Integrating Digital Storytelling Into English Language Teaching: A Qualitative Study of Technology-Enhanced Learning in a Tanzanian Primary School

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ABSTRACT

The integration of digital technologies into language education has become increasingly important as schools seek to prepare learners with the communication, collaboration, and digital literacy skills required in the twenty-first century. While considerable investments have been made in information and communication technologies (ICT) across many educational systems, particularly in Sub-Saharan Africa, evidence continues to suggest that the availability of technological infrastructure alone does not guarantee meaningful classroom integration. Rather, successful technology integration depends on teachers' pedagogical knowledge, technological competence, institutional support, and the alignment of digital tools with learner-centered instructional approaches. This study explores how digital storytelling can be integrated into the teaching of English language skills through computer-assisted language learning (CALL) in a Tanzanian primary school.

A qualitative case study design was employed involving one English language teacher and twenty-five Grade Six learners in an International Baccalaureate primary school in Dar es Salaam, Tanzania. Data were collected through classroom observation, semi-structured interviews, learner reflections, and the Nominal Group Technique, allowing for methodological triangulation and an in-depth understanding of participants' experiences. Data were analysed thematically to identify patterns relating to technology integration, pedagogical practices, learner engagement, and contextual factors influencing implementation.

The findings indicate that digital storytelling provides a powerful pedagogical approach for integrating technology into language instruction. The computer functioned both as an instructional tool and as an exploratory learning environment that promoted active participation, collaboration, creativity, and learner autonomy. The technology-supported learning activities enhanced learners' listening, speaking, reading, and writing skills while simultaneously fostering critical thinking and collaborative problem-solving. Participants also reported increased motivation, engagement, and confidence in language learning. However, successful implementation depended on several interrelated factors, including teacher digital competence, learner ICT literacy, availability of technological resources, adequate lesson preparation time, supportive school leadership, and pedagogical flexibility.

The study contributes to the growing body of research on technology-enhanced language learning by demonstrating that effective ICT integration extends beyond access to digital devices and requires pedagogically meaningful learning experiences grounded in constructivist principles. The findings have important implications for teacher education, curriculum development, and educational policy, particularly within resource-constrained contexts seeking to strengthen digital learning initiatives. The study recommends sustained professional development for teachers, greater emphasis on pedagogical uses of digital technologies, and institutional support for integrating innovative instructional approaches such as digital storytelling into language education.

Keywords: Technology integration, digital storytelling, Computer-Assisted Language Learning (CALL), digital pedagogy, technology-enhanced learning, primary education

INTRODUCTION

The rapid advancement of digital technologies has fundamentally transformed educational systems worldwide, redefining how teaching, learning, and assessment are conceptualized and implemented. Digital technologies have evolved from being supplementary instructional resources to becoming essential components of effective pedagogy, enabling learner-centred, collaborative, and interactive learning environments (UNESCO, 2023). The COVID-19 pandemic further accelerated this transformation by highlighting both the opportunities and inequalities associated with technology-supported education, prompting governments and educational institutions to invest heavily in digital infrastructure, teacher capacity building, and technology-enhanced learning environments (OECD, 2023). Consequently, the question facing educators is no longer whether technology should be integrated into teaching, but rather how it can be integrated meaningfully to improve learning outcomes.

Language education has particularly benefited from advances in educational technology. Digital platforms, multimedia applications, virtual learning environments, mobile technologies, and artificial intelligence (AI)-supported language learning tools have expanded opportunities for learners to engage with authentic language, collaborate with peers, receive immediate feedback, and develop communication skills in rich multimodal contexts (Chapelle & Sauro, 2017; Godwin-Jones, 2022). These developments have significantly influenced Computer-Assisted Language Learning (CALL), shifting its focus from technology as a delivery mechanism to technology as a pedagogical partner that supports interaction, creativity, learner autonomy, and meaningful language use (Hubbard & Levy, 2016; Kukulska-Hulme, 2020).

Among contemporary technology-enhanced pedagogies, digital storytelling has emerged as an effective instructional strategy for language education. Digital storytelling combines traditional narrative with multimedia elements such as images, audio, animation, and video, enabling learners to construct and communicate meaning through multiple modes of representation. Research demonstrates that digital storytelling enhances learners' listening, speaking, reading, and writing skills while simultaneously fostering creativity, collaboration, critical thinking, digital literacy, and learner motivation (Robin, 2016; Yang & Wu, 2021; Sadik, 2022). Furthermore, digital storytelling aligns closely with constructivist approaches to learning by positioning learners as active creators of knowledge rather than passive recipients of information.

Despite these developments, successful technology integration remains uneven across educational contexts. Numerous studies have shown that simply providing computers, internet connectivity, or other digital devices does not automatically translate into meaningful classroom practice (Ertmer et al., 2019; Tondeur et al., 2021). Instead, effective integration depends upon a complex interaction of factors including teachers' technological and pedagogical knowledge, beliefs about teaching and learning, institutional leadership, curriculum alignment, assessment practices, availability of technical support, and opportunities for continuous professional development (Koehler et al., 2022; UNESCO, 2023). These findings underscore the importance of examining technology integration from a pedagogical rather than purely technological perspective.

The challenge is particularly significant within many Sub-Saharan African educational systems, where governments have invested substantially in expanding ICT infrastructure and developing national digital education strategies. Countries including Tanzania, Kenya, Rwanda, and Uganda have implemented policies aimed at increasing digital access and promoting technology integration within schools as part of broader educational transformation agendas (African Union, 2024; UNESCO, 2023). Nevertheless, evidence suggests that technology in many classrooms continues to be used primarily for administrative purposes, information retrieval, or basic computer literacy rather than for transforming classroom pedagogy and supporting higher-order learning (Hennessy et al., 2022). Teachers frequently encounter barriers related to inadequate professional preparation, limited pedagogical support, insufficient instructional resources, time constraints, and uncertainty regarding effective instructional strategies for integrating digital technologies into everyday teaching.

These challenges are particularly important in English language education because language learning requires authentic communication, interaction, feedback, and opportunities for meaningful language use. Digital

technologies have the potential to create engaging environments that expose learners to authentic linguistic input, facilitate collaborative learning, encourage creativity, and promote learner autonomy. However, achieving these outcomes requires teachers to move beyond using technology as a presentation tool toward designing technology-rich learning experiences that actively engage learners in constructing knowledge and developing communicative competence.

Although previous studies have explored ICT integration in schools across Africa, relatively few qualitative investigations have examined how digital storytelling can be employed as a pedagogical strategy for developing English language skills within primary education contexts. Even fewer studies have documented the perspectives of both teachers and learners regarding the implementation of technology-supported language instruction using authentic classroom practices. Consequently, there remains a need for contextually grounded research that explores not only whether technology can support language learning, but also how teachers integrate digital resources into classroom pedagogy and the contextual factors that facilitate or constrain such integration.

This study addresses this gap by investigating the integration of digital storytelling within English language teaching in a Tanzanian primary school. Using a qualitative case study design, the research examines how computer-assisted learning activities support the development of language skills, explores teachers' and learners' experiences of technology-enhanced instruction, and identifies the institutional, pedagogical, and contextual factors that influence successful technology integration. Rather than viewing technology as an end in itself, the study conceptualizes digital technologies as pedagogical tools that can enrich language learning through authentic, collaborative, and learner-centred instructional practices.

