

PRIMARY ENGLISH TEACHERS' TECHNOLOGY INTEGRATION EXPERIENCES: A CROSS-CULTURAL NARRATIVE INQUIRY

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ABSTRACT

The rapid advancement of technology has significantly reshaped educational practices, particularly in primary English classrooms. While previous research has largely focused on the technical and pedagogical dimensions of technology integration, limited attention has been given to teachers' personal narratives across diverse cultural contexts. Addressing this gap, this study examines how four primary English teachers from Norway, Indonesia, Malaysia, and Scotland narrate their experiences of integrating technology, with emphasis on emotion, reflection, and professional identity. Adopting a narrative inquiry approach, data were collected through in-depth online interviews and were analyzed thematically to construct contextualized accounts of teachers' transitions from traditional to digital practices. The findings reveal three key insights: (1) technology integration presents both opportunities and challenges; (2) teachers' use of technology is shaped by personal motivation, professional identity, and infrastructural support; and (3) while technology enhances student engagement, confidence, and participation, it also introduces challenges related to time management, digital inequality, and developmental appropriateness. Although limited by a small sample size and context-specific design, the study offers important implications for teacher-centered professional development and policy initiatives aimed at ensuring equitable access to technological resources. It further underscores the importance of teacher agency and context-sensitive support in fostering inclusive, meaningful, and sustainable technology integration in primary education. Future research should involve larger samples, more diverse educational settings, and mixed-method approaches to extend and validate these findings.

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INTRODUCTION

In recent decades, rapid technological advancement has significantly reshaped educational practices worldwide (Venuturumilli & Peyyala, 2019; Selwyn, 2016). Digital

technologies such as multimedia resources, web-based platforms, learning management systems (LMS), and artificial intelligence (AI) have increasingly become integral components of teaching and learning environments (Holmes et al., 2019; Zawacki-Richter et al., 2019; Bond et al., 2019). The proliferation of these tools has fundamentally altered the structural framework of education, shifting it from traditional face-to-face instruction toward more flexible, technology-mediated modalities (Means et al., 2014; Mukul & Büyüközkan, 2023). As Venuturumilli and Peyyala (2019) observe, the internet revolution has brought radical changes to the education system through modern digital learning methods, disrupting traditional higher education and accelerating the pace of technological implementation. This transformation is not merely a matter of convenience but reflects a deeper reconceptualization of how knowledge is constructed, delivered, and assessed in contemporary educational settings.

In language education, these technologies offer new possibilities for designing interactive learning activities, supporting communication, and providing authentic linguistic input (Kessler & Hubbard, 2023). For English teachers, digital competence and pedagogical use of technology have become increasingly important in shaping classroom engagement and language learning experiences (Viera, 2020). As digital technologies continue to evolve, understanding how teachers integrate these tools into their instructional practices has become an important issue in contemporary language education.

A growing body of research has explored the integration of digital technologies in educational settings (Bond et al., 2019; Zawacki-Richter et al., 2019; Selwyn, 2016). Existing studies generally highlight three major areas influencing the effectiveness of technology integration: teacher-related factors, pedagogical and learner-related outcomes, and contextual challenges (Ertmer, 1999; Mishra & Koehler, 2006). Examining these areas provides a comprehensive understanding of how digital technologies shape teaching and learning practices in primary education.

First, teacher-related factors play a crucial role in determining how technology is adopted and implemented in classrooms. Research indicates that teachers' beliefs, digital competence, pedagogical knowledge, and professional confidence strongly influence the extent to which technological tools are integrated into teaching practices (Ertmer, 1999; Mishra & Koehler, 2006; Instefjord & Munthe, 2020). For example, studies on technology integration emphasize that teachers' readiness and confidence are essential for meaningful implementation in classroom instruction. Professional development opportunities, teachers' digital literacy, and institutional support are also significant factors enabling effective technology integration (Nguyen & Habók, 2021; Tondeur et al., 2021). Similarly, Hew & Brush (2007) highlight that teachers' attitudes toward technology, access to resources, and training opportunities shape how technology is used in everyday teaching activities. These findings suggest that teachers are not merely users of technological tools but active decision-makers whose beliefs and experiences influence how technology becomes part of the learning environment.

