EXPLORING THE POTENTIAL OF CHATGPT TO SUPPORT ENGLISH LANGUAGE LEARNING IN UNDER-RESOURCED MOZAMBICAN SECONDARY SCHOOLS: A CASE STUDY OF LICHINGA AND MASSINGA

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ABSTRACT

The integration of Artificial Intelligence (AI) into education has led to the emergence of dynamic and adaptive learning tools, transforming traditional pedagogical approaches particularly in the domain of language learning. This paper investigates the potential role of ChatGPT, a state-of-the-art AI language model developed by OpenAI, in enhancing English as a Foreign Language (EFL) instruction at Lichinga and Massinga Secondary Schools in Mozambique. Although ChatGPT has not yet been directly implemented within this institution, the study draws insights from global educational practices and established pedagogical theories to envision its application in local classrooms.

The paper critically examines the pedagogical benefits that ChatGPT could offer in EFL contexts, including personalized learning, increased student engagement, grammar support, and expanded opportunities for autonomous language practice. It also discusses the challenges of integrating such technology in resource-constrained settings, such as limited internet connectivity, lack of teacher training in digital tools, and infrastructural barriers.

Through this exploration, the study proposes context-sensitive strategies for effective implementation, emphasizing the importance of teacher mediation, curriculum

alignment, and digital literacy training. The findings aim to inform teachers, policymakers, and researchers interested in the intersection of AI and language education, particularly within the Global South.

Key Words: Artificial Intelligence, ChatGPT**,** English as a Foreign Language, Language Learning Technologies, Educational Innovation

INTRODUCTION

English plays a pivotal role in Mozambique's national development agenda, serving as a gateway to global education, diplomacy, tourism, and commerce. Although Portuguese remains the country's official language, English has become increasingly important, particularly in the context of globalization. As Crystal (2003) asserts, "English is the global language," and its influence extends even into nations where it is not natively spoken. In Mozambique, English is taught as a foreign language beginning in lower secondary education and is often perceived as a tool for upward mobility and international connectivity.

Despite its recognized importance, the effective teaching and learning of English in Mozambican schools faces considerable challenges especially in rural and semi-urban regions such as Lichinga, the capital of Niassa Province and Massinga distrit in inhambane province. Schools like Lichinga and Massinga Secondary Schools operate under numerous constraints that undermine the quality of English language instruction. These include a chronic shortage of qualified English teachers, inadequate teaching and learning materials, overcrowded classrooms, and minimal student exposure to English beyond the classroom walls. As Banda and Mwanza (2017) note, "The rural context is often typified by a lack of linguistic resources and opportunities for authentic language use," which results in a heavily textbook-centered approach to instruction with limited emphasis on productive skills such as speaking and writing.

Moreover, many English teachers in these contexts are left without access to continuous professional development or digital teaching tools, further exacerbating the quality gap between urban and rural schools. In such environments, the introduction of innovative educational technologies, particularly those leveraging artificial intelligence (AI), could offer promising alternatives. ChatGPT, developed by OpenAI, is one such technology a generative AI language model capable of simulating human-like conversation and producing contextually appropriate text. As Selwyn (2019) suggests, “Artificial intelligence has the potential to reconfigure the learning experience by offering personalized, responsive, and scalable educational support.”

Adapted for pedagogical purposes, ChatGPT can support English learners in multiple ways: it offers real-time writing assistance, vocabulary development, grammar correction, and reading comprehension support. For teachers, it can function as a digital assistant, aiding in lesson planning, generating customized teaching materials, and explaining complex linguistic concepts in accessible ways.

This study explores the feasibility and pedagogical value of integrating ChatGPT into English as a Foreign Language (EFL) instruction at Lichinga and Massinga Secondary Schools. It examines how such technology can help overcome entrenched educational barriers, enhance student motivation, and foster a more interactive, student-centered learning environment. While acknowledging the infrastructural limitations typical of Mozambican schools including inconsistent internet connectivity and a scarcity of digital devices, this study envisions a gradual and equitable introduction of AI tools like ChatGPT. In doing so, it aligns with the broader objective of leveraging digital innovations to democratize education and improve learning outcomes for all students, regardless of geographic or socioeconomic background.