The study contributes to the growing body of scholarship on technology-enhanced language learning by providing empirical evidence from an African educational context where research remains comparatively limited. It further offers practical insights for teacher educators, curriculum developers, school leaders, and policymakers seeking to promote pedagogically meaningful integration of digital technologies in language education. By demonstrating how digital storytelling can foster learner engagement, creativity, communication, and digital literacy, the study reinforces the argument that successful technology integration depends not merely on access to digital resources but on thoughtful instructional design, teacher competence, and supportive learning environments.

LITERATURE REVIEW

Technology Integration in Contemporary Language Education

The integration of digital technologies into education has evolved considerably over the past three decades. Early efforts largely emphasized providing schools with computers and internet connectivity, assuming that increased access would naturally improve teaching and learning. However, subsequent research has consistently demonstrated that technology itself does not transform learning; rather, educational improvement depends on how teachers integrate technology into pedagogically meaningful learning experiences (Ertmer & Ottenbreit-Leftwich, 2019; UNESCO, 2023).

Contemporary perspectives view technology integration as the deliberate and purposeful use of digital tools to facilitate learner-centred, collaborative, and inquiry-oriented learning. Effective integration therefore requires alignment between technological resources, curriculum objectives, pedagogical approaches, and learner needs. Technology is increasingly regarded as a cognitive and pedagogical partner that supports knowledge construction, creativity, communication, collaboration, and critical thinking rather than simply serving as a medium for content delivery (Liu, T., Zhang, Z., & Gao, X. A. 2023)

In language education, technology has transformed opportunities for authentic communication. Digital platforms enable learners to engage with multimedia texts, interact with native speakers, collaborate across geographical boundaries, receive immediate feedback, and access diverse linguistic resources. Language learning has therefore become increasingly multimodal, combining written, oral, visual, and interactive forms of

communication that mirror authentic language use in contemporary society (Liu, T., Zhang, Z., & Gao, X. A. 2023)

Nevertheless, technology integration remains uneven across educational systems. UNESCO (2023) cautions that investments in digital infrastructure alone rarely produce significant educational gains unless accompanied by teacher professional development, supportive institutional leadership, curriculum alignment, and equitable access to digital learning opportunities. These observations are particularly relevant within developing countries, where disparities in infrastructure, teacher preparedness, and institutional capacity continue to influence classroom implementation (Liu, T., Zhang, Z., & Gao, X. A. 2023)

Computer-Assisted Language Learning (CALL)

Computer-Assisted Language Learning (CALL) has developed from relatively simple drill-and-practice applications into sophisticated environments that support communication, collaboration, creativity, and learner autonomy. Early CALL applications focused primarily on grammar exercises and vocabulary practice. Advances in educational technology, however, have shifted emphasis toward communicative, task-based, and learner-centred approaches that encourage authentic language use.

Modern CALL environments integrate multimedia resources, online collaboration, mobile learning, gamification, artificial intelligence, and digital storytelling to create engaging language-learning experiences. Rather than replacing teachers, CALL enhances instructional possibilities by providing multiple forms of linguistic input, facilitating interaction, and enabling learners to receive timely feedback while progressing at their own pace. Recent reviews indicate that contemporary research increasingly focuses on teachers' pedagogical design decisions rather than simply examining technology adoption. Researchers argue that meaningful technology integration depends upon teachers' ability to combine technological knowledge with sound pedagogical practices that support language acquisition (Liu, T., Zhang, Z., & Gao, X. A. 2023).

The pedagogical value of CALL extends beyond improving linguistic competence. Technology-supported language learning has been associated with increased learner motivation, self-regulation, collaboration, intercultural communication, and digital literacy. Consequently, CALL has become an important component of twenty-first-century language education.

Digital Storytelling as a Pedagogical Approach

Digital storytelling has emerged as one of the most promising pedagogical applications within technology-enhanced language learning. It combines traditional storytelling with multimedia elements—including text, narration, photographs, animation, music, and video—to enable learners to communicate ideas creatively through multiple modes of representation.

Unlike conventional language exercises, digital storytelling requires learners to engage simultaneously in planning, researching, organizing ideas, scripting, revising, narrating, and presenting stories. These activities naturally integrate listening, speaking, reading, and writing while also developing higher-order thinking skills such as analysis, synthesis, reflection, creativity, and problem-solving.

Recent systematic reviews consistently conclude that digital storytelling positively influences language learning outcomes. Improvements have been reported in learners' writing quality, oral communication, vocabulary development, learner motivation, creativity, collaboration, digital literacy, and classroom engagement. Digital storytelling is also associated with increased learner confidence because students actively construct meaningful products that have authentic audiences (Ong, C., & Aryadoust, V. 2023).

Importantly, reviews also reveal important research gaps. Although numerous studies have investigated digital storytelling's effects on writing and speaking, comparatively fewer have explored listening development, authentic classroom implementation, or technology integration within African educational contexts.

Furthermore, many studies have focused on learning outcomes without sufficiently examining the pedagogical processes through which teachers integrate digital storytelling into everyday instruction (Ong, C., & Aryadoust, V. 2023). These gaps justify further qualitative investigations that examine both teacher and learner experiences during authentic technology-supported language instruction.

Constructivist Learning and Technology Integration

Constructivist learning theory provides one of the strongest pedagogical foundations for technology integration in language education. Constructivist perspectives argue that learners actively construct knowledge through interaction with ideas, experiences, resources, and other learners rather than passively receiving information from teachers.

Digital technologies naturally support constructivist learning because they enable learners to investigate problems, create artefacts, collaborate with peers, communicate ideas, and reflect on their learning processes. Digital storytelling exemplifies constructivist pedagogy by positioning learners as creators rather than consumers of knowledge. Students generate meaning through selecting information, organizing narratives, negotiating ideas collaboratively, and producing multimedia products that demonstrate understanding.

Technology-rich constructivist classrooms also promote learner autonomy and self-regulation. Rather than following predetermined instructional sequences, learners increasingly make decisions about information gathering, content organization, multimedia design, and presentation. Such experiences encourage ownership of learning while developing communication and problem-solving competencies required beyond formal schooling.

Teacher Knowledge and Technology Integration

One of the most influential frameworks explaining successful technology integration is the Technological Pedagogical Content Knowledge (TPACK) framework developed by Mishra and Koehler. The framework proposes that effective technology integration requires teachers to combine three complementary forms of knowledge: content knowledge, pedagogical knowledge, and technological knowledge. Technology integration becomes effective when teachers understand how these knowledge domains interact during instructional design rather than treating technology as an isolated competency.

Recent reviews indicate that language teachers frequently possess basic technological skills but often require additional support in designing technology-enhanced learning experiences that align with pedagogical objectives. Researchers increasingly argue that teachers should be viewed not merely as technology users but as pedagogical designers capable of selecting, adapting, and integrating digital resources to meet specific learning goals(Liu, T., Zhang, Z., & Gao, X. A. 2023).

Professional development therefore plays a critical role in technology integration. Effective teacher learning extends beyond technical training to include opportunities for collaborative lesson design, classroom experimentation, reflective practice, and ongoing pedagogical support.

Factors Influencing Technology Integration

Technology integration is shaped by multiple interrelated factors operating at teacher, classroom, school, and policy levels. First-order barriers include availability of infrastructure, internet connectivity, technical support, access to digital devices, and financial resources. Although these remain important, research increasingly suggests that second-order barriers—including teacher beliefs, confidence, pedagogical orientations, leadership support, and institutional culture—often exert greater influence on classroom implementation.