Second, research has also examined the pedagogical and learner-related impacts of digital technologies. From a theoretical perspective, technology integration is often associated with constructivist learning approaches that emphasize active participation and learner-centered instruction. Digital tools such as interactive whiteboards, educational applications, and digital storytelling platforms can support collaborative learning and scaffold students' understanding in accordance with sociocultural learning theories (Vygotsky, 1978; Jonassen & Murphy, 1999). Empirical studies have shown that the use of digital technologies may enhance student engagement, motivation, and academic achievement. For instance, Li & Ma (2010) found that students who participated in computer-assisted learning environments demonstrated improved academic performance compared to those in traditional classrooms. Similarly, Neumann (2018) reported that young learners who used tablet-based educational applications showed significant improvements in early literacy skills. These studies suggest that technology can

enrich language learning experiences by providing interactive and multimodal learning environments that support students' cognitive and linguistic development

At the same time, the characteristics of young learners require particular pedagogical considerations. Children learning a new language often rely on concrete experiences, meaningful interaction, and engaging activities that sustain their attention and motivation. Previous studies on young learner education emphasize that teachers must create supportive learning environments that encourage curiosity, collaboration, and active participation (Scott & Ytreberg, 1991; Hashemi & Azizinezhad, 2011). Digital technologies can play a valuable role in facilitating these conditions by offering dynamic learning materials, visual support, and interactive tasks that align with young learners' developmental needs.

Third, contextual challenges also influence the successful integration of technology in education. Despite the potential benefits of digital technologies, unequal access to technological resources remains a significant issue in many educational contexts. The digital divide, characterized by disparities in access to devices, internet connectivity, and technological infrastructure, continues to affect schools and learners differently (Warschauer, 2004; Van Deursen & van Dijk, 2019). In addition, the integration of technology without appropriate pedagogical planning may lead to superficial learning experiences or reduced interpersonal interaction between teachers and students (Cuban, 2001). These challenges highlight the importance of considering broader institutional, social, and infrastructural factors when examining technology integration in educational settings.

Although previous studies provide valuable insights into the pedagogical benefits and challenges of integrating digital technologies in education, much of the existing literature focuses on technical implementation, learning outcomes, or institutional factors. Relatively limited attention has been paid to teachers' personal experiences and interpretations of technology integration in their everyday teaching practices. In particular, there is a lack of research exploring teachers' lived experiences through narrative perspectives, especially across diverse cultural and educational contexts. Comparative insights into how primary English teachers from different countries interpret and negotiate the use of technology in their classrooms remain scarce. Addressing this gap is important for understanding how teachers make sense of technological change and adapt digital tools within their specific teaching environments.

In response to this gap, the present study aims to explore the lived experiences of primary English teachers as they integrate technological tools into their classroom practices. Using a narrative inquiry approach, this study examines how teachers from Norway, Indonesia, Malaysia, and Scotland perceive, interpret, and adapt technology in their teaching contexts. By focusing on teachers' personal narratives, the study seeks to capture the complexity of teachers' professional experiences and how they negotiate opportunities and challenges associated with technology integration.

Accordingly, this study addresses how primary school teachers narrate their experiences in integrating technological tools into their teaching practices, what personal and professional factors influence their decisions to use or avoid technology in their English classrooms, and how they perceive the impact of technology integration on their students' engagement and learning outcomes.

This study contributes to the existing literature in several important ways. Theoretically, it expands current understanding of technology integration by examining the intersection between digital technology, pedagogy, and teacher identity in primary English education. Methodologically, the study employs narrative inquiry to foreground teachers' voices and lived experiences, offering deeper insight into how teachers interpret technological change within their professional practice. Practically, the findings may inform teacher professional

development programs and educational policy initiatives aimed at supporting effective technology integration in primary education across diverse educational contexts.

RESEARCH METHOD

Research Design

This study uses a qualitative approach to elicit teachers' experiences with technology. It employed narrative inquiry as the research design to investigate primary English teachers' stories about their real-life experiences before and after using technology. Narrative inquiry is a strategy for investigating human experiences of a certain phenomenon from the perspectives of participants, involving reflection on lived experiences (Connelly & Clandinin, 1990). The process of narrative inquiry, as outlined by Ollerenshaw and Creswell (2002), consists of several steps including identifying the phenomenon, collecting stories, restorying participants' narratives, collaborating with participants, writing narrative accounts, and validating the report.

