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Digital Technology Integration in Elementary English Language Teaching: Teacher Practices, Student Engagement, and Implementation Challenges

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Abstract
The integration of digital technology in English Language Teaching (ELT) has changed the teaching and learning process, but its successful integration in elementary schools is highly dependent on teachers' familiarity with technology and pedagogical digital literacy. This qualitative multi-site case study aimed to investigate how three elementary school English teachers in Wonosobo, Indonesia, integrate digital technology into their ELT classrooms by examining their instructional practices, implementation procedures, student engagement patterns, and challenges encountered. The data were collected through classroom observations and semi-structured interviews with three teachers from three different elementary schools. Thematic analysis revealed that teachers used PowerPoint, Youtube, Quizizz, Google Forms, Canva, and digital storytelling applications adopting scaffolding pedagogical approaches. Technology integration positively affected students' behavioral, emotional and cognitive engagement, which led to increased motivation, participation and vocabulary retention. However, teachers faced many challenges such as technical difficulties (e.g., unstable internet, limited devices, outdated equipment), pedagogical difficulties (e.g., distraction, digital literacy levels) and institutional difficulties (e.g., lack of support, budget constraints, increased workload). Teachers showed resilience in developing contingency plans, implementing classroom management strategies, and establishing collaborative arrangements. The findings add to the existing knowledge on technology integration in Indonesian primary education and offer practical recommendations for teachers, schools, and policymakers to encourage effective use of technology to engage young learners.

Keywords: Digital technology integration, Elementary ELT, Student engagement, Teacher challenges, Instructional strategies

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INTRODUCTION

Interactive whiteboards, educational apps and learning management systems have changed the ways information is delivered to students (Yuhua, 2024). These technologies can boost students' motivation, provide authentic materials, and enable individualized learning through adaptive software and gamification apps (Yuhua, 2024). In addition, multimedia materials can encourage a more contextualized approach to language learning (Fehaima, 2024; Heil & Ifenthaler, 2023). In addition, digital platforms provide quick feedback and data-based insights, which are important for student-centered education (Iahad et al., 2004).

However, teachers' pedagogical digital literacy is a key factor in the success of implementation in primary schools. Preliminary observations in three primary schools in Wonosobo showed that English teachers still encountered persistent problems such as inadequate infrastructure, unstable internet access, varying levels of digital competency, and difficulties in classroom management when activities involve the use of technology, even when using a variety of resources such as PowerPoint, films, digital storytelling, and online quizzes.

Previous studies have examined online assessment and instruction in the context of secondary or higher education (see, e.g., El Hassan & Ahmed, 2023; Haque & Md. Mozaffor Hossain, 2022; Morrison & Sepulveda-Escobar, 2024), yet there is no research evidence on the implementation of digital technology in the context of primary ELT in Indonesia. The purpose of this study is to explain how English instructors in primary schools in Wonosobo use digital technology to improve student engagement. This study is guided by three core research questions that examine primary English teachers' use of digital tools and instructional strategies; the procedures and classroom management techniques they employ to promote student engagement during technology-based activities; and the technical, pedagogical, and institutional challenges they encounter in integrating these tools and strategies.

Technology in English Language Teaching

The use of technology in teaching the English language is increasing with tools and resources that can make learning more interactive, authentic, and engaging. According to Brown (2004), effective language teaching involves creating contexts for meaningful communication, and technology provides many opportunities for this through videos, online games, and virtual interactions. Nevertheless, successful technology integration is not just about introducing new gadgets but about improving pedagogical approaches and utilizing teachers' Technological Pedagogical Content Knowledge (TPACK) to effectively align digital tools with subject matter and positive instructional attitudes (Pratika et al., 2025). Besides, technology in ELT serves as a systematic means that supports both teaching and learning by applying various digital techniques to assess learning outcomes, improve teaching strategies, and provide immediate feedback (Abidah & Hartono, 2023).

Digital Technology in Elementary ELT

The study concludes that digital technology is a useful tool for teaching basic English and has many advantages in serving the developmental needs of young learners. Digital technologies create fun learning experiences, provide real-time feedback, and stimulate multimedia environments, which are identified as important factors for effective language acquisition in children (Fehaima, 2024). The benefits are twofold: they increase engagement and cater to different learning styles. Interactive games and applications can be engaging and motivating for language learning, promoting student autonomy and reducing anxiety (Fehaima, 2024). Digital storytelling, music and animated stories also provide rich contextualized language input that complements visual and auditory learning and stimulates young learners' creativity and understanding (Ghosn, 2013; Sembiring & Sembiring, 2024).