Teachers who perceive technology as supporting learner-centred instruction are generally more likely to integrate digital resources meaningfully than those who view technology primarily as a presentation tool. Similarly,

schools that promote innovation, collaborative planning, and continuous professional learning create conditions that encourage effective technology integration.

Time remains another significant challenge. Designing technology-supported lessons often requires additional preparation, resource selection, troubleshooting, and assessment planning. Without adequate institutional support, these demands may discourage sustained classroom implementation despite positive teacher attitudes.

Studies conducted within Sub-Saharan Africa report similar findings. While governments have expanded ICT infrastructure considerably, classroom use frequently remains limited by teacher preparedness, inconsistent connectivity, curriculum constraints, and insufficient professional development. Consequently, researchers advocate integrated approaches that combine infrastructure investment with pedagogical training, curriculum reform, and supportive leadership to maximize educational benefits (Liu, T., Zhang, Z., & Gao, X. A. 2023).

Research Gap

The literature demonstrates overwhelming agreement that technology has significant potential to enhance language learning when integrated within learner-centred pedagogical approaches. Digital storytelling, in particular, has consistently been associated with improved language proficiency, learner engagement, creativity, collaboration, and digital literacy. However, several gaps remain.

First, relatively little qualitative research has explored how teachers integrate digital storytelling into authentic primary school English classrooms within Sub-Saharan Africa. Second, much existing research emphasizes learner outcomes while paying comparatively less attention to classroom processes, teacher decision-making, and contextual influences that shape implementation. Third, systematic reviews have highlighted the need for richer qualitative evidence documenting how technology integration unfolds during everyday classroom practice and how teachers negotiate pedagogical and technological challenges (Liu, T., Zhang, Z., & Gao, X. A. 2023).

This study addresses these gaps by examining the integration of digital storytelling into English language teaching within a Tanzanian primary school through a qualitative case study. By investigating teachers' and learners' experiences alongside contextual facilitators and constraints, the study contributes contextually grounded evidence to the growing literature on technology-enhanced language learning and offers practical insights for educators, teacher educators, and policymakers seeking to promote meaningful technology integration in language education.

THEORETICAL FRAMEWORK

This study is informed by three complementary theoretical perspectives: Ellis' Computational Model of Second Language Acquisition, Constructivist Learning Theory, and the Technological Pedagogical Content Knowledge (TPACK) framework. Together, these perspectives provide a comprehensive explanation of how digital technologies, particularly digital storytelling, can facilitate English language learning while guiding teachers in designing meaningful technology-enhanced learning experiences.

Ellis' Computational Model of Second Language Acquisition

The primary theoretical lens underpinning this study is Ellis' (1997) Computational Model of Second Language Acquisition (SLA). Ellis conceptualizes second language learning as an information-processing system in which learners move through interconnected stages of input, intake, processing, storage, and output.

According to the model, language acquisition begins when learners are exposed to meaningful linguistic input. However, not all input becomes learning. Learners selectively attend to aspects of the language, transforming input into intake through cognitive processing. The intake is then organized within working memory before being integrated into long-term memory as linguistic knowledge. Finally, learners demonstrate this knowledge

through spoken or written language output. Output subsequently generates additional opportunities for feedback, modification, and further learning, making language acquisition an iterative and dynamic process.

Within the present study, digital storytelling provided rich multimodal input through narration, images, animations, sound, and interactive activities. Rather than merely receiving information, learners actively processed language by discussing story events, negotiating meaning with peers, constructing narratives, and presenting their stories orally and in writing. These activities encouraged repeated cycles of input, processing, interaction, feedback, and output that are central to Ellis' model.

The computer therefore functioned not simply as a delivery mechanism but as a learning environment that supported multiple stages of second language acquisition simultaneously. Learners received authentic language exposure, processed linguistic information collaboratively, reflected on their understanding, and produced meaningful language outputs through storytelling activities.

Constructivist Learning Theory

While Ellis' model explains the cognitive processes underlying language acquisition, Constructivist Learning Theory explains how learners construct knowledge through active engagement with meaningful learning experiences.

Constructivist theorists argue that knowledge is not transmitted directly from teacher to learner. Rather, learners actively construct understanding through interaction with their environment, collaboration with others, and reflection on authentic experiences. Learning therefore occurs most effectively when learners participate in problem-solving, inquiry, discussion, and knowledge creation rather than memorization.

Digital storytelling closely reflects constructivist principles because learners assume an active role throughout the learning process. Instead of passively listening to language instruction, learners observe multimedia resources, discuss ideas collaboratively, negotiate meanings, create stories, revise narratives, and communicate their interpretations to others. These activities promote deeper cognitive engagement while encouraging learners to connect new language experiences with their prior knowledge.

Constructivism also emphasizes social interaction as a catalyst for learning. During digital storytelling activities, learners worked collaboratively to analyse information, make decisions, solve problems, and produce shared narratives. Such collaborative engagement supports language development by providing authentic opportunities for communication, negotiation of meaning, and peer feedback.

Furthermore, constructivist classrooms promote learner autonomy and creativity. Digital storytelling encourages students to become creators of knowledge rather than consumers of information. By making decisions about story structure, vocabulary, visual representation, and oral presentation, learners develop both language competence and higher-order thinking skills including critical thinking, creativity, communication, and collaboration.

Technological Pedagogical Content Knowledge (TPACK)

Although constructivism explains how learners learn, effective technology integration also depends upon teachers' professional knowledge. For this reason, the present study is additionally informed by the Technological Pedagogical Content Knowledge (TPACK) framework developed by Mishra and Koehler (2006).

The TPACK framework proposes that successful technology integration requires teachers to integrate three forms of professional knowledge:

- Content Knowledge (CK) refers to teachers' understanding of the subject matter—in this case, English language skills including listening, speaking, reading, writing, vocabulary, and grammar.

- Pedagogical Knowledge (PK) refers to teachers' understanding of instructional strategies, classroom management, assessment, and learner-centred teaching approaches.

- Technological Knowledge (TK) refers to teachers' knowledge of digital technologies, including computers, multimedia applications, internet resources, and educational software.

Effective technology integration occurs where these three knowledge domains intersect. Teachers must not only understand technology but also determine how particular technologies can support specific pedagogical approaches for teaching particular content.

Within this study, digital storytelling illustrates this intersection effectively. The teacher combined knowledge of English language instruction (content knowledge), collaborative and inquiry-based teaching strategies (pedagogical knowledge), and digital storytelling software together with computer technology (technological knowledge). Rather than using computers merely for presentation or information retrieval, technology became integrated into instructional design to facilitate authentic language learning experiences.

The TPACK framework therefore provides an appropriate explanation for why successful technology integration depends not simply on access to computers but also on teachers' ability to design pedagogically meaningful learning activities. This perspective aligns with contemporary research demonstrating that teacher competence, pedagogical beliefs, curriculum alignment, and instructional design are stronger predictors of successful technology integration than technology availability alone. (UNESCO, 2023)

Conceptual Integration of the Frameworks

The three theoretical perspectives are complementary and collectively provide a robust framework for understanding technology-enhanced language learning.