STATEMENT OF THE PROBLEM

English language instruction in Mozambique, particularly in under-resourced regions such as Lichinga in Niassa Province and Massinga in Inhambane province, faces persistent challenges that hinder the development of students' language proficiency. These include a shortage of qualified English teachers, large class sizes, minimal exposure to English outside the classroom, and limited access to up-to-date teaching and learning materials. As a result, many students complete secondary education with inadequate communication skills in English, which restricts their access to higher education, employment opportunities, and global knowledge.

While digital and AI-driven tools like ChatGPT have demonstrated significant potential to support English as a Foreign Language (EFL) learning in various international contexts, their application remains virtually unexplored in Mozambique. The lack of research and practical models for integrating AI in Mozambican classrooms has left a gap in understanding how such tools could be adapted and implemented in local schools especially those in rural or semi-urban areas where technological infrastructure and digital literacy are limited.

This study seeks to address this gap by exploring the potential of using ChatGPT as a supplementary tool in EFL instruction at Lichinga and Massinga Secondary Schools. The aim is to investigate how AI can be adapted to improve English language acquisition in a low-resource Mozambican context, while identifying the practical, pedagogical, and infrastructural barriers that may affect its implementation. Accordingly, this research is guided by the central question: *How can ChatGPT be effectively integrated as a supplementary tool for English language instruction in under-resourced Mozambican secondary schools, to improve students' language proficiency*?

LITERATURE REVIEW

The integration of artificial intelligence in education, particularly in language learning, has expanded rapidly in recent years, offering new possibilities for enhancing learner engagement and educational equity. Globally, studies have shown that AI-powered tools can facilitate personalized learning paths (Zawacki-Richter et al., 2019), support writing development through real-time feedback (Lee, 2021), and encourage learner autonomy by enabling students to practice language skills independently (Godwin-Jones, 2022). Among these tools, ChatGPT an advanced conversational AI developed by OpenAI has emerged as a particularly promising resource for English as a Foreign Language (EFL) instruction due to its ability to generate coherent, contextually appropriate text and simulate dialogue-based interactions.

Hsu et al. (2023) emphasized ChatGPT's effectiveness in generating meaningful, task-oriented dialogues and supporting vocabulary acquisition, while Liu and Wang (2022) noted that learners in EFL contexts reported increased confidence and participation when engaging with AI chatbots in controlled classroom environments. These findings are especially relevant for contexts like Mozambique, where the quality of English instruction is often compromised by limited access to qualified teachers, large class sizes, and a lack of exposure to English outside the classroom.

In Mozambique, AI integration in education is still in its infancy, and there is limited empirical research on the use of digital or AI-powered tools in local classrooms. However, several studies and pilot initiatives have highlighted the growing interest in digital learning tools, particularly in urban centers like Maputo and Beira, where infrastructural support is more readily available (INE, 2022). The Ministry of Education and Human Development has recently emphasized the importance of integrating information and communication technologies (ICT) into education through its *Estratégia de Educação Digital 2020–2024*. Although AI is not yet explicitly addressed in policy

frameworks, the growing emphasis on digital transformation suggests a policy environment that could become increasingly receptive to AI-assisted learning.

Nevertheless, adopting tools like ChatGPT in Mozambican schools presents specific challenges. Key concerns include: Digital Literacy: Many teachers and students in rural and peri-urban areas lack the basic ICT skills needed to interact effectively with AI tools, Infrastructure Limitations: Internet connectivity is often unreliable or unavailable, and access to devices such as laptops, tablets, or smartphones remains limited for both students and schools and Language and Curriculum Alignment: While ChatGPT can operate in English and Portuguese, it must be carefully aligned with the national curriculum and adapted to learners' linguistic and cultural backgrounds to avoid disconnects in comprehension and engagement.