However, the benefits of technology come with the challenges of integrating it into elementary schools. The effective use of ICT in education requires tools appropriate to the age group, teachers' technical-pedagogical competence, and stable infrastructure (Hartono & Murniati, 2024). Potential disadvantages may include concerns about excessive screen time, the need for careful teacher monitoring, and ensuring that technology use is educationally appropriate and not a distraction (Hartono & Murniati, 2024). Moreover, technological problems such as poor internet connectivity and inadequate gadgets are particularly problematic in resource-limited environments (Hassan & Ahmed, 2023). Also, a lack of digital literacy amongst teachers and the very young children may be a barrier to effective utilization (Abidah & Hartono, 2023).

Types of Technology Integration

The use of technology in education can be divided into two types: technology for instructional delivery and technology for practice and engagement (Brown, 2004). The main goal of technology in the

learning process is to implement it effectively. Instructional delivery technology consists of tools such as interactive whiteboards, educational videos, and presentation software that facilitate the presentation of new content and illustrate language. Practice and engagement technology provides students with opportunities to practice their language skills in interactive and engaging ways, such as learning apps, online games, and quiz platforms (Brown, 2004). This is also supported by gamified technology, which can significantly increase student motivation, promote active participation, and enhance positive behavioral and cognitive engagement through game mechanics (Zainuddin et al., 2020). Communication and collaboration technology offers not only an opportunity for classroom practice but also for learners to reach a wider audience through tools such as email, blogs, and video conferencing. Assessment Technology. Digital tools such as Google Forms, Quizizz, and Socrative are used for formative assessment, instant feedback, and data-based insights to identify learning gaps and improve instruction (Younas et al., 2025; Zainuddin et al., 2020).

Student Engagement Framework

This study is based on the concept of student engagement by Fredricks et al. (2004), which comprises behavioral engagement (active participation and involvement in the learning tasks), emotional engagement (students' affective reactions such as interest and enjoyment towards the learning activities), and cognitive engagement (students' investment and self-regulation of their own learning). This framework is used to investigate the relationship between teachers' use of digital technology and the three dimensions of engagement among young English language learners. Furthermore, assessing technology-based engagement in the Indonesian primary education context requires considering pedagogical goals alongside contextual realities, as the actual effects of ICT on student engagement are often shaped by localized classroom interactions, infrastructural constraints, and teacher preparedness (Hidayati, 2022).

RESEARCH METHODS

This research used a multi-site qualitative case study design, as participants were drawn from three elementary schools. In this multi-site case study design, each of the three schools involved in the research is considered a separate site, and each participating teacher within each site is considered a separate case. This design enables an in-depth examination of the integration of digital technology in young learners' engagement within each teacher's specific classroom context, as well as a comparison of practices and challenges across the three school sites. As Creswell & Poth (2018) point out, the case study is a qualitative research approach that investigates the complexity of a particular phenomenon in its real-world context. This methodology is particularly appropriate for this research, as it allows for an in-depth, multidimensional study of how teachers integrate digital tools and the challenges they face in their natural classroom settings.

The research was conducted in three elementary schools in Wonosobo, Indonesia. The three schools were chosen based on the following criteria: (1) the school has integrated digital technology into English language teaching for at least one year, (2) the school has basic supporting facilities, such as a projector, computer, or internet access, which enable technology-based instruction, and (3) the school's English teachers were willing to participate in and were accessible for classroom observation and interviews. The participants in this study were three English teachers from three elementary schools, purposively selected for their experience in integrating digital technology into English language teaching. The participants consist of English teachers from different grade levels and teaching experiences across the three schools. This variation is expected to provide richer and more diverse data regarding teachers' practices and challenges in technology integration.

To achieve a holistic and subtle understanding, this study employed three major data collection methods: classroom observation, semi-structured interview, and document analysis. The researcher conducted non-participant classroom observations for each participating teacher, with at least three observations per teacher to ensure a representative picture of their typical practices. During the observations, the researcher took detailed field notes using a semi-structured observation sheet that included

the types of digital tools used, instructional strategies used, implementation procedures, student engagement, and observed challenges.