Ellis' Computational Model explains the cognitive mechanisms through which learners acquire language by transforming input into meaningful linguistic output. Constructivist Learning Theory explains how these cognitive processes are strengthened through active participation, collaboration, and authentic learning experiences. The TPACK framework explains the teacher knowledge required to design and implement such learning experiences using digital technologies.

Together, these perspectives suggest that effective technology integration occurs when teachers intentionally design learner-centred digital learning environments that provide rich linguistic input, encourage active knowledge construction, facilitate collaboration, and create opportunities for authentic language production.

Within the present study, digital storytelling served as the pedagogical bridge connecting these theoretical perspectives. It exposed learners to authentic multimedia language input, engaged them in collaborative meaning-making, supported creative knowledge construction, and enabled meaningful spoken and written language production while illustrating the teacher's integration of technological, pedagogical, and content knowledge.

Accordingly, the theoretical framework positions technology not as an end in itself but as a pedagogical resource that enhances language learning through carefully designed instructional experiences. This perspective is consistent with current international scholarship, which emphasizes that digital technologies improve learning only when they are aligned with sound pedagogy, appropriate content, and learners' educational needs (UNESCO, 2023).

METHODOLOGY

Research Design

This study employed a qualitative case study design to investigate how digital storytelling can be integrated into English language teaching through computer-assisted language learning (CALL) in a primary school context. A qualitative approach was considered appropriate because the study sought to understand participants' experiences, perceptions, classroom interactions, and the contextual factors that influence technology integration rather than measure predetermined variables or establish causal relationships (Creswell & Poth, 2018; Merriam & Tisdell, 2016).

Case study research enables an in-depth investigation of contemporary educational phenomena within their natural settings while preserving the complexity of real-life classroom practice (Yin, 2018). Since technology integration is influenced by multiple interacting factors—including teacher knowledge, learner characteristics, school culture, curriculum requirements, and available technological resources—a case study design provided the flexibility needed to examine these relationships holistically. Furthermore, qualitative case studies are particularly valuable when the researcher seeks to understand how and why educational innovations operate within authentic instructional environments (Stake, 1995).

The study was guided by the following research questions:

1. How can digital storytelling be integrated into the teaching of English language skills in a primary school classroom?

2. What factors facilitate or hinder the integration of digital technologies in English language teaching?

3. What are the teacher's perspectives regarding technology-enhanced language instruction?

4. What are learners' perceptions of learning English through digital storytelling?

Research Context

The research was conducted at Greenvale School (a pseudonym), a private co-educational primary school located in Dar es Salaam, Tanzania. The school follows the International Baccalaureate Primary Years Programme (IB PYP), whose learner-centred philosophy encourages inquiry, collaboration, critical thinking, creativity, and authentic learning experiences.

Greenvale was purposively selected because it possessed relatively well-developed ICT infrastructure compared with many schools in the region. The ICT laboratory contained internet-enabled desktop computers, multimedia projection facilities, audio equipment, educational software, and reliable internet connectivity. Prior to implementing the instructional intervention, the researcher inspected the ICT laboratory to ensure that all computers, browsers, audio systems, and internet connections were functioning effectively to support digital storytelling activities.

Conducting the study within this context provided an opportunity to examine technology integration under conditions where infrastructural barriers were minimized, thereby enabling greater attention to pedagogical processes and participant experiences.

Participants and Sampling

Purposive sampling was employed to identify participants capable of providing rich information regarding technology-enhanced language learning (Patton, 2015).

Participants consisted of one Grade Six English language teacher and twenty-five Grade Six learners. The teacher possessed approximately four and a half years of teaching experience and had worked at Greenvale School for three years. She demonstrated basic digital competence and routinely used computers for lesson planning, document preparation, internet searches, and classroom presentations.

The learner participants represented diverse academic achievement levels, including high-performing learners, average-performing learners, and learners requiring additional academic support. Although all learners participated in classroom observations, the Nominal Group Technique, and written reflections, two learners were purposively selected for semi-structured interviews to obtain richer descriptions of their learning experiences.

Purposive sampling ensured that participants possessed direct experience with the instructional intervention and could provide detailed insights into technology integration within the language classroom (Creswell & Poth, 2018).

Instructional Intervention

The instructional intervention centred on integrating digital storytelling into an English language lesson designed to develop learners' listening, speaking, reading, and writing skills.

The lesson utilized *The Cobalt Adventure*, an interactive online digital storytelling resource. Prior to engaging with the digital story, learners participated in activities intended to activate their prior knowledge by discussing Canada's geography, historical background, and cultural context. Learners then explored the digital story collaboratively, listened to narrated episodes, interpreted visual information, negotiated meanings within their groups, reconstructed the narrative orally, and finally produced written stories based on their understanding.

The instructional activities were deliberately designed to reflect constructivist principles by promoting collaborative inquiry, learner interaction, reflection, creativity, and authentic language use. Simultaneously, the intervention aligned with Ellis' (1997) Computational Model of Second Language Acquisition by providing learners with rich linguistic input, opportunities for cognitive processing, collaborative interaction, and meaningful language production.

Data Collection Procedures

Multiple methods of data collection were employed to facilitate methodological triangulation and enhance the credibility of the findings (Denzin, 2017; Creswell & Poth, 2018). Using multiple data sources enabled the researcher to obtain complementary perspectives regarding participants' experiences and the implementation of technology-supported language instruction.

Classroom Observation

Classroom observation constituted the principal method of data collection. One double lesson lasting approximately eighty minutes was observed using a non-participant observation approach. A structured observation schedule guided data collection by focusing on learner engagement, teacher facilitation, technology use, classroom interaction, collaborative learning, and pedagogical strategies.

Detailed field notes were recorded throughout the lesson to capture classroom dynamics, contextual information, participant behaviour, and instructional events that could not adequately be represented through checklist observations alone (Merriam & Tisdell, 2016).

Semi-Structured Interviews

Semi-structured interviews were conducted immediately following the classroom observation with the English language teacher and two purposively selected learners. Semi-structured interviewing was selected because it combines consistency across participants with sufficient flexibility to explore emerging issues in greater depth (Kvale & Brinkmann, 2015).

Interview questions explored participants' experiences with digital storytelling, perceptions of computer-assisted language learning, perceived instructional benefits, implementation challenges, learner engagement, and

recommendations for improving technology integration. Interviews lasted between ten and twenty minutes, were audio-recorded with participants' permission, and later transcribed verbatim for analysis.

Nominal Group Technique

The Nominal Group Technique (NGT) was used to facilitate balanced learner participation while minimizing the influence of dominant group members (Delbecq et al., 1975). Learners were organized into five groups comprising five participants each.

Each learner initially generated ideas independently before sharing them with group members. Responses were discussed, clarified, consolidated, and ranked collectively according to perceived importance. The structured nature of the NGT ensured equitable participation while generating consensus regarding learners' experiences of technology-supported learning.

Learner Reflections

At the conclusion of the lesson, learners completed written reflections describing their experiences during the digital storytelling activity. Reflection writing enabled learners to articulate personal perceptions regarding motivation, collaboration, language learning, technology use, and overall engagement.

Learner reflections provided valuable evidence of participants' thinking that complemented observational and interview data while strengthening methodological triangulation.

Data Analysis

Data analysis began concurrently with data collection, consistent with qualitative research traditions that emphasize iterative interpretation (Miles et al., 2020).