In this study, the problem was identified as the challenge of technology integration in primary English classrooms. The participants were four teachers from Indonesia, Malaysia, Scotland, and Norway who had direct experience in integrating technology. Their stories were collected through interviews, reconstructed into narratives, and validated through member-checking to ensure authenticity and trustworthiness. The narratives were then written into detailed accounts highlighting key themes, including evolution from traditional to digital practices, first encounters with technology, experimentation and innovation, personal motivation and self-efficacy, infrastructure and resource availability, time and classroom management, increased engagement, and empowerment through technology.

Participants

The participants of this study were four primary English teachers from Indonesia, Malaysia, Norway, and Scotland who were selected purposefully to provide rich insights of technology integration in diverse educational contexts. In order to capture cross-context diversity in technology infrastructure, institutional support, and educational practice, participants from several national systems were purposefully included. The selected participants varied in school context, level of technological access, and teaching experiences.

Chris (male, 40, Norwegian) has over 15 years of teaching experience in a public urban primary school with a strong digital infrastructure and systematic national support for educational technology. Hendon (female, 24, Malaysian), an early-career teacher with two years of experience, works at a private urban primary school that provides somewhat flexible access to digital resources and institutional encouragement for innovation. Hera (female, 45, Indonesian) has around 20 years of teaching experience at a public primary school in a semi-urban region, where technology is available but limited by infrastructure and resources. Kelly (39-year-old female from Scotland) has 14 years of teaching experience in an urban public primary school, where digital technologies are integrated into curriculum preparation but are subject to policy and budgetary constraints.

This study received ethical clearance before data collection. All participants provided informed consent and voluntarily agreed to take part in the study. To protect participants' privacy, pseudonyms were used, while ages and professional backgrounds were reported accurately. Participants were chosen using three criteria: (1) current employment as primary English teachers, (2) demonstrated experience integrating technological learning tools (e.g., interactive applications, online resources, or multimedia platforms) into classroom practice for at least one academic year, and (3) willingness to participate in reflective narrative sharing. The selection process was not designed to discover excellent technology users, but rather to include teachers with varied levels of technological confidence and contextual assistance in

order to examine diverse interpretive experiences. This maximum variation sampling approach boosted the study's comparative dimension.

The data sources of this study consisted of narrative accounts reconstructed from stories shared by four participants. These stories were elicited through in-depth online interviews conducted via Zoom Meetings on May 24th, 25th, 27th, and 28th, 2025. Each interview lasted approximately one hour, with scheduling adjusted to the participants' availability; three teachers preferred weekend sessions, while one opted for a weekday session. The interview protocol comprised 30 open-ended questions designed to elicit participants' lived experiences of integrating technological learning tools in primary school contexts. Online interviews, as noted by Suryana et al. (2020), enable in-depth qualitative inquiry through virtual interaction rather than face-to-face engagement.

Following data collection, the interview transcripts were analyzed and reconstructed through a restorying process guided by the narrative inquiry framework of Clandinin & Connelly (2000). This process involved reorganizing participants' accounts into coherent narratives that preserved the temporal sequence (past, present, and future), social dimensions (personal and relational experiences), and situational contexts of each teacher's technological journey. Rather than treating the interviews as fragmented responses, the researchers synthesized the data into holistic narratives that reflected each participant's evolving meaning-making process. Throughout the restorying stage, participants' original voices were maintained by retaining key expressions and validating narratives against the interview data to ensure credibility and coherence.

Instruments

This study used a semi-structured interview guide as the primary data collection instrument, which was created in line with the research aims to investigate primary English teachers' experiences with technology integration. Semi-structured interviews were chosen for their flexibility in obtaining detailed replies while remaining focused on major study concerns (Roulston, 2010). This format allowed participants to share reflective and chronological narratives of their teaching techniques.

An interview protocol was employed in accordance with Creswell's (2014) qualitative research guidelines. The protocol comprised 30 open-ended questions about teachers' professional backgrounds, experiences with digital tools, contextual and personal factors, and perceived effects on students' engagement and learning. All interviews were conducted online using Zoom Meetings, lasted roughly 60 minutes, and were conducted in English to allow for clear expression of participants' perspectives. With informed consent, interviews were audio-recorded and verbatim transcribed for analysis.