Each participating teacher was interviewed in a semi-structured interview to discuss their experiences, challenges, strategies, and perceptions regarding the integration of digital technology into their teaching practice. The interviews were conducted after the classroom observations, allowing the researcher to ask follow-up questions about specific incidents or practices observed. Each interview lasted for 45-60 minutes and was audio-recorded with the teacher's permission for subsequent transcription and analysis. The interview questions were designed to explore the "why" and "how" of the observed practices in greater detail, including their rationale for using specific tools, the challenges they encounter, and the support they require. The interview items were constructed based on the behavioral, emotional, and cognitive dimensions of engagement, as suggested by Fredricks et al. (2004).

Qualitative data from interview transcripts, observation field notes, and document analysis were analyzed using thematic analysis as suggested by Creswell & Poth (2018). The analysis process involved several steps: data preparation and organization, initial coding and categorization, theme development, within-case analysis, cross-case analysis, and interpretation. Trustworthiness was ensured through triangulation of data sources, member checking, thick description, and researcher reflexivity. Ethical issues were addressed by obtaining informed consent from all participating teachers and school principals, ensuring anonymity and confidentiality, and securing all data.

Research Design

Since the participants are from three elementary schools, the research design is a multi-site qualitative case study. Each of the three participating schools serves as a case, and each participating teacher within a site is a case. This multi-site case study design allows for an in-depth examination of the integration of digital technology to enhance young learners' engagement within each teacher's specific classroom context and facilitates comparison of practices and challenges across the three school sites. Creswell & Poth (2018)describe the case study as a qualitative research approach that explores the complexity of a particular phenomenon within its real-life setting. This strategy is particularly appropriate for the present study, as it allows for a broad, multidimensional investigation of how teachers use digital tools and the problems they encounter in their actual classroom contexts.

Research Target/Subject

The participants in this study were three English teachers from three elementary schools, purposively selected for their experience in integrating digital technology into English language teaching. The participants are English teachers from various schools, grade levels, and levels of teaching experience. This variation is expected to generate richer and more diverse data on teachers' practices and challenges in technology integration.

Research Procedure

Three main data collection methods were used in the study in order to obtain a comprehensive and in-depth understanding: classroom observation, semi-structured interviews, and document analysis. The researcher conducted a classroom observation in a non-participant manner. Each participating teacher was observed at least three times to capture a representative picture of their typical practices. During the observations, the researcher took detailed field notes using a semi-structured observation sheet on the types of digital tools and instructional strategies used, implementation procedures, student engagement, and challenges observed.

Each participating teacher was interviewed using a semi-structured approach to explore their experiences, challenges, strategies, and perceptions regarding the integration of digital technology. The interviews were conducted after the classroom observations, allowing the researcher to ask follow-up questions about specific events or practices observed. Each interview lasted between 45 and 60 minutes and was audio-recorded (with the teacher's permission) for later transcription and analysis. The interview questions were designed to elicit the 'why' and 'how' behind the observed practices, including their reasons

for using particular tools, the challenges they face, and the support they need. The interview items were developed based on the behavioral, emotional, and cognitive dimensions of engagement described by Fredricks et al. (2004).

Instruments and Data Collection Techniques

The instruments used in this study were observation sheets, interview guides, and documentation checklists. The observation sheet was semi-structured, focusing on the types of digital tools used, instructional strategies used, implementation procedures, student engagement patterns, and challenges observed during the teaching and learning process. The interview guide consisted of open-ended questions to explore teachers' experiences, perceptions, strategies, and challenges of integrating digital technology. The documentation checklist was used to collect supporting documents such as lesson plans, teaching materials, and student work samples, which could provide additional insights into technology integration practices. The instruments were developed based on the study's theoretical framework and reviewed by experts to confirm content validity.

Data analysis technique

Qualitative data were analyzed using a thematic analysis approach following the guidelines of Creswell & Poth (2018). This involved a multi-stage process, including data preparation and organization, initial coding and categorization, theme development, within-case analysis, cross-case analysis, and interpretation. Data sources were triangulated, and member checking, thick description, and researcher reflexivity were used to establish trustworthiness. Ethical issues involved obtaining informed consent from all the participating teachers and school principals, ensuring anonymity and confidentiality, and securely storing all data.