Interview transcripts, classroom observation notes, learner reflections, and Nominal Group responses were analysed using Braun and Clarke's (2021) six-phase thematic analysis framework. The analytical process involved:

1. Familiarisation with the data.
2. Generation of initial codes.
3. Searching for recurring themes.
4. Reviewing candidate themes.
5. Defining and naming themes.
6. Producing an integrated analytical narrative.

Coding was conducted across all four data sources before comparing patterns to identify convergent and divergent perspectives. Constant comparison techniques were employed throughout the analysis to refine categories and strengthen interpretive consistency (Charmaz, 2014). Representative participant quotations were selected to illustrate major themes while preserving participants' anonymity through the use of pseudonyms.

Trustworthiness

The quality of qualitative research depends upon demonstrating trustworthiness rather than statistical validity (Lincoln & Guba, 1985).

Credibility was enhanced through methodological triangulation involving classroom observations, interviews, learner reflections, and the Nominal Group Technique. Multiple sources enabled corroboration of emerging findings while reducing reliance upon a single source of evidence.

Transferability was supported through detailed descriptions of the research setting, instructional intervention, participant characteristics, and classroom context, enabling readers to judge the applicability of findings to comparable educational settings.

Dependability was strengthened by maintaining a comprehensive audit trail documenting methodological decisions, coding procedures, analytical memos, and theme development throughout the research process.

Confirmability was enhanced through reflexive note-taking, transparent documentation of analytical decisions, and the consistent use of participant quotations to demonstrate that interpretations emerged directly from the data rather than researcher assumptions.

Researcher Reflexivity

Recognising that qualitative researchers serve as the primary research instrument (Merriam & Tisdell, 2016), the researcher maintained a reflexive stance throughout the investigation. Reflective journals documented methodological decisions, emerging assumptions, observations, and analytical reflections during data collection and analysis.

This ongoing reflexivity helped minimise potential researcher bias while ensuring that interpretations remained grounded in participants' experiences and classroom observations.

Ethical Considerations

The study adhered to internationally accepted ethical principles governing educational research involving human participants (BERA, 2024). Permission to conduct the research was obtained from the school administration before commencement of data collection. The teacher provided informed consent to participate. Because the learner participants were minors, parental or guardian consent together with learner assent was obtained before participation.

Participants were informed of the purpose of the study, the voluntary nature of participation, their right to withdraw at any stage without penalty, and the confidential handling of all research data. To protect participants' identities, pseudonyms were used for the school, teacher, and learners throughout the study. Digital recordings, transcripts, observation notes, and reflective journals were securely stored using password-protected electronic files accessible only to the researcher.

FINDINGS

The purpose of this study was to examine how digital storytelling could be integrated into English language teaching through computer-assisted language learning (CALL) in a Tanzanian primary school. The findings are organized into four themes corresponding to the research questions: (1) digital storytelling as a pedagogical tool, (2) the computer as an exploratory learning environment, (3) factors influencing technology integration, and (4) teachers' and learners' perceptions of technology-enhanced language learning.

Digital Storytelling as a Pedagogical Tool

The findings indicate that digital storytelling provided an effective strategy for integrating technology into English language instruction. The multimedia features of the digital story enabled learners to develop listening, speaking, reading, and writing skills within an authentic and engaging learning environment. Classroom

observations showed that learners actively listened to the narrated story, discussed events collaboratively, reconstructed the narrative, and produced written stories based on their interpretations.

Learner reflections suggested that the combination of visual and audio elements enhanced understanding and stimulated classroom discussion. One learner noted that seeing events unfold on the computer helped the group understand the story more quickly because different learners contributed diverse interpretations. These findings suggest that digital storytelling promoted collaborative meaning-making and active learner participation.

The observed instructional practices are consistent with research indicating that multimedia learning environments enhance language acquisition by providing multiple modes of representation that support comprehension, learner engagement, and communication (Chapelle & Sauro, 2017; Robin, 2016). The findings also support constructivist perspectives, which emphasize active learner participation in knowledge construction.

The Computer as an Exploratory Learning Environment

Beyond functioning as an instructional tool, the computer created an exploratory environment that encouraged creativity, collaboration, and learner autonomy. Rather than merely consuming digital content, learners investigated story events, negotiated meanings, made decisions collectively, and constructed original narratives.

Observation data revealed high levels of participation throughout the lesson. Learners worked collaboratively, exchanged ideas, justified opinions, and demonstrated increasing confidence during oral storytelling activities. The teacher similarly acknowledged that the lesson expanded her understanding of how computers could support language learning beyond typing and internet searches.

Learners also described the lesson as enjoyable and intellectually stimulating. Several reflections indicated that working collaboratively made learning more memorable and encouraged problem-solving during story development. These findings reinforce previous studies showing that technology-supported inquiry and digital storytelling promote creativity, collaboration, and learner-centred instruction (Yang & Wu, 2021; Sadik, 2022).

Factors Influencing Technology Integration

The study identified several factors that either facilitated or constrained the successful integration of digital technologies into English language teaching.

Teacher and Learner Digital Competence

Both the teacher's and learners' existing digital skills contributed significantly to the successful implementation of the lesson. Learners were already familiar with basic computer operations, internet browsing, and educational software, enabling them to focus on language learning rather than learning how to operate the technology. Likewise, the teacher possessed sufficient technological knowledge to facilitate the lesson confidently.

These findings align with studies demonstrating that teachers' digital competence represents one of the strongest predictors of successful technology integration (Mishra & Koehler, 2006; UNESCO, 2023).

Availability of ICT Resources

The school's ICT infrastructure supported effective implementation of the instructional intervention. Functional computers, internet connectivity, multimedia equipment, and technical support enabled learners to engage fully with the digital storytelling activities.

However, observations suggested that the mere presence of technology did not automatically lead to meaningful learning. Prior to the intervention, computers were frequently used for routine activities such as typing, internet searches, and recreational games. The findings therefore reinforce the view that educational benefits arise from

pedagogically purposeful technology use rather than simple access to digital devices (Ertmer & Ottenbreit-Leftwich, 2019).

Time Constraints

Time emerged as the principal challenge affecting technology integration. Considerable preparation was required to identify suitable digital resources, familiarize the teacher with the technology, and design collaborative learning activities. During lesson implementation, several learner groups indicated that additional time would have enabled them to complete and refine their stories more effectively.

These findings support previous research suggesting that insufficient planning time remains a persistent barrier to technology-enhanced teaching despite positive teacher attitudes toward digital learning (Tondeur et al., 2021).

Teacher and Learner Perceptions

The instructional intervention positively influenced both teacher and learner perceptions of technology-enhanced language learning.

Initially, the teacher associated classroom computer use primarily with document preparation, internet searches, and presentation of information. Following the lesson, however, she described digital storytelling as an "eye-opener," emphasizing its ability to increase learner participation, sustain attention, and promote collaborative learning. She further indicated her intention to incorporate similar activities into future language lessons.

Learners expressed similarly positive perceptions. Most described the lesson as enjoyable, engaging, and different from their usual classroom experiences. They particularly appreciated the opportunity to collaborate, discuss ideas, create stories, and learn through multimedia resources. Learner reflections consistently suggested that the technology-supported lesson increased motivation and facilitated understanding of language concepts.

