such as computers, internet connectivity, and educational software. This will enable teachers and students to effectively utilize digital technology in language education.

2. Also, effectively integrate digital technology in language education, teachers need to be equipped with the necessary skills and knowledge. Therefore, it is essential to provide training and professional development opportunities for teachers on how to effectively use digital technology in language teaching. This can be done through workshops, seminars, online courses, collaboration and networking among teachers, educators, and stakeholders in language education. This can be facilitated through online platforms, conferences, and professional associations.

3. In addition to providing training for teachers, it is important to develop digital literacy skills among students. Digital literacy skills are essential for students to effectively navigate and utilize digital technology in language education. Schools should incorporate digital literacy skills into the curriculum and provide opportunities for students to practice and develop these skills.

4. Finally, it is important to support research initiatives that focus on the impact of digital technology on language teaching and learning. This can help to identify best practices, challenges, and opportunities for sustainable teacher education in Nigeria.

References

Adeyemi, A. (2021). The impact of digital technology on language learning: A Nigerian perspective. Journal of Language Education and Practice, 8(1), 45-61.

Afolabi, M. O. (2020). Digital literacy and the Nigerian economy: The role of education in bridging the digital divide. Journal of Educational Technology, 15(3), 45-56.

Ajayi, I. A. (2018). Teacher education in Nigeria: Trends and prospects. International Journal of Educational Management and Development Studies, 5(1), 15-25.

Aydin, S. (2021). Technology in teacher education: A pathway to sustainable learning. International Journal of Teacher Education and Professional Development, 4(2), 23-38.

Federal Ministry of Education. (2021). National teacher education and professional development programme. Abuja: Federal Government of Nigeria.

Federal Republic of Nigeria. (2013). National policy on education. Lagos: NERDC Press. International Telecommunication Union. (2019). The state of broadband: Broadband as a foundation for sustainable development. Retrieved from https://www.itu.int

Igbokwe, M. (2020). E-learning and teacher training in Nigeria: Current trends and future directions. Nigerian Journal of Educational Technology, 5(3), 12-28.

National Communications Commission. (2020). National broadband plan 2020-2025. Retrieved from https://www.ncc.gov.ng

National Information Technology Development Agency (NITDA). (2020). NITDA national broadband plan: Implementation progress. Retrieved from https://www.nitda.gov.ng

Ogbondah, L. (2022). Collaborative learning in the digital age: An examination of language education in Nigeria. Language and Literacy Studies, 9 (1), 34-50.

Ogunyemi, B. (2019). The role of technology in teacher education: An educational perspective. Nigerian Journal of Teacher Education and Teaching, 6(2), 122-130.

Olufowose, F., & Daramola, O. (2021). Bridging the digital divide in Nigeria: Challenges and opportunities. Global Journal of Business Research, 15(1), 23-34.

Okonkwo, C. (2022). Bridging the digital divide: Challenges in implementing educational technology in Nigeria. African Journal of Educational Research, 7(4), 66-80.

Osokoya, I. O. (2008). Teacher education in Nigeria: The challenges of the 21st century. Contemporary Issues in Education Research, 1(2), 51-57.

UNESCO. (2020). Global education monitoring report: Inclusion and education. Paris: UNESCO Publishing.