RESULTS AND DISCUSSION

The findings are presented according to the three research questions that guided this study. Data were collected through classroom observations (three observations, one per teacher) and semi-structured interviews with each participating teacher. The findings are presented thematically, followed by a discussion that links them to the theoretical framework and previous studies.

Research Question 1: Digital Tools and Instructional Strategies

Types of Digital Tools Used

The three teachers used different digital tools in their English language teaching. PowerPoint and YouTube were the main digital tools used by all three teachers. These tools were used to deliver content, present vocabulary with visual support, and provide authentic listening input through songs and stories. Teacher 1 said: "The applications I use the most are PowerPoint, YouTube, Google Forms, Quizizz, and sometimes Wordwall. I choose the platform depending on the objectives of the lesson and the available facilities." Teacher 2 also said, "PowerPoint is my main teaching tool. Teacher 3 said, "I often use YouTube for songs and stories, Quizizz for fun assessments, and Canva to make attractive worksheets and presentations. I also like to use Duolingo as an extra tool for students who finish early."

Google Forms and Quizizz were the most popular tools for assessment and practice. All three teachers used Quizizz to create interactive, gamified quizzes that provided students with instant feedback and made assessment more fun. Two teachers used Canva to create visually appealing worksheets and presentations. The most important finding was Teacher 3's use of Google Maps to provide context for a lesson on giving directions, an innovative, more advanced use of technology that linked language learning with real-world application and authentic use.

Frequency of Technology Use

The three teachers differed in how frequently they used the technology. Teacher 1 implied regular use but did not express frequency. Teacher 2 stated that he used digital technology "two or three times a week, depending on the topic and classroom schedule." Teacher 3 used technology more intensively: "I use digital technology almost every day, at least in some part of my lesson. Even if it's just for a short video or a quick quiz, I try to incorporate it daily to keep the students familiar with it".

Factors Influencing Tool Selection

Teachers reported choosing digital tools for a variety of reasons. The most common reasons were lesson objectives and curriculum alignment, student engagement, ease of use, and cost and accessibility. Teacher 1 said she selected platforms "depending on the lesson objectives." All three teachers identified student engagement as an important factor, with Teacher 3 commenting, "The main factors are student engagement and curriculum alignment." Teacher 3 also identified cost as an important factor: "Cost is a big factor too; I mostly use free resources."

Instructional Strategies

Analysis of the observation data revealed several instructional strategies. The use of technology was predominantly in whole-class instruction, with all three teachers using projectors or LCD screens to display content to the entire class. The teachers exhibited a structured and scaffolded approach to technology integration. The lessons generally proceeded with a pattern of: (1) introduction and context setting through technology, (2) direct instruction with visual or audio support, (3) guided practice in interactive activities, and (4) independent or group assessment. The stages of the lesson were integrated with technology at different points. Teacher 3 shared her approach, "I often begin with a short song or video to get their attention. During the lesson, I use Quizizz or Wordwall for practice and reinforcement. Sometimes at the end, I use it as a reward; if they behave well, they get to play an educational game for the last five minutes." To address the problem of limited devices, teachers often paired or grouped students for technology-based activities. Teacher 1 said, "For students who don't have devices, I do pair or group work." In Observation 2, students played Quizizz in pairs on mobile phones, which promoted collaboration and peer support.

Table 1. Summary of Classroom Observation Findings for Research Question 1

Aspect Observed	Observation 1 (Teacher 1)	Observation 2 (Teacher 2)	Observation 3 (Teacher 3)
Types of Digital Tools Used	Digital story app with animal pictures; online quiz platform	Interactive PowerPoint; YouTube video; Quizizz application on student mobile phones	Google Maps; PowerPoint presentation; Google Forms
Instructional Strategies	Whole-class instruction (story); small-group learning (quiz); scaffolded approach	Whole-class instruction (PowerPoint, video); paired learning (Quizizz)	Whole-class instruction (Google Maps, PowerPoint); paired discussion; individual practice
Technology Integration Stages	Opening (digital story); middle (group quiz); closure (summary)	Opening (PowerPoint); middle (video, Quizizz); closure (review)	Opening (Google Maps); middle (PowerPoint, pair discussion); closure (assessment)
Teacher's Role	Facilitator; troubleshooter	Presenter; facilitator; troubleshooter	Facilitator; guide; assessor
Student Engagement	High behavioral engagement; mixed emotional engagement; technical issue caused frustration	High behavioral and emotional engagement; enthusiastic participation	High curiosity; cognitive engagement; active English use