These findings are consistent with contemporary studies reporting that technology-enhanced language learning improves learner motivation, engagement, creativity, and confidence when integrated within meaningful pedagogical activities (Godwin-Jones, 2022; Kukulska-Hulme, 2020).

SUMMARY OF FINDINGS

Overall, the findings demonstrate that digital storytelling can provide a meaningful approach to integrating technology into English language teaching. The instructional intervention enabled learners to develop language skills while fostering collaboration, creativity, critical thinking, and active participation. Successful implementation, however, depended on several interconnected factors, including teacher digital competence, learner ICT skills, availability of technological resources, institutional support, and adequate preparation time.

The findings further suggest that technology integration should be viewed primarily as a pedagogical rather than technological process. The educational value of digital tools lies not in their availability but in teachers' ability to design learner-centred experiences that encourage authentic communication, collaborative inquiry, and meaningful language use.

DISCUSSION

This study examined how digital storytelling can be integrated into English language teaching through computer-assisted language learning (CALL) in a Tanzanian primary school. The findings demonstrate that digital storytelling provides an effective pedagogical approach for promoting learner engagement, collaboration, creativity, and the development of English language skills. The discussion interprets these findings in relation to the theoretical framework and existing literature on technology-enhanced language learning.

Digital Storytelling as a Pedagogically Meaningful Approach

A key finding of this study is that digital storytelling supported the development of listening, speaking, reading, and writing skills by creating authentic, learner-centred learning experiences. Rather than using computers simply to present information, technology became an integral component of the learning process, enabling learners to construct knowledge collaboratively through discussion, storytelling, reflection, and writing.

This finding supports Ellis' (1997) Computational Model of Second Language Acquisition, which proposes that language learning occurs through successive stages of input, intake, processing, storage, and output. The digital storytelling activities exposed learners to rich multimodal language input through narration, visuals, and interactive tasks. Learners subsequently processed this information collaboratively before producing meaningful spoken and written language. These repeated cycles of interaction and production created opportunities for language acquisition that extended beyond traditional teacher-centred instruction.

The findings also reinforce contemporary CALL research, which emphasizes that technology contributes most effectively to language learning when it supports meaningful communication rather than repetitive drill-and-practice activities (Chapelle & Sauro, 2017; Hubbard & Levy, 2016). In the present study, learners were not passive recipients of digital information but active participants who negotiated meanings, created stories, and reflected upon their learning. This suggests that technology can enhance language learning when embedded within authentic pedagogical tasks.

Furthermore, the results are consistent with research demonstrating that digital storytelling enhances learner engagement, communication skills, creativity, and language proficiency by integrating multiple forms of representation and encouraging authentic language use (Robin, 2016; Yang & Wu, 2021). The positive learner responses observed during the intervention suggest that digital storytelling provides opportunities for learners to connect linguistic knowledge with meaningful social interaction, thereby supporting deeper learning.

Technology as an Exploratory Learning Environment

An important contribution of this study is the finding that computers functioned not only as instructional tools but also as exploratory learning environments. Learners collaborated, solved problems, justified opinions, and created original narratives rather than merely completing teacher-directed tasks. This shift illustrates how technology can support inquiry-based learning and learner autonomy.

This finding aligns closely with Constructivist Learning Theory, which views learning as an active process in which learners construct knowledge through interaction with their environment and with others (Piaget, 1972; Vygotsky, 1978). Digital storytelling encouraged learners to negotiate ideas collaboratively, evaluate alternative interpretations, and communicate their understanding through oral and written narratives. Such activities exemplify the constructivist principle that meaningful learning occurs through active participation rather than passive reception of information.

The collaborative nature of the intervention further supports Vygotsky's concept of socially mediated learning. Group discussions enabled learners to scaffold one another's understanding while jointly constructing knowledge. The computer therefore became a medium through which collaborative learning occurred rather than simply a device for presenting instructional content.

Similar conclusions have been reported in recent studies indicating that technology-supported collaborative learning promotes higher-order thinking, learner autonomy, and sustained engagement in language classrooms (Godwin-Jones, 2022; Kukulska-Hulme, 2020). The present findings extend this evidence by demonstrating that such pedagogical benefits can also be achieved within a primary school context in Sub-Saharan Africa.

Teacher Knowledge and Technology Integration

The study further demonstrates that successful technology integration depended less on the availability of computers than on the teacher's pedagogical use of technology. Although Greenvale School possessed adequate ICT infrastructure before the intervention, computers were used primarily for typing, internet searches, and recreational activities. Following the digital storytelling lesson, however, the teacher recognized broader instructional possibilities for integrating technology into language teaching.

This finding provides empirical support for the Technological Pedagogical Content Knowledge (TPACK) framework developed by Mishra and Koehler (2006). The framework proposes that effective technology integration occurs when teachers combine technological knowledge with pedagogical and content knowledge. In this study, the teacher's growing understanding of how digital storytelling could support English language learning illustrates the importance of integrating technology with appropriate instructional strategies rather than treating technology as an end in itself.

The findings also reinforce recent research indicating that teacher beliefs and pedagogical competence are stronger predictors of technology integration than technological infrastructure alone (Ertmer & Ottenbreit-Leftwich, 2019; Tondeur et al., 2021). Schools may therefore invest substantially in digital infrastructure without achieving meaningful classroom transformation if teachers lack opportunities to develop technology-enhanced pedagogical practices.

These findings highlight the importance of sustained professional development programmes that extend beyond technical training to include instructional design, collaborative lesson planning, and reflective practice. Teachers require support not only in learning how digital technologies operate but also in understanding how technology can facilitate meaningful language learning.

Contextual Factors Influencing Technology Integration

The study identified several contextual factors that facilitated or constrained technology integration. Teacher digital competence, learner ICT literacy, availability of technological resources, and institutional support emerged as important enabling conditions. Conversely, limited preparation time represented the principal barrier to implementation.

The prominence of teacher competence corresponds with findings from international research indicating that teachers' confidence and technological pedagogical knowledge strongly influence classroom technology use (UNESCO, 2023). Similarly, learner familiarity with computers reduced the cognitive demands associated with operating digital technologies, allowing greater attention to language learning tasks.

The findings concerning ICT infrastructure should be interpreted carefully. Although adequate resources supported implementation, the study demonstrates that infrastructure alone is insufficient to transform classroom practice. This observation echoes the conclusions of the UNESCO (2023) Global Education Monitoring Report, which cautions against equating technology provision with educational improvement. Rather, technology becomes educationally valuable only when integrated into sound pedagogical practice.

Time constraints constituted the principal challenge reported by both the teacher and learners. Preparation of technology-supported lessons required considerable investment in planning, resource selection, and familiarization with digital materials. These findings are consistent with previous studies identifying time as one of the most persistent barriers to technology integration across educational contexts (Tondeur et al., 2021). Addressing this challenge requires institutional support through collaborative planning opportunities, reduced administrative workloads, and sustained professional learning.

Teacher and Learner Perceptions

Both teacher and learner perceptions of technology-enhanced language learning became increasingly positive following the intervention. Learners described the digital storytelling lesson as engaging, enjoyable, and different from conventional classroom experiences, while the teacher viewed the lesson as expanding her understanding of technology's instructional potential.

Positive learner attitudes are particularly significant because motivation represents an important determinant of successful second language acquisition. According to self-determination theory, learning environments that promote autonomy, competence, and collaboration enhance intrinsic motivation and sustained engagement. The collaborative and creative nature of digital storytelling appears to have contributed positively to these motivational processes.