Despite these challenges, the global body of research suggests that, when implemented with sensitivity to local conditions, AI tools like ChatGPT can significantly improve EFL outcomes. Their potential to provide immediate, individualized feedback and to facilitate practice in under-resourced environments makes them particularly attractive for contexts like Lichinga and Massinga Secondary Schools, where traditional resources and teaching personnel may be stretched.

METHODOLOGY

This study employs a qualitative, exploratory research design, which is particularly appropriate when investigating emerging phenomena in under-researched contexts. Given that the use of AI particularly ChatGPT in English as a Foreign Language (EFL) classrooms in Mozambique remains largely unexplored, this approach allows for a broad, flexible, and in-depth examination of the topic. It aims not to test a hypothesis, but rather to generate insight, conceptual clarity, and practical recommendations for future research and implementation.

DOCUMENT ANALYSIS

A central component of the methodology is document analysis, which involves the systematic review and synthesis of existing academic literature, policy documents, and case studies related to AI-based language learning. This includes international studies on the pedagogical uses of AI tools such as ChatGPT in EFL contexts, as well as relevant national education strategies and reports published by the Mozambican Ministry of Education and Human Development. Through this analysis, the study identifies trends, challenges, and pedagogical potentials that inform the theoretical framing of AI use in language classrooms.

CONTEXTUAL FRAMEWORK: MOZAMBIQUE (LICHINGA/MASSINGA)

The study incorporates a contextual analysis of Mozambique's secondary education system, with a specific focus on Lichinga Secondary Schools in Niassa Province. and Massinga secondary school in Inhambane province. This analysis considers demographic data, regional educational statistics, and infrastructure reports to frame the specific challenges faced by the schools in Lichinga, and Massinga being geographically remote and economically less developed than urban centers like Maputo, serves as a representative case for low-resource educational settings within the country. Understanding the realities of the school environment such as teacher shortages, student-to-teacher ratios, digital infrastructure, and curriculum requirements allows for a grounded and contextually relevant discussion of AI integration.

THEORETICAL APPLICATION OF AI IN EFL

The third pillar of this methodology involves mapping the capabilities of ChatGPT to the pedagogical needs of English as a Foreign Language (EFL) instruction within Mozambican secondary schools. This approach is grounded in well-established theories of second language acquisition and constructivist learning. By exploring how

ChatGPT can support student engagement, foster learner autonomy, and provide differentiated instruction, this component of the research aims to provide a theoretical framework for integrating AI tools into classroom practices in a way that is both effective and contextually relevant.

THEORETICAL FRAMEWORK: SECOND LANGUAGE ACQUISITION

Second Language Acquisition theories offer significant insight into how languages are learned, both in formal and informal settings. Central to SLA are concepts such as input hypothesis (Krashen, 1985), interaction hypothesis (Long, 1983), and output hypothesis (Swain, 1985). These theories emphasize the importance of comprehensible input, meaningful interaction, and opportunities for productive output in language learning.

ChatGPT can be particularly beneficial for SLA in the Mozambican context, where traditional EFL teaching methods often focus on rote memorization and written grammar drills, which can fail to engage students in meaningful communication. The input hypothesis suggests that learners acquire language most effectively when they are exposed to language that is slightly beyond their current proficiency level, known as I+1. ChatGPT's ability to generate a wide range of texts ranging from basic sentences to more complex, nuanced interactions can provide the kind of comprehensible input that SLA research supports.

Moreover, the interaction hypothesis advocates for interactive communication as essential to language learning. In classrooms where English-speaking opportunities are scarce, ChatGPT's conversational abilities enable simulated dialogues, allowing students to practice real time exchanges with an AI "partner." This interaction not only supports learners in developing fluency but also fosters a deeper understanding of language structures through contextualized practice. For example, students can engage

with the AI in a variety of real-world scenarios, such as job interviews, casual conversations, or academic discussions. This interactive approach aligns well with current views in SLA, which stress the importance of authentic language use in promoting long-term acquisition.