Data Analysis

The study adopted a narrative inquiry approach to explore teachers' experiences with technology integration in primary school contexts. Four participants were purposively selected based on their teaching experience at the primary level and their active engagement in using technological learning tools in classroom practice. This sampling strategy aimed to obtain varied and information-rich narratives rather than to produce statistically representative findings. Data were collected through in-depth online interviews conducted via Zoom Meetings. Before data collection, ethical approval was obtained, and all participants provided informed consent. Participants were informed about the purposes of the study, the voluntary nature of their participation, and their right to withdraw at any stage without consequence. To protect confidentiality, pseudonyms were used, and all audio recordings and transcripts were securely stored and accessed only by the researchers.

All interviews were audio-recorded and transcribed verbatim. Data analysis followed a thematic narrative analysis framework, combining principles of thematic analysis with

narrative inquiry. First, the transcripts were read repeatedly to achieve familiarity with the data. Initial coding was then conducted to identify meaningful segments related to teachers' experiences, emotions, challenges, and pedagogical decisions. These codes were subsequently grouped into broader thematic patterns across participants. Following the thematic coding, a restorying process was undertaken to reconstruct participants' accounts into coherent narrative sequences. This step involved organizing the coded data into chronologically and thematically connected stories that reflected the progression of teachers' experiences over time. The reconstructed narratives were structured to highlight key aspects of teachers' technological journeys while maintaining the integrity of participants' original meanings and voices.

The analysis resulted in eight sub-themes: (1) Evolution from Traditional to Digital Practices, (2) First Encounters with Technology: Anxiety and Adjustment, (3) Experimentation and Innovation as Teacher Agency, (4) Personal Motivation and Self-Efficacy, (5) Infrastructure and Resource Availability, (6) Time and Classroom Management, (7) Increased Engagement and Enjoyment, and (8) Empowerment through Technology. These sub-themes guided the narrative construction and provided an analytical lens for interpreting how teachers made sense of technology integration within their professional contexts.

Also, to enhance the validity and trustworthiness of the study, triangulation was applied. This type of triangulation involved the participation of multiple researchers and participants in the study to provide multiple perspectives, observations, and conclusions (Tracy, 2020; Carter et al., 2014; Denzin & Lincoln, 2017). Furthermore, a member-checking process was conducted with the four teachers to confirm the accuracy of the interview data and narratives. Each participant reviewed the transcripts and narrative accounts to ensure that the findings authentically represented their experiences.

RESEARCH FINDINGS AND DISCUSSION

Research Findings

This section presents the narrative accounts of four primary school English teachers, focusing on their experiences with integrating technological tools in their classrooms. The narratives have been interpreted thematically to reflect their lived experiences, personal motivations, and the perceived impact on students. These themes are presented below with supporting quotations to preserve the teachers' voices and contexts.

Theme 1. Technology Integration as a Contextually Shaped Professional Journey

Technology integration didn't happen in a straight, consistent manner; rather, it evolved individually for each teacher based on their prior experience, school expectations, and ability to adapt. There are several findings derived from teachers' stories about their use of technological tools. These findings highlight the reasons why the teachers chose specific technological tools. To make all of them clear, they are elaborated in the following narrative.

Evolution from Traditional to Digital Practices

The findings show that teachers followed different paths in moving from traditional to digital teaching practices. Hendon (Malaysia) and Hera (Indonesia) experienced a clear shift from using mainly manual and physical teaching materials (flashcards, worksheets, whiteboards) to adopting digital tools (Canva, Blackboard, LMS Platforms). This change occurred gradually and was influenced by their teaching needs and the institutional settings in which they worked. In contrast, Chris (Norway) and Kelly (Scotland) did not undergo a significant transition because technology had been part of their teaching practice since the beginning of their careers.

Hera reflected:

“It was scary in the beginning... I was not really into technology.”

Her statement indicates an externally initiated adjustment rather than internal motivation. This study directly addresses Research Question 2, demonstrating how contextual expectations, rather than personal enthusiasm, drove uptake.