The teacher's changing perceptions further illustrate the dynamic relationship between classroom experience and pedagogical beliefs. Experiencing successful technology integration increased her confidence and willingness to incorporate similar instructional strategies into future lessons. This finding supports studies suggesting that successful classroom experiences often serve as powerful catalysts for sustained pedagogical innovation (Ertmer & Ottenbreit-Leftwich, 2019).

Contribution to Technology-Enhanced Language Learning

The study contributes to the growing body of literature on technology-enhanced language learning in several ways. First, it provides empirical evidence demonstrating that digital storytelling can successfully support the teaching of multiple language skills simultaneously within a primary school setting. Second, it contributes context-specific evidence from Sub-Saharan Africa, where qualitative studies examining authentic classroom technology integration remain comparatively limited.

Third, the findings reinforce contemporary perspectives that conceptualize technology integration as a pedagogical rather than technological process. Successful integration depended not upon the sophistication of digital tools but upon the teacher's ability to design learner-centred instructional experiences grounded in collaboration, creativity, and authentic communication.

Finally, the study demonstrates the complementary value of integrating Ellis' Second Language Acquisition model, Constructivist Learning Theory, and the TPACK framework for understanding technology-enhanced language learning. Together, these theoretical perspectives explain how digital storytelling simultaneously supports language acquisition, collaborative knowledge construction, and effective instructional design.

Overall, the findings suggest that digital storytelling represents a promising pedagogical approach for English language education in resource-constrained contexts where teachers seek meaningful ways of integrating technology into classroom practice. Rather than focusing exclusively on technological infrastructure, educational policies should prioritize teacher professional development, pedagogically informed technology integration, and learner-centred instructional innovation.

Implications

The findings of this study have important implications for educational practice, teacher education, educational policy, and future research. The study demonstrates that digital storytelling can serve as an effective pedagogical approach for integrating technology into English language teaching while simultaneously promoting language development, learner engagement, collaboration, creativity, and digital literacy. These implications extend beyond the participating school and contribute to broader discussions regarding technology-enhanced language learning in primary education.

Implications for Classroom Practice

The findings suggest that teachers should view digital technologies as pedagogical tools that facilitate active learning rather than simply as mechanisms for presenting instructional content. The successful implementation of digital storytelling illustrates that learners benefit most when technology supports authentic communication, collaborative inquiry, and meaningful language use.

English language teachers should therefore incorporate multimedia-based learning activities that require learners to listen, discuss, create, present, and reflect rather than relying solely on traditional teacher-centred approaches. Digital storytelling provides opportunities to integrate listening, speaking, reading, and writing within a single instructional activity while fostering higher-order thinking skills such as creativity, critical thinking, communication, and collaboration. These competencies align with current educational priorities emphasizing twenty-first-century skills (OECD, 2023; UNESCO, 2023).

The findings also indicate that collaborative learning significantly enhanced learner engagement and participation. Teachers should therefore design technology-supported activities that encourage peer interaction, discussion, and shared problem-solving rather than individual computer use. Such collaborative approaches are consistent with constructivist learning principles and contemporary language teaching methodologies that emphasize communication and social interaction as central to language acquisition (Vygotsky, 1978).

Implications for Teacher Education and Professional Development

The study demonstrates that successful technology integration depends primarily on teachers' pedagogical knowledge rather than on technology availability alone. Although the participating teacher possessed basic digital skills, the intervention expanded her understanding of how digital storytelling could support language learning.

Teacher education programmes should therefore move beyond teaching technical ICT skills and instead prepare teachers to integrate technology within sound pedagogical practice. Pre-service and in-service professional development should include opportunities to design technology-enhanced lessons, evaluate digital learning resources, facilitate collaborative learning, and reflect critically on classroom implementation. These competencies are consistent with the Technological Pedagogical Content Knowledge (TPACK) framework, which emphasizes the integration of technological, pedagogical, and content knowledge in effective teaching (Mishra & Koehler, 2006).

Professional learning should also be continuous rather than consisting of isolated workshops. School-based mentoring, collaborative lesson planning, professional learning communities, and peer observation can help teachers develop confidence and sustain innovative instructional practices (Tondeur et al., 2021).

Implications for Educational Policy

The findings reinforce the argument that investments in educational technology should be accompanied by investments in teacher capacity building. Many governments, including those in Sub-Saharan Africa, have invested substantially in ICT infrastructure to improve educational quality. However, this study suggests that infrastructure alone is unlikely to transform classroom practice unless teachers receive adequate pedagogical support.

Educational policymakers should therefore adopt comprehensive digital education strategies that integrate infrastructure development, curriculum reform, teacher professional development, technical support, and ongoing monitoring of classroom implementation. Such integrated approaches are more likely to produce sustainable improvements in teaching and learning than initiatives focused primarily on hardware provision (UNESCO, 2023).

Curriculum developers should also encourage the integration of digital storytelling and other multimedia learning approaches into language education. Explicit curriculum guidance, together with the development of

locally relevant digital learning resources, would support teachers in implementing technology-enhanced instruction more consistently across schools.

Implications for Second Language Learning

The findings contribute to contemporary understandings of second language acquisition by illustrating how digital storytelling can create meaningful opportunities for learners to receive authentic language input, process information collaboratively, and produce spoken and written language. These learning experiences closely reflect Ellis' (1997) Computational Model of Second Language Acquisition, in which meaningful input, cognitive processing, interaction, and language output collectively facilitate language development.

The study therefore supports communicative and learner-centred approaches to English language teaching that encourage authentic communication rather than memorization of isolated grammatical structures. Technology-enhanced storytelling provides an environment in which language is learned through purposeful communication, collaborative inquiry, and creative expression.

Furthermore, digital storytelling simultaneously develops language proficiency and digital literacy. As education increasingly prepares learners for participation in digitally connected societies, integrating language learning with digital competence represents an important educational objective (European Commission, 2022).

Implications for Future Research

Although this study provides valuable insights into technology integration within English language teaching, several opportunities exist for further investigation.

First, future studies should examine digital storytelling across multiple schools, regions, and educational systems to determine the transferability of these findings. Comparative studies involving public and private schools may provide additional understanding of contextual influences on technology integration.

Second, longitudinal research is needed to investigate the long-term effects of digital storytelling on learners' language proficiency, motivation, digital literacy, and academic achievement. Extended interventions may reveal developmental patterns that cannot be captured within short-term classroom studies.

Third, mixed-methods and experimental studies could complement qualitative findings by examining measurable improvements in language learning outcomes associated with digital storytelling. Such studies would strengthen the evidence base concerning the effectiveness of technology-enhanced language instruction.

Finally, future research should explore emerging technologies, including artificial intelligence, adaptive learning systems, virtual reality, and augmented reality, and their potential contributions to English language education within African contexts.

Contribution to Knowledge

This study contributes to the growing literature on technology-enhanced language learning by providing contextually grounded evidence from a Tanzanian primary school. While previous studies have demonstrated the educational value of digital storytelling, relatively few have explored its pedagogical implementation within primary English language classrooms in Sub-Saharan Africa.

By integrating Ellis' Computational Model of Second Language Acquisition, Constructivist Learning Theory, and the TPACK framework, the study offers a comprehensive explanation of how technology can support language acquisition through learner-centred instructional design. The findings therefore contribute to both theory and practice by demonstrating that effective technology integration depends not simply on access to digital technologies but on teachers' ability to create meaningful learning experiences that promote communication, collaboration, creativity, and critical thinking.