Finally, the output hypothesis emphasizes the role of productive tasks, such as speaking and writing, in reinforcing language skills. By enabling students to engage in writing tasks or speech-to-text activities with immediate feedback, ChatGPT provides opportunities for learners to actively produce language. This process of output generation, followed by AI-driven corrective feedback, mirrors the process of language acquisition as proposed by Swain and others.

CONSTRUCTIVIST LEARNING THEORY

In addition to SLA, constructivist learning theory (Piaget, 1973; Vygotsky, 1978) plays a pivotal role in understanding how learners construct knowledge through active engagement with their environment. According to Vygotsky, learning is most effective when it occurs within the zone of proximal development (ZPD) the gap between what learners can do independently and what they can achieve with guided support. ChatGPT, as an AI tool, can help narrow this gap by providing scaffolded, interactive learning experiences that adapt to the learner's level of understanding.

Constructivism emphasizes the importance of learner autonomy the ability of students to take ownership of their own learning. In the Mozambican context, where class sizes are large and teacher availability is limited, students often struggle to receive individualized attention. ChatGPT can support learner autonomy by offering personalized feedback and creating tailored learning experiences. For example, students can engage with the tool outside classroom hours, revisiting vocabulary or grammar exercises at their own pace, which can significantly boost their confidence and

self-efficacy. By receiving instant feedback on their writing or speaking tasks, students can engage in self-directed learning and monitor their own progress, enhancing the learning process (Godwin-Jones, 2022).

Furthermore, constructivist theory suggests that learning is most effective when it is socially situated when students collaborate with peers or engage with tools that encourage interactive learning. In this regard, ChatGPT could serve as an interactive platform for learners to develop their communication skills in a "safe" space, where they can experiment with language without fear of judgment from peers. This type of supportive learning environment, akin to the Vygotskian idea of "scaffolding," is critical in fostering motivation and reducing anxiety, particularly in EFL classrooms where learners may feel self-conscious about speaking or writing in a foreign language.

DIFFERENTIATED INSTRUCTION

Differentiated instruction is another key pedagogical strategy supported by both SLA and constructivist learning theory. This approach acknowledges the varied learning styles, levels of readiness, and interests within any given classroom. ChatGPT's versatility enables teachers to differentiate instruction effectively. For instance, the AI can adapt its responses based on a student's proficiency level, allowing for customized language learning that accommodates the diverse needs of Mozambican students.

In practice, ChatGPT can be used to tailor lessons for students of varying abilities. For example, it could provide more basic grammar explanations and exercises for beginner students while offering more complex tasks or vocabulary-building activities for advanced learners. This personalized approach is particularly valuable in large Mozambican classrooms, where mixed-ability teaching is the norm. Teachers, already stretched thin by large student numbers, can leverage ChatGPT to provide more

targeted and individualized support to their students, without the need for one-on-one interaction.

TEACHER SUPPORT AND CONTENT CREATION

Beyond its application to student learning, ChatGPT also offers substantial potential for teacher support in Mozambique. One of the significant challenges faced by Mozambican educators is the lack of resources from textbooks to teaching aids to professional development opportunities. ChatGPT can help fill some of these gaps by providing teachers with practical tools to enhance their teaching methods.

Teachers can use ChatGPT to assist in lesson planning, generating ideas for activities and creating materials that align with the national curriculum. For example, teachers can input a specific grammar topic or a reading passage and receive suggestions for interactive exercises, quizzes, and class discussions. ChatGPT can also explain difficult grammar concepts in simple language, providing teachers with alternate ways to present lessons.

Furthermore, ChatGPT can help create content for diverse language proficiency levels. Teachers can input student needs and have the tool generate appropriate language exercises, worksheets, or assessment materials. This reduces the burden on teachers, particularly in rural schools where resources are scarce.

Mapping the capabilities of ChatGPT onto the pedagogical needs of Mozambican EFL classrooms offers a powerful theoretical framework for the integration of AI tools into teaching practice. Drawing on SLA and constructivist principles, it becomes evident that ChatGPT has the potential to enhance student engagement, promote learner autonomy, and provide differentiated instruction in a context where traditional teaching resources are limited. Additionally, the support ChatGPT offers to teachers, in terms of

content creation, lesson planning, and grammatical explanations, makes it an invaluable tool for improving the quality of language instruction in Mozambique's secondary schools.