Conversely, Chris noted:

“I remember using YouTube videos at the first day of the class to have them interested.”

For Chris and Kelly, using technology was already a normal part of their teaching because their education systems strongly supported digital tools, showing how national policies influence everyday classroom practices. These differences suggest that technology integration does not follow a single pattern but is shaped by teachers' prior experiences, professional backgrounds, and teaching contexts. Overall, the move toward digital practices reflects both responses to external demands and teachers' own pedagogical growth.

Table 1

A Distinct Transition from Traditional to Digital Practices

Participant	Traditional Practices	Transition to Digital Practices	Notes
Hendon (Malaysia)	Realia teaching props, laminated flashcards, Mahjong paper, realia (e.g., fruits, clothes)	Adopted Canva to create interactive tests	Demonstrates a shift from concrete materials to innovative digital technologies despite resource constraints
Hera (Indonesia)	Worksheets, manually created flashcards, whiteboard-based instruction	Transitioned when teaching in the U.S.; required to utilize a Learning Management System (e.g., Blackboard) in hybrid classes	Adoption was motivated by external pressure rather than personal motivation
Chris (Norway)	Technology-integrated practices from the start of teaching career	Continuously used YouTube, online platforms from beginning	Early exposure and pedagogical alignment with technology
Kelly (Scotland)	Consistent use of digital tools throughout teaching career	Integrated PowerPoint, interactive whiteboards, Twinkl	Similar to Chris, technology was a natural part of her teaching career

Teachers in high-infrastructure countries (Norway, Scotland) described continuity, whereas those in more limited settings (Indonesia, Malaysia) described transition and adaptability. Thus, technology integration reflects varied starting points rather than universal pathways.

First Encounters with Technology – Anxiety and Adjustment

When technology was first introduced, it was usually accompanied by doubt and anxiety. Hera's first time was “scary but worth it”. Instead of being motivated, she was first urged to use digital tools, especially when she needed to use “Blackboard” while teaching in the United States in about 2009-2010. The sudden change from conventional paper-based teaching to digital tools made her very nervous because she didn't know the functionalities and features of this new technology. One example can be seen in Hendon's account, when she recalled that

“...I panicked silently in front of my students when the Wi-Fi shut off, but it taught me always to have an offline copy ...”

Apart from that, Hendon also recounted her first time utilizing Canva to prepare interactive presentations. That was her dramatically altered approach to teaching. There is no clear “before” and “after” for Kelly's use of technology in teaching. From the very beginning of her 15-year teaching span, technology has always featured in her teaching, e.g., PowerPoint presentations, smart whiteboard, and digital software like Twinkl. Another example is reflected in Chris's narrative. Chris has used technology since the very beginning of his teaching career,

with YouTube serving as one of the primary tools to engage students and promote interaction in lessons. However, he also expressed frustration when internet access was unavailable. Reflecting on his early experience, he noted,

“...so I thought, but one of my first experiences is that I remember using YouTube videos at the commencement of the class to have them interested in the subject...”

Experimentation and Innovation as Teacher Agency

Stories of experimentation and innovation were shared in a different way by the four teachers. First, Chris's journey with technology in teaching demonstrated a continuous process of experimentation and innovation. He experimented with various platforms such as Skolen min, Elevkanalen, Google Classroom, and interactive tools like Kahoot, which significantly boosted students' engagement and enjoyment. Chris stated that

“I remember using Kahoot for the first time. I thought it was quite engaging, and they did not want the class to end.”

This shows that teachers tried new technologies mainly to improve student engagement (Research Question 3). For example, Hendon kept offline backup materials, showing that she was flexible and prepared rather than simply following instructions. Second, Kelly demonstrated a strong willingness to experiment with new digital tools based on classroom needs or inspiration from colleagues. For example, she learned about Word Wall, Quizlet Live, and Twinkl from a colleague and quickly adopted those digital tools because of their simplicity and effectiveness. Third, Hendon demonstrated a tremendous desire to explore and try out different digital tools in her classroom, even in a resource-limited environment. She began integrating tools like Canva, Genially, Word Wall, and ClassDojo not only for lesson creation but also for assessment. Besides, Hendon also said,

“I use my tablet for everything—projecting lessons, searching images on the spot, and even one-on-one reading time”.