Research Question 2: Implementation of Technology-Based Activities

Implementation Procedures

The three teachers used relatively consistent procedures in implementing technology-based activities. All teachers prepared backup materials in case of technical difficulties. Teacher 1 said, "I always have an alternative activity in case something goes wrong. For example, if the internet connection fails, I have PowerPoint slides that are offline or printed worksheets." Teacher 2 also prepared "printed materials as a backup in case technical problems occur."

Teachers typically began technology-integrated lessons by capturing students' attention with digital media. Teachers modeled and explained clearly before students used digital tools independently. Teachers walked around the classroom during technology-based activities to check students' progress and help them. Teachers ended technology-integrated lessons by reviewing what students had learned.

The observations showed a typical lesson structure in all the three classrooms: opening (10-15 minutes) with a digital story/video/song to gain attention; instruction (15-20 minutes) with a PowerPoint presentation or direct teaching with visual supports; practice (20-25 minutes) with an interactive quiz, group work, or paired discussion with technology; assessment (15-20 minutes) with an individual or group assessment via a digital platform; and closure (5-10 minutes) with review and reinforcement.

Classroom Management Strategies

Teachers used a variety of strategies to facilitate their classrooms during technology-based activities. Before students used devices, teachers established clear rules. Teacher 2 elaborated, "I establish classroom rules before students use their devices." Teacher 3 elaborated, "I establish clear rules, such as no touching other devices and staying on task." All three teachers actively monitored students during technology-based activities by walking around the room. To address the limited number of devices and encourage collaboration, teachers formed pairs or groups of students. Teachers also recognized that managing students while they use technology could be challenging. "Definitely harder, classroom management. Sometimes some students get distracted and play games or browse other sites," Teacher 3 said.

Student Engagement

Interviews and observations showed that the introduction of technology positively affected student participation across three dimensions: behavioral, emotional, and cognitive engagement.

Students showed a high level of behavioral engagement during technology-based activities. The following was seen in Observation 2: "Students are behaviorally and emotionally engaged at high levels. They participate in the PowerPoint presentation and pay attention; they display excitement throughout the film by repeating pronunciations, and they are really engaged during the Quizizz. Answers are being actively discussed in pairs. During the first observation, students were actively engaged in looking at the screen, pointing to images, and discussing their responses during group exercises.

Teachers said that technology enhanced students' emotional engagement, and students' motivation and positive emotions towards learning English increased. Teacher 3 saw this major change: "They're motivated so much more. They're so much more motivated; they're excited when I tell them we're using technology." The teacher made the following observation: "Technology increases confidence and motivation. They're more willing to answer questions and participate in activities because it's more like playing than studying. Even the more reserved kids are more likely to participate when you're playing games because there is less pressure.

Instructors said technology helped kids engage cognitively, helping them better understand and recall linguistic content. Teacher 1 said that they are attracted to digital media and they can learn English vocabulary more easily since they can see visuals, listen to pronunciation, and occasionally watch short cartoons. Teacher 2 agreed that "I find that students tend to remember vocabulary better when they learn it through videos, pictures, and interactive games than through textbooks." The third instructor observed an increase in the students' specialized language skills: "I've noticed a huge improvement in their speaking and listening skills, especially from singing songs and watching stories."

Table 2. Summary of Interview Findings for Research Question 2

Dimension	Indicator	Teacher 1	Teacher 2	Teacher 3
Implementation Procedures	Steps in carrying out technology-based activity	"I always prepare an alternative activity. For example, if the internet connection fails, I use offline PowerPoint slides or printed worksheets. For students without devices, I arrange pair or group work"	"I establish classroom rules before students use their devices. I also prepare printed materials as a backup in case technical problems occur"	"First, I explain the objective and demonstrate how to use the tool. Then I set clear rules—like no touching other devices and staying on task. I circulate around the room to monitor. At the end, we review what they learned"
Perceived Benefits	Impact on student learning and engagement	"Technology increases students' motivation and confidence. They are more willing to answer questions... Digital media attract their attention and help them understand English vocabulary more easily"	"Technology helps students understand difficult vocabulary through visual and audio support. It also makes assessment more efficient because I can immediately see students' scores... Students remember vocabulary better when they learn through videos, pictures, and interactive games"	"I've noticed a huge improvement in their speaking and listening skills... Their motivation is much higher—they get excited when I say we're using technology. Even shy students participate more because they feel less pressure when playing games. It also helps with differentiation because I can give different tasks to different students"

