

DIGITAL TECHNOLOGY INTEGRATION IN TEXT-BASED ENGLISH FOR FRONT OFFICE INSTRUCTION IN VOCATIONAL TOURISM EDUCATION: A MIXED METHOD STUDY

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Abstract

This study investigates how digital technology is integrated into text-based English for Front Office (EFO) instruction to support language literacy, digital literacy, and employability skills in vocational tourism education. The integration of digital technology in English for Specific Purposes (ESP) has often been tool-oriented, with limited attention to teachers' pedagogical practices in vocational contexts. The study employed a mixed-method design with an explanatory sequential approach involving 20 English teachers from vocational tourism schools. Data were collected through questionnaires, interviews, and document analysis. The data were analyzed using descriptive statistics and thematic analysis. The findings reveal that teachers utilize various digital technologies, including learning management systems, presentation tools, communication applications, video editing tools, virtual tours, and AI-based applications. These technologies are integrated through multimodal literacy practices such as role-play simulations, video projects, virtual tour narratives, and interactive assessments that engage students in reading, writing, speaking, and digital meaning-making. However, teachers face challenges related to limited infrastructure, varying levels of digital literacy competence, student motivation, and increased instructional workload. The study concludes that pedagogically grounded digital technology integration enhances text-based EFO learning by supporting language literacy and digital literacy in authentic workplace contexts. The findings imply the need for continuous teacher professional development and institutional support to promote sustainable literacy-oriented digital pedagogy in vocational tourism education. This study contributes to literacy-oriented ESP pedagogy by foregrounding teachers' digital pedagogical practices in vocational tourism education.

Keywords: *digital literacy; English for Front Office; English language literacy; text based English language teaching; technology integration.*

1. Introduction

Digital literacy is essential in vocational education, as workplace demands increasingly require multimodal communication (sThelma et al., 2024). In the digital era, literacy extends beyond the ability to read and write printed texts to include the capacity to interpret, produce, and communicate meaning through digital and multimodal texts. This transformation has important implications for English language teaching, particularly in vocational tourism programs, where communication increasingly takes place through digital platforms, online systems, and technology-mediated interactions. Consequently, English instruction in vocational contexts must integrate language literacy and digital literacy to remain relevant to contemporary workplace communication (Kumar,2023; Kusuma Dewi et al.,2024)

In the hospitality industry, particularly for front office staff, digital literacy underpins professional communication (Stylianou & Pericleous, 2025). Front office staff are required to manage email correspondence, online reservation systems, digital guest feedback, and hotel information platforms while maintaining professional communication standards. Therefore, students in English for Front Office (EFO) classes are expected not only to develop English proficiency but also to acquire the digital literacy skills necessary to function effectively in authentic workplace settings. Without adequate digital literacy, students may face difficulties transferring their language skills into professional practice, which can negatively affect their employability in the tourism sector (Chemli et al., 2024; Zuñiga-Collazos et al., 2025).

Digital literacy is closely linked to employability skills in vocational education. Employability skills include communication, adaptability, collaboration, -solving, and effective technology use (Mahajan et al., 2022; Tushar & Sooraksa, 2023) . Furthermore, Scheepers et al., (2024) highlight that digital career competencies are a crucial component, encompassing not only technological proficiency but also soft skills such as communication and teamwork. This underscores the importance of a balanced skill set for contemporary employability. As employers increasingly seek candidates who demonstrate both digital literacy and strong interpersonal skills, vocational education institutions must prioritize these competencies in their curricula to align with workforce demands (Nikou et al., 2022). Digital literacy in ESP contexts should be understood not merely as technical competence, but as situated literacy practices embedded within professional communication and multimodal meaning-making.

Text-Based Language Teaching is a pedagogical approach that supports workplace-oriented language learning (Alfehaid & Alkhatib, 2020). This approach emphasizes the use of authentic texts that reflect real communication practices in specific professional contexts. In EFO instruction, text-based learning enables students to engage with workplace-related texts such as service dialogues, reservation emails, hotel information sheets, and complaint-handling responses. Through these texts, students learn not only linguistic forms but also communicative purposes, professional conventions, and genre structures relevant to the hospitality industry (Kaharuddin & Arafah, 2019). However, when text-based instruction is implemented without digital support, it may become less interactive and less aligned with students' digital literacy practices and contemporary learning experiences.

The integration of digital technology offers opportunities to strengthen text-based EFO learning by enabling multimodal and interactive literacy practices. Digital tools such as learning management systems, multimedia platforms, video-based tasks, and virtual

simulations allow students to engage with texts in more meaningful and authentic ways. Through activities such as role-play simulations, video projects, and virtual tours, students can practice language use in contexts that closely resemble real workplace situations. These practices support the development of both language literacy and digital literacy, which are essential components of employability skills in vocational tourism education (Zuñiga-Collazos et al., 2025).