Last but not least, although Hera was not tech-savvy, she implemented flipped learning and shared her experience at an international conference:

“I dare to take that challenge... for a person who's not tech-savvy ... I was invited as one of the Keynote Speakers to share about my flip learning in a conference in Kuala Lumpur.”

The findings also suggest that motivation, trying new tools, and self-confidence are closely connected. Teachers' willingness to experiment, continue learning, and improve their use of technology reflects growing confidence based on experience. In all contexts, trying new technologies helped teachers grow professionally. However, in schools with limited resources, teachers had to be more creative and persistent when experimenting with technology.

Theme 2. The Personal and Professional Factors in Using Technology in Their English Classrooms

The relational nature of integration was underscored by the interaction between personal agency and structural constraints, which mediated technology use.

Personal Motivation and Self-Efficacy

Personal motivation and self-efficacy with technology influenced teachers' willingness to use it. Firstly, Hendon's motivation to use technology came from her goal to make learning more exciting and accessible for her students, particularly in a rural school with limited access to technology. She also showed high self-efficacy by proactively seeking alternatives: borrowing equipment, using personal devices, and keeping offline backups of digital materials. Secondly, Hera shares that her entry into digital teaching was not driven by personal interest:

“It's never coming from myself... it was being pushed... I was not really into technology.”

However, she didn't use that as an excuse; she turned external pressure into personal motivation, proving her self-efficacy by choosing to persist and grow:

"It was scary in the beginning, but what doesn't scare you doesn't make you grow."

Thirdly, Kelly expressed a strong personal confidence in using technology:

"I'm the one who guided myself in using YouTube."

This showed she took personal responsibility for her learning and felt confident in her ability to adapt and grow without external mentorship. In this case, Kelly was naturally tech-immersed. Fourthly, Chris' motivation to integrate technology in his teaching was strongly influenced by the students' interests. He observed that students were already highly engaged with technology in their personal lives. This inspired him to bring those tools into the classroom to connect with their interests and make learning more engaging. He also often learned to use new platforms or tools on his own.

Infrastructure and Resource Availability

Limited access to devices, projectors, and reliable internet strongly shaped teaching decisions. For example, Hendon taught at a school located in a rural area. The school does not have TVs or smart boards in every classroom. Instead, there is only one smart TV in a single room and a limited number of projectors (around two or three) that need to be shared among all teachers. She also had experienced moments when the Wi-Fi completely failed before a lesson, forcing her to switch to textbooks and printed materials. Hendon considered buying her own projector due to limited school resources. She said,

"There's only one smart TV in the whole school. I had to book it in advance—or just bring my tablet."

While in Hera's school environment, infrastructure and technological resources had improved over time: Wi-Fi and computer access were more reliable, enabling smoother integration of tools like Google Meet, Moodle, and Twinkl. Another example in Chris' situation, the school provided students with Chromebooks as the primary devices for accessing learning materials for grades 5 and 6. Students also had access to Skolen min and Elevkanalen – Norwegian platforms with videos, texts, and tests. The last, Kelly's experience, revealed that the school had limited infrastructure, such as Outdated iPads. The school previously had a dedicated iPad class for lower grades, but this program ended when the devices became outdated and were not replaced.

Time and Classroom Management

Challenges like no backup plan, forgotten passwords, slow connectivity, and managing younger students' unfamiliarity with gadgets influenced time and classroom management. It can be seen from Chris' situation. Chris stressed the importance of always having a non-digital backup plan. He admitted that when such plans are not working, it leads to stress and confusion, making him feel unprepared. Over time, he learned to respond rather than react, becoming more adaptable. Kelly's experience highlighted the time consumption with young learners. She described how using Kahoot with Primary 1 students proved extremely difficult. Many students didn't know how to connect to the internet or use their devices, and 30 minutes of the lesson were lost on technical setup. She reflected that using PowerPoint instead would have saved time and allowed her to complete the quiz efficiently. Hera emphasized the use of varied tools:

"Sometimes, I use worksheets. Next time, I don't use worksheets... Sometimes, I start with storytelling... So, I try to alternate what I use..."

Hendon highlighted that technology isn't just for creating materials, but it has also managed students' behaviour. She described moments when using technology, especially during games, led to students becoming overly excited, which made the class harder to control.