USE OF A HYPOTHETICAL CASE MODEL

Given the absence of empirical fieldwork or a formal pilot project in Lichinga and Massinga Secondary Schools, the article utilizes a hypothetical case model as a planning and projection tool. This model synthesizes findings from global best practices and adapts them to the conditions of the local context. It presents a realistic scenario of how ChatGPT could be used in classrooms under the current constraints and explores potential outcomes, both positive and challenging. While hypothetical, this approach offers actionable insights that can inform future pilot studies, policy formulation, and teacher training programs in Mozambique and similar settings.

PROPOSED INTEGRATION AT LICHINGA AND MASSINGA SECONDARY SCHOOLS

The integration of ChatGPT into English as a Foreign Language (EFL) instruction at Lichinga and Massinga Secondary Schools in Niassa and Inhambane Provinces, Mozambique, presents significant potential to address current challenges in language learning. However, for successful integration, a thoughtful, context-sensitive approach must be adopted. Below, we outline how ChatGPT could be utilized to enhance both student learning and teacher support, as well as the challenges and considerations for its implementation in the Mozambican context.

PEDAGOGICAL APPLICATIONS

ChatGPT has diverse applications in language learning, particularly in helping students improve their language skills and engage in more personalized, interactive learning experiences. Given the context of Lichinga and Massinga Secondary Schools,

where resources for English learning are limited, the following pedagogical uses of ChatGPT could prove beneficial:

Writing Assistance: One of the main challenges in Mozambican classrooms is that students often have limited opportunities for independent writing practice. ChatGPT could serve as an essential tool for generating essays or stories. Students can input their written texts into the system and receive instant, automated feedback on grammar, sentence structure, and vocabulary usage. This could help to bridge the gap between limited teacher feedback and the need for regular practice (Godwin-Jones, 2022). Students could use ChatGPT as a "writing assistant," gaining immediate, low-stakes feedback that encourages them to improve their writing skills outside formal class hours.

Speaking Practice: Although ChatGPT does not currently support voice input natively, pairing it with speech-to-text tools could offer an innovative solution for speaking practice in Lichinga and Massinga English classrooms. Many Mozambican students lack opportunities for conversation practice, particularly in rural areas where English speakers are scarce. By transcribing spoken English into text, students can engage in interactive conversations with ChatGPT, receive corrective feedback on their pronunciation and fluency, and improve their confidence in speaking (Liu & Wang, 2022). In addition, the AI's ability to simulate dialogues could provide students with a much-needed tool for practicing real-life conversational English in a controlled environment.

Vocabulary Building: Teachers can harness ChatGPT's capability to generate quizzes and vocabulary exercises, tailored to the curriculum content. For instance, teachers can create vocabulary lists from English reading materials or textbooks and ask ChatGPT to generate flashcards, word associations, or fill-in-the-blank exercises. This would allow students to reinforce their language skills and better retain vocabulary.

Given that vocabulary acquisition is often a weak point in Mozambican classrooms, such interactive tools could significantly contribute to students' word knowledge (Zawacki-Richter et al., 2019).

TEACHER SUPPORT

Teachers at Lichinga and Massinga Secondary Schools could also benefit from ChatGPT in several key areas. The tool can provide much-needed support, particularly in light of the challenges teachers face in under-resourced schools.

Lesson Planning and Content Creation**:** ChatGPT could assist teachers in designing lesson plans that incorporate diverse, student-centered activities. For example, ChatGPT can suggest activities that promote active engagement with language content, such as role-plays, debates, or writing exercises. It can also provide resources, such as example sentences, grammar explanations, and reading comprehension passages. This would ease the workload of teachers, who often have to prepare lessons without sufficient teaching resources (Godwin-Jones, 2022).