Despite the growing body of research on digital technology integration in English language teaching, several gaps remain. First, existing studies often focus on specific tools, prioritize language skills over digital literacy, and emphasize student outcomes rather than teachers' practices, such as mobile applications or learning management systems, while giving limited attention to pedagogical processes and instructional design. Second, research on ESP and vocational English often prioritizes language skills development, while digital literacy is treated as a supplementary or supporting component rather than a core learning outcome. Third, studies on digital technology integration in vocational education tend to emphasize students' perceptions or learning outcomes, with limited attention given to teachers' pedagogical practices and challenges. Teachers play a central role in mediating technology use and shaping literacy practices in the classroom, yet their instructional strategies, constraints, and adaptive responses remain underexplored. Understanding teachers' practices is crucial for developing sustainable and context-sensitive digital pedagogy. There is therefore a need for research that investigates how teachers integrate digital technology into text-based ESP instruction to support literacy development and employability skills.

This study addresses these gaps by examining the integration of digital technology in text-based English for Front Office learning from a pedagogical perspective. Rather than focusing solely on technological tools or learning outcomes, this study explores how teachers use digital technology to support literacy-oriented instructional practices, how these practices contribute to students' employability skills, and what challenges and adaptive strategies emerge in authentic classroom contexts. Specifically, this study aims to describe: (1) the types of digital technologies used by EFO teachers in vocational tourism schools, (2) how digital technology is integrated into text-based EFO instruction to support language literacy and digital literacy, (3) the challenges teachers face in implementing digital literacy-oriented instruction, and (4) the pedagogical strategies they employ to address these challenges. By foregrounding teachers' practices, this study contributes to the field of language literacy and ESP pedagogy by extending discussions of text-based instruction toward literacy-oriented digital pedagogy in vocational education.

2. Literature Review

2.1 English Language Literacy

English language literacy encompasses a set of skills and practices integral to effective communication and comprehension in the English language. English language literacy is not merely the ability to read and write but a complex interplay of various skills, including critical thinking, cultural understanding, and technological proficiency. It is particularly relevant in dynamic fields such as tourism, where effective communication can significantly enhance interactions and experiences.

English language literacy in vocational education has become a crucial component in preparing students for the complexities of modern workplaces. The landscape of vocational education increasingly reflects the need for comprehensive literacy skills that extend beyond basic reading and writing. According to Xu and Zhao (2023), vocational literacy includes not only language proficiency but also the ability to navigate the interconnections between different forms of communication, such as oral, written, and digital literacies, which are essential in modern service industries. Successful vocational programs must integrate these literacies into their curricula to equip students with the necessary skills to thrive in increasingly competitive job markets.

Recent literature emphasizes the importance of aligning vocational education with industry demands through enhanced English language literacy programs. Xinming (2023) points out that traditional vocational training models have often focused narrowly on technical skills and disciplinary knowledge, leaving gaps in students' communication capabilities. This gap is concerning in a globalized economy where employers seek individuals who not only possess technical expertise but also demonstrate strong problem-solving, innovative thinking, and effective communication. Therefore, vocational education must adapt to include core literacy competencies, bridging language skills with practical applications relevant to students' future careers (Xiangyu, 2023).

Furthermore, the advent of digital technology has revolutionized the way English language is taught and learned in vocational settings. Fakhruddin and Larasaty (2024) highlight that digital tools can significantly enhance students' literacy development, particularly in speaking and pronunciation, which are critical for vocational success. The integration of technology allows for diverse learning modalities, catering to various student needs and learning environments. Thus, combining digital resources with pedagogical best practices offers a promising pathway to advance English language literacy in vocational education, preparing students for the demands of a digital economy while fostering lifelong learning habits.

2.2 Digital Literacy

Digital literacy has emerged as an essential set of competencies in the current digital age, where technology influences nearly all facets of professional and personal life. According to Dai, (2024), digital literacy encompasses the ability to access, evaluate, and create information using digital technologies, integrating skills such as media literacy and information literacy to equip individuals with the comprehensive skill set needed for effective participation in a digitally-oriented society. This multifaceted approach emphasizes not only the technical skills associated with digital tools but also critical thinking and interpretative abilities necessary for effective communication within the digital realm.

A significant aspect of digital literacy is its contextualization within various educational frameworks, emphasizing its role in fostering lifelong learning. Ostanina et al., (2023) articulate that developing digital competence among students, especially in higher education, is paramount for preparing future innovators and leaders. Higher education institutions must adapt their curricula to include digital literacy education as an integral part of training, ensuring that students are equipped to face the challenges of an increasingly digital workforce. Research indicates that embedding digital literacy within various educational contexts can enhance both engagement and retention among students, as it enables them to apply their knowledge practically in real-world scenarios.

2.3 Technology Integration in English Language Teaching

Technology integration in English Language Teaching (ELT) refers to the seamless incorporation of digital tools and resources within the pedagogical framework to enhance language acquisition and teaching effectiveness. Various theoretical models have emerged to guide educators in effectively embedding technology into their instructional practices. One prominent framework is the Technological Pedagogical Content Knowledge (TPACK) model, which emphasizes the interplay between technological, pedagogical, and content knowledge within teaching environments (Mishra & Koehler, 2