Limitations and Future Research

Limitations of the Study

Several limitations should be considered when interpreting the findings of this study. First, the study adopted a qualitative case study design involving one teacher and one Grade Six classroom in a single private primary school in Tanzania. While this design enabled an in-depth exploration of digital storytelling within its authentic educational context, the findings are context-specific and are not intended to be statistically generalizable to all schools or educational settings (Yin, 2018). Instead, the study provides rich, contextually grounded insights that may be transferable to similar educational environments.

Second, the relatively small sample size limited the range of perspectives captured. Although multiple sources of evidence—including classroom observations, interviews, learner reflections, and the Nominal Group Technique—enhanced the credibility of the findings through methodological triangulation (Lincoln & Guba, 1985), including participants from multiple schools, grade levels, and educational contexts would have provided a broader understanding of technology integration in English language teaching.

Third, the instructional intervention was conducted over a relatively short period and focused on a single digital storytelling lesson. Consequently, the study was unable to examine the long-term effects of digital storytelling on learners' English language proficiency, digital literacy, motivation, or sustained classroom engagement. Longitudinal investigations are needed to determine whether the positive outcomes observed during the intervention are maintained over time.

Fourth, the study relied primarily on qualitative data. While qualitative methods are well suited for exploring participants' experiences and classroom processes (Creswell & Poth, 2018), they do not provide quantitative evidence of changes in learners' academic achievement or language proficiency. Combining qualitative and quantitative approaches could provide a more comprehensive understanding of the effectiveness of digital storytelling in language education.

Finally, the study was conducted in a school with relatively well-developed ICT infrastructure, reliable internet connectivity, and access to digital learning resources. Schools with limited technological resources, inconsistent electricity supply, or inadequate internet access may experience different opportunities and challenges when implementing similar instructional approaches. Therefore, the findings should be interpreted in relation to the technological and institutional context in which the study was undertaken.

Directions for Future Research

The findings of this study suggest several avenues for future research. First, future studies should examine the implementation of digital storytelling across multiple schools, including public, private, urban, and rural educational settings. Comparative studies would provide a more comprehensive understanding of how contextual factors influence technology integration and language learning outcomes.

Second, longitudinal research is needed to investigate the sustained impact of digital storytelling on learners' English language proficiency, motivation, creativity, collaboration, and digital literacy. Following learners over an extended period would provide valuable evidence regarding the durability of the instructional benefits observed in this study.

Third, future researchers should consider employing mixed-methods or experimental research designs to complement qualitative findings with quantitative measures of learning outcomes. Combining classroom observations with standardized language assessments, learner achievement data, and engagement measures would strengthen the evidence regarding the effectiveness of technology-enhanced language learning.

Fourth, further research should investigate teachers' professional development needs related to technology integration. Specifically, studies examining how pre-service and in-service teacher education programmes develop teachers' Technological Pedagogical Content Knowledge (TPACK) could provide important insights into preparing teachers for technology-enhanced language instruction (Mishra & Koehler, 2006).

Finally, rapid advances in educational technology present opportunities for investigating the integration of emerging digital tools—including artificial intelligence (AI), adaptive learning systems, virtual reality (VR), augmented reality (AR), and mobile-assisted language learning—within English language classrooms. Research exploring how these technologies can complement digital storytelling and support language acquisition in African educational contexts would make a valuable contribution to the growing field of technology-enhanced language learning.

By addressing these areas, future studies can build upon the findings of the present research and contribute to a deeper understanding of how digital technologies can be effectively integrated into English language education across diverse educational contexts.

CONCLUSION

This study examined the integration of digital storytelling into English language teaching through computer-assisted language learning (CALL) in a Tanzanian primary school. Using a qualitative case study approach, the research explored how digital storytelling supported language learning, the factors influencing technology integration, and the perceptions of both teachers and learners regarding technology-enhanced instruction.

The findings demonstrate that digital storytelling can be an effective pedagogical approach for developing learners' listening, speaking, reading, and writing skills within an interactive and learner-centred environment. By integrating multimedia resources with collaborative learning activities, digital storytelling promoted learner engagement, creativity, communication, critical thinking, and active participation. Rather than functioning merely as a technological resource, the computer became a medium through which learners explored ideas, negotiated meaning, constructed knowledge, and applied language in authentic contexts.

The study also highlights that successful technology integration extends beyond the availability of digital infrastructure. Effective implementation depended on the teacher's ability to integrate technological, pedagogical, and content knowledge in designing meaningful learning experiences. Teacher digital competence, learner familiarity with technology, institutional support, and adequate instructional planning emerged as important enabling factors, while limited preparation time remained a significant challenge. These findings reinforce growing evidence that technology improves learning only when it is embedded within sound pedagogical practice and supported by appropriate professional development (Mishra & Koehler, 2006; UNESCO, 2023).

From a theoretical perspective, the study demonstrates the complementary value of Ellis' (1997) Computational Model of Second Language Acquisition, Constructivist Learning Theory, and the Technological Pedagogical Content Knowledge (TPACK) framework in explaining technology-enhanced language learning. Ellis' model provides insight into how learners process multimodal language input and produce meaningful language output. Constructivist Learning Theory explains how collaborative inquiry and active participation facilitate knowledge construction, while the TPACK framework illustrates the knowledge teachers require to integrate technology effectively into classroom practice. Together, these perspectives provide a comprehensive framework for understanding how digital storytelling supports language acquisition and meaningful technology integration.

The study also contributes to the growing body of research on technology-enhanced language learning by providing empirical evidence from a Tanzanian primary school, a context that remains underrepresented in the international literature. The findings demonstrate that digital storytelling is both feasible and pedagogically valuable in African primary school settings when supported by appropriate infrastructure, teacher preparation,

and learner-centred instructional design. As such, the study contributes context-specific evidence that enriches global discussions on digital pedagogy and English language education.

The practical implications of this research are equally significant. Teachers should be encouraged to integrate digital storytelling and other multimedia approaches into English language instruction to create authentic, engaging, and collaborative learning experiences. Teacher education institutions should strengthen the preparation of pre-service and in-service teachers by emphasizing pedagogically meaningful technology integration rather than technical proficiency alone. At the policy level, investments in digital infrastructure should be accompanied by sustained professional development, curriculum support, and institutional leadership that foster innovative classroom practices.

As educational systems continue to respond to rapid technological change, increasing digital connectivity, and the evolving demands of twenty-first-century education, language classrooms must prepare learners with both linguistic competence and digital literacy. Digital storytelling represents one promising approach for achieving these complementary goals by combining language learning with creativity, collaboration, communication, and critical thinking. Its value lies not simply in the use of technology but in its capacity to transform classroom learning into an active, meaningful, and authentic educational experience.

In conclusion, this study affirms that technology integration is fundamentally a pedagogical endeavour rather than a technological one. When digital tools are purposefully aligned with curriculum goals, learner needs, and effective instructional strategies, they can enrich language learning and create more engaging educational experiences. Digital storytelling therefore offers a practical and sustainable pathway for enhancing English language teaching in primary schools and provides valuable insights for educators, teacher educators, and policymakers seeking to promote innovative and inclusive technology-enhanced education.

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