Theme 3. The Impact of Technology Integration on Their Students' Engagement and Learning Outcomes

Increased Engagement and Enjoyment

Interactive platforms like YouTube, Chromebooks, Kahoot, Quizlet Live, Canva, Genially, and Word Wall made learning more dynamic, increased students' engagement, and enjoyment. Chris' experiences demonstrate how technology, when used creatively and appropriately, may increase students' interest, participation, and enjoyment. For example: YouTube for Contextual Learning, Audio Recording on Chromebooks, Kahoot for Boosting Motivation. Kelly described that technology increased students' engagement and made learning more enjoyable. For example, Tools like Quizlet Live and Word Wall made learning fun, fast-paced, and competitive. Students were excited to participate, especially because these tools involved teams, leader boards, and instant feedback. Hera mentioned how platforms like Kahoot and Quizziz created excitement among primary students. The interaction of these tools made students eager to participate. She said, "Even the shy students came alive with the online quiz game. They were so excited, it sometimes caused classroom chaos!" Hendon also noticed that technology-based lessons drew more attention and participation from students, especially those who were usually shy or less confident. The visual and interactive tools like Canva, Genially, and Word Wall made lessons more enjoyable.

Empowerment through Technology

Technology was seen as a confidence booster, particularly for struggling or introverted students. Technology allowed Chris to give feedback efficiently through platforms like Google Classroom, which made his work more structured and manageable. Besides, with personal Chromebooks and access to digital platforms, students had more control over how they engaged with material, reviewed content, and completed tasks. Kelly taught her upper-primary students (Years 4–8) to use ChatGPT to simplify complex texts and generate content for learning. She emphasized the responsible use of AI (Artificial Intelligence) as a learning tool, not a way to cheat. Hendon emphasized how technology allowed students to explore and learn the materials. For example, one shy, introverted student discovered a vocabulary quiz embedded in an online dictionary during a Scrabble training session and began using it independently. She said,

"The student wasn't pressured by peers. She explored on her own and proudly said, 'Teacher, I got it!'"

Hera repeatedly shared that she was not tech-savvy and initially felt fear and confusion when first introduced to digital learning tools like Blackboard and Moodle. However, she embraced the challenge and ultimately grew in confidence and capability.

Discussion

This study set out to explore primary school English teachers' lived experiences in integrating technological tools into their classrooms across four different contexts: Norway, Indonesia, Malaysia, and Scotland. The findings go beyond confirming existing research by demonstrating how cross-context narratives shape technology integration in nuanced ways. In particular, they reveal the complex interplay between individual agency, institutional conditions, and pedagogical decision-making.

The findings indicate that teachers' pathways to technology use are shaped not only by institutional infrastructures and training opportunities, but also by personal confidence, professional motivations, and the age and readiness of their learners. These insights directly address the research objectives by showing how teachers narrate their experiences, what factors influence their decisions, and how they perceive the impact of technology on student engagement and learning outcomes.

First, technology integration follows diverse and non-linear pathways. Teachers do not adopt digital tools in uniform or straightforward ways; rather, their practices develop differently depending on contextual and experiential factors. Teachers in well-equipped environments, such as Kelly and Chris, tended to integrate technology more seamlessly into their daily teaching. In contrast, Hendon and Hera experienced slower and sometimes reluctant adoption processes. This finding supports earlier claims that teachers' digital engagement depends on both prior exposure and institutional contexts (Cameron, 2001; Mishra & Koehler, 2006). At the same time, the study extends existing literature by showing that externally driven adoption, such as Hera's experience with Blackboard, can evolve into opportunities for professional growth and innovation, thereby highlighting the dynamic nature of teacher agency.

Second, teacher agency plays a central role in shaping technology use. Teachers are active agents who continuously develop their knowledge, beliefs, and practices regarding technology integration (Ottenbreit-Leftwich et al., 2018). The findings demonstrate that teachers are not passive users but active agents who select, adapt, and manage digital tools in their classrooms. Teachers' self-efficacy and motivation emerged as key enablers, reinforcing previous research linking teacher confidence with effective digital pedagogy (Mishra & Koehler, 2006). For example, Hendon's exploration of platforms such as Canva and Genially, despite limited resources, illustrates how personal motivation can compensate for structural constraints. Conversely, Hera's experience shows how institutional expectations and regulations may limit teachers' choices. These contrasts suggest that teacher agency is both enabled and constrained by contextual conditions. Furthermore, disparities in infrastructural support, such as Chris's access to ICT assistance and school-provided devices compared to Hendon's need to consider self-funding, underscore persistent inequalities in access to technology. This aligns with broader discussions of the digital divide and its implications for educational practice.