Research Question 3: Challenges in Technology Integration

Technical Challenges

The most persistent technical challenge mentioned was the unreliability of internet connectivity. All three teachers experienced internet issues during their classes. The first instructor had this to say: “The most difficult obstacle is the internet connection. Sometimes the Wi-Fi connection is unreliable (especially when all the students are using Quizizz at the same time). Teacher 3 said, “Most people have problems with slow internet and old equipment. The connection is very slow when too many students are online at the same time. The observations confirmed all of these claims. The first observation was that one of the groups experienced a connection issue and was unable to participate in the online quiz.

All three instructors agreed that the opportunities to use technology-dependent activities were limited, since not all students had their own devices. Some devices are available in our school, but not enough for all the students, Educator 3 said. Teachers also mentioned concerns about outdated or malfunctioning equipment. The second instructor said that “the projector does not always work properly.” Teacher 3 said: “Our school has some tablets, but they’re old and constantly freeze. "We have several tablets at our school. Teacher 3 also remarked that “there are frequent power outages which disrupt everything.”

Despite the technical challenges, teachers persisted and demonstrated their capacity to solve issues. One of the teachers explained her backup plan: “I always have an alternative activity planned.” For example, if the internet connection is not available, I can use offline PowerPoint presentations or printed worksheets.

Pedagogical and Management Challenges

All three instructors noted challenges in using technology to control student conduct during technology-based activities. Furthermore, Teacher 2 said that "some students get distracted by using smartphones". To elaborate, Teacher 3 said, “When it comes to classroom management, it is more challenging, no question.” Some pupils become distracted and start playing games or looking at other sites.

It is also tough to monitor all of the devices at the same time. Teachers noted that children had varying levels of digital skills, which affected their ability to participate in technology-based activities. Teacher 1 explained that “a few students still need help with digital devices because their digital skills are different.” Teacher 3 said that getting suitable knowledge was a challenge, “It’s hard to find appropriate content in English that is also appropriate for the students of our age and that is also aligned with our curriculum.” Nothing that may be accessed on the internet is acceptable for younger age pupils.

Teacher Workload and Competence

The third instructor highlighted the significant additional work that comes with using technology, stating, "It adds a lot of extra time to make preparations." It is far faster to choose the right video, write a Quizizz question, or make materials in Canva than to prepare a textbook lecture. I often work on digital documents on the weekends. It’s quite time-intensive, but very rewarding.

All three instructors agreed that there is a need for more training and help. Teacher 1 said that “technology develops very fast, so the teachers need continuous professional development to know about new digital tools and how to integrate them effectively into English teaching”. Teacher 2 suggested: “School should have better internet access, updated equipment, and consistent training on the use of educational technology. "I'm comfortable with the basics like PowerPoint and YouTube, but I have a hard time with the new applications and platforms," said the third instructor, who conceded she had her limitations. There is little doubt that I could use more training in using technology for various educational methods, not only for presentations.

Institutional and External Challenges

Teachers talked about a lack of institutional support for technology integration. Teacher 3 noted, “Our school has some devices, but not enough for all students. We get occasional training, but it is inconsistent. The principal is supportive of technology use, but budget limitations constrain what they can offer.” The absence of clear policies was also emphasized by Teacher 3: “There’s no formal policy from the school so far, which leaves it ambiguous how much we should be integrating it.” Regarding parents’ attitudes, Teacher 3 said, “Parents generally expect us to use technology because they see it as modern and progressive, but some are worried about screen time.”