Grammar and Concept Explanation: Many English teachers in Mozambique face difficulties in explaining complex grammar rules effectively due to limited resources or insufficient training. ChatGPT can provide clear, detailed explanations of grammar concepts in English, which teachers can use as a reference to supplement their own lessons. It could also be used to generate examples, exercises, and solutions that cater to diverse learning needs within the classroom.

Differentiating Instruction for Mixed-Ability Classes**:** Many Mozambican schools, classrooms are often large, with students possessing varying levels of English proficiency. ChatGPT could allow teachers to differentiate their instruction by tailoring activities and exercises to individual students' needs. It could, for example, offer more

basic language exercises for beginner students, while providing more challenging tasks for advanced learners. This would ensure that all students can benefit from AI-enhanced learning experiences, regardless of their proficiency level (Lee, 2021).

CHALLENGES AND CONSIDERATIONS

While the integration of ChatGPT holds significant potential, several challenges must be addressed in order to successfully implement it in Lichinga and Massinga Secondary Schools. These challenges are typical of many under-resourced schools in Mozambique and require careful consideration:

Digital Divide: One of the most significant obstacles to using ChatGPT in Lichinga and Massinga is the digital divide. Internet access in many rural parts of Mozambique is inconsistent, and the school may lack sufficient devices for all students to access ChatGPT simultaneously. According to the Mozambican Ministry of Education and Human Development (2021), there is an ongoing effort to increase ICT integration in schools, but progress remains slow in rural regions. Without reliable internet connectivity and sufficient hardware, using AI-based tools like ChatGPT in classrooms will be limited. Therefore, it is critical to explore offline solutions or lower-cost alternatives to facilitate access.

Teacher Training: To fully benefit from ChatGPT, teachers at Lichinga and Massinga Secondary Schools must be equipped with digital literacy skills. Many teachers in Mozambique, especially in rural areas, have limited exposure to digital teaching tools. Training programs must be designed to help teachers become proficient in using AI tools like ChatGPT for both classroom instruction and administrative tasks. These training sessions should also cover the ethical and pedagogical implications of using AI in education (Hsu et al., 2023). Without adequate professional development,

teachers may struggle to integrate these technologies effectively into their teaching practices.

Curriculum Alignment: ChatGPT's use in Mozambique's schools must be aligned with the national English language curriculum. While the tool can provide flexible, personalized learning experiences, it must also adhere to the prescribed content and objectives set by the Ministry of Education and Human Development. There is a need for curriculum adaptation that includes AI tools as supplemental resources, ensuring that ChatGPT's exercises and content match the language proficiency levels expected at each grade level. Additionally, the tool should complement traditional methods, rather than replace them, by fostering skills that align with national education goals (Liu & Wang, 2022).

FINAL CONSIDERATIONS

The integration of ChatGPT into English as a Foreign Language (EFL) classrooms at Lichinga and Massinga Secondary School presents a compelling opportunity to modernize and enrich language education through the use of artificial intelligence. As an advanced AI language model, ChatGPT offers the potential to support personalized learning, reinforce grammar and vocabulary acquisition, and foster student engagement through interactive and adaptive dialogue. However, the successful adoption of such technology requires careful planning, particularly in contexts with infrastructural and logistical constraints.

Despite the promise of improved learning outcomes, challenges such as limited access to digital devices, inconsistent internet connectivity, and a general lack of technological preparedness among educators may hinder immediate implementation. Therefore, to maximize the pedagogical benefits of AI while mitigating these barriers, a phased and context-sensitive approach is essential. This should include the launch of a

pilot project, collaboratively designed and overseen by local educational authorities, which would serve as a testing ground for the integration of ChatGPT into existing curricula.

Complementing this effort, targeted teacher training programs must be established to build digital literacy and pedagogical confidence in using AI tools effectively. Moreover, strategic investment in educational infrastructure such as the provision of internet access, devices, and maintenance support will be crucial to ensure sustainability and equity in implementation. When approached holistically, the integration of ChatGPT can become a transformative force in language education at Lichinga and Massinga Secondary Schools, aligning local educational goals with global technological advancements

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