Third, contextual factors significantly influence how technology is implemented, as both school readiness and teacher readiness determine successful technology integration (Petko et al., 2018). The study highlights that access to technological resources and institutional support varies considerably across contexts, shaping not only the availability of tools but also teachers' confidence, pedagogical choices, and sustainability of use. Limited access constrains not only what teachers can do but also how they perceive the value and feasibility of technology integration. These findings reinforce the view that technology integration is embedded within broader social, economic, and institutional structures, rather than being a purely technical process.

Fourth, while technology has the potential to enhance student engagement, it also introduces pedagogical challenges. Interactive platforms such as Quizlet Live, Wordwall, and Kahoot were found to increase participation and motivation, supporting prior research on the benefits of interactive and game-based learning environments (Mishra & Koehler, 2006). In addition, technology provided alternative means of expression for shy or less confident students, contributing to more inclusive participation. However, the findings also reveal challenges related to time management and instructional efficiency, particularly among younger learners who require additional guidance. For instance, Kelly's experience illustrates how digital activities can sometimes consume excessive class time. These findings suggest that the effectiveness of technology depends not on the tools themselves but on how appropriately they are integrated into pedagogical practice.

Moreover, the study cautions against overreliance on digital tools. Evidence from classroom experiences indicates that pedagogical appropriateness must guide technology use, particularly in primary education. This aligns with Cameron's (2001) argument that teaching young learners requires approaches that are responsive to their cognitive and social development. Accordingly, a balanced approach that integrates digital resources with traditional teaching strategies is necessary.

The findings demonstrate that technology integration is not a linear progression of skill acquisition but a contextually situated practice shaped by teachers' professional identities, working conditions, and instructional decisions. Rather than focusing solely on the effectiveness of digital tools, this study emphasizes how teachers actively negotiate opportunities and constraints in their daily practice. By foregrounding teachers' lived experiences across diverse cultural and institutional contexts, the study contributes to ongoing discussions in educational technology and highlights the importance of context-sensitive professional development, reflective practice, and recognition of teacher agency in fostering meaningful and sustainable technology integration in primary English education.

CONCLUSION

This study explored how primary English teachers experience technology integration in their teaching. The findings indicate that teachers encounter both opportunities and challenges when using digital tools, and that their personal backgrounds, professional experiences, and teaching contexts strongly influence how technology is implemented in the classroom. Rather than technology alone, students' learning outcomes depend on how teachers balance digital tools with traditional teaching approaches. By focusing on teachers' lived experiences, this study contributes to research on technology integration in primary education and highlights that technology use is deeply shaped by local contexts and institutional support. At a broader level, these findings are particularly relevant for developing countries facing digital divides, as they suggest that effective technology integration requires not only access to digital tools but also sustained teacher support and context-sensitive professional development. While the study is limited by its small sample size and context-specific design, it underscores the need for future research and policy initiatives that promote equitable access and teacher-centered approaches to technology integration.

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INFORMED CONSENT STATEMENT

Participation in this study was voluntary. Prior to participation, all participants were provided with clear information regarding the study's objectives, procedures, potential risks, and anticipated benefits. Participants were assured of the confidentiality of their personal information and informed that all data collected would be used solely for research purposes. They were also informed of their right to withdraw from the study at any time without penalty. Informed consent was obtained from all participants prior to data collection.

DATA AVAILABILITY STATEMENT

The data generated and analyzed in this study are not publicly available because they contain information that could compromise participant privacy and confidentiality. Restricting public access ensures compliance with ethical research principles and applicable data protection regulations. Nevertheless, the dataset may be made available to qualified researchers upon reasonable request for verification or further analysis. Any such request will be reviewed on a case-by-case basis and will require prior approval from the appropriate institutional ethics authority.

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