Table 3. Summary of Interview Findings for Research Question 3

Dimension	Indicator	Teacher 1	Teacher 2	Teacher 3
Technical Challenges	Obstacles related to hardware, software, connectivity	"The biggest challenge is the internet connection. Sometimes the Wi-Fi becomes unstable, especially when all students access Quizizz at the same time. Another challenge is that not every student has a personal device"	"Sometimes the projector does not work properly, and occasionally the internet connection is unstable"	"The most frequent issues are slow internet and outdated devices. Our school has some tablets, but they are old and often freeze. When too many students are online at once, the connection slows down significantly. Also, power outages are not uncommon"
Pedagogical/Management Challenges	Difficulties in managing class and ensuring learning happens	"However, a few students still need assistance when using digital devices because	"Some students also become distracted if they use smartphones"	"Yes, classroom management is definitely more challenging. Some students get distracted and start playing games or browsing other sites. It's also hard to monitor all devices at once.

Dimension	Indicator	Teacher 1	Teacher 2	Teacher 3
		their digital skills are different"		Finding age-appropriate content in English that is also aligned with our curriculum takes a lot of time"
Teacher Workload	Time and effort required for lesson planning and preparation	Not explicitly asked	Not explicitly asked	"It adds a lot of extra time to my preparation. Finding the right video, creating a Quizizz quiz, or designing materials on Canva takes much longer than just preparing a textbook lesson. I often spend my weekends preparing digital materials"
Teacher Competence	Teacher's own ability and comfort with technology	"Yes, definitely. Technology develops very quickly, so teachers need continuous professional development to learn about new digital tools"	"Schools should provide better internet access, updated equipment, and regular training on educational technology"	"I feel comfortable with the basic tools like PowerPoint and YouTube, but I struggle with newer apps and platforms. I definitely need more training, especially on how to use technology for different teaching methods, not just for presentations. A tech support person in the school would also be very helpful"

Discussion

Technology Integration Practices

The results showed that teachers used various digital tools, the most commonly used of which were PowerPoint, YouTube, Quizizz, and Google Forms. This finding is consistent with other studies that have found these tools popular in elementary ELT (Shdaifat & Obeidallah, 2019; Utomo et al., 2021). The use of these tools was driven by their availability, ease of use, and pedagogical suitability (Shdaifat & Obeidallah, 2019). Teacher 1's use of digital storytelling tools is particularly meaningful in relation to the theoretical framework of student engagement. As noted in the literature review, digital storytelling can engage students across multiple dimensions simultaneously (Heil & Ifenthaler, 2023). It was found that Teacher 1's use of the digital story captured students' attention (behavioral engagement), engaged students' interest and enthusiasm (emotional engagement), and provided a meaningful context for vocabulary acquisition (cognitive engagement).

Teacher 3's use of Google Maps was a more advanced form of technology integration that linked to authentic, real-world language-learning situations. This is consistent with Brown's (2004) focus on providing contexts for meaningful communication. The use of a real-world tool such as Google Maps not only engaged students cognitively but also demonstrated the practical importance of learning English for giving directions.

The scaffolded instructional practices observed in this study, from whole-class input to guided practice and independent assessment, are consistent with effective pedagogical practices for young learners. This structure ensures that all students are adequately supported before engaging in individual or group work with technology. The teachers' ability to integrate technology at different stages of the lesson reflects their pedagogical flexibility and understanding of the multiple instructional roles technology can play.

Implementation and Classroom Management

The study results revealed that the teachers used implementation strategies that were quite consistent. The procedures included pre-lesson preparation, tool demonstration, active monitoring, and lesson review. The implementation of these processes demonstrates effective pedagogical practice in integrating

technology, as it ensures that students know how to use the tools and what they are meant to learn. All three instructors have demonstrated their awareness that technology is not perfect by using backup resources, and they are committed to ensuring that learning continues despite any problems that may arise. The study highlights the need for contingency planning for technology-enriched education, especially in areas with poor infrastructure where technological breakdowns are common (Diah Kurniati et al., 2023; El Hassan & Ahmed, 2023).

Teachers are implementing classroom management practices consistent with effective management of technology-rich classrooms, such as setting clear rules, closely monitoring students, and having students work in pairs or groups. The finding that student distraction was a major challenge aligns with previous research on the difficulties of supervising students' behavior when they use technology (Saputra et al., 2022). Pair and group work were used for a variety of reasons, including to address the limited number of devices, to promote collaboration and peer support, and to facilitate supervision. The findings of this study are in line with those of Saha et al. (2023), which indicate that collaborative technology can enhance learning outcomes and reduce management problems.

Student Engagement

The findings provide strong evidence that the introduction of technology has a positive effect on student engagement on behavioral, emotional, and cognitive levels. This result is consistent with the theoretical framework of Fredricks et al. (2004). This high level of behavioral engagement supports the findings of Iahad et al. (2004), who highlighted the potential of digital platforms to deliver interactive experiences that may captivate students' attention. This is especially important because the finding that "even shy students participate more because they feel less pressure when playing games" suggests that gamified tools may reduce the anxiety associated with learning a language and help create more encouraging learning environments. This outcome supports Fehaima's (2024) claim that interactive games and apps might help improve students' autonomy and decrease anxiety.

Teachers observed that children learned and recalled terminology more effectively when using technology. Improvements in students' capacity to converse and listen were also reported by instructors. Multimedia resources were used to provide various forms of linguistic information and to assist in understanding and memorizing the subject. The outcomes of this research support Yuhua (2024), who emphasizes the power of technology to address students' specific learning needs and pace. The study indicated, on the contrary, that technology-related problems might negatively affect engagement. The first observation of the group experiencing issues with the internet connection showed signs of dissatisfaction and annoyance, which emphasizes the interconnectedness between student engagement and technical infrastructure.

Challenges in Technology Integration

The challenges identified in this study are similar to challenges reported in the literature about technology integration in resource-constrained settings. The most commonly reported technical challenges were power outages, lack of devices, old equipment, and poor internet connection. Less frequently reported problems were a lack of devices. These findings are consistent with the work of El Hassan & Ahmed (2023) regarding challenges in resource-scarce areas and the work of Haque & Md. Mozaffor Hossain (2022) discusses the inconsistent internet connection as a barrier to the effective use of technology.

There were major pedagogical issues, such as pupils being easily distracted, different levels of computer literacy among students, and difficulty identifying age-appropriate material. This finding indicates that students' digital literacy varies and aligns with Abidah & Hartono's (2023) observation that the absence of digital literacy among both teachers and students might hinder the effective use of technology. The increase in preparation time reported by instructors is consistent with studies showing that technology integration requires a considerable time commitment (El Hassan & Ahmed, 2023). Instructors identified a significant need for professional development and technical assistance, consistent with Morrison & Sepulveda-Escobar's (2024) findings on increased training and support.

One of the primary findings of this study is the educators' determination and creativity in overcoming challenges. Preparation of off-line backup resources, formulation of clear classroom rules, scheduling of pair/group work, and providing direct aid to students are all indicative of instructors' proactive approach to problem-solving. This finding is consistent with the emphasis on teachers' agency and flexibility in qualitative research when addressing limitations (Creswell & Poth, 2018).

CONCLUSION

This research explored the use of digital technology in the classroom through interviews with three English teachers in Wonosobo, Indonesia. The research analyzed the process, procedures, and challenges of the implementation. The research found that teachers used platforms such as PowerPoint, YouTube, Quizizz, Google Forms, Canva, and Wordwall to deliver the curriculum, receive instant feedback from the audience, conduct interactive assessments, and create teaching materials. Digital storytelling and Google Maps were used to contextualize the language training in a real-world situation. The training was supported by guided and individual practice, as well as whole-class feedback. This process was embedded in organized procedures, including pre-lesson preparation with backup plans, tool demonstrations, active monitoring, and reflective closure.

The use of technology increased student engagement in several ways: behavioral (via active participation), emotional (through greater motivation and reduced fear), and cognitive (through enhanced vocabulary recall). However, the implementation was hindered by several barriers: technological (unreliable internet, lack of devices, power outages), pedagogical (student distractions, varying levels of digital literacy), workload-related, and institutional (budget limitations, lack of written regulations). Teachers demonstrated exceptional professional resilience in the face of the issues they encountered through adaptive contingency planning and peer collaboration.

The study provides important recommendations for policy, practice, and research to optimize the efficacy of integrating primary ELT technologies. Educators should be encouraged to continue developing their digital skills, to prepare for potential problems in advance, and to share resources with one another. In contrast, administrators need investments in reliable internet infrastructure, up-to-date equipment, coordinated professional development, and specific legislation to guide technology integration. Future research should focus on longitudinal studies of student learning outcomes, tool-specific efficacy studies, and models of professional development in a variety of primary school settings. Policymakers should prioritize funding for infrastructure, robust teacher training programs, and curated digital curricular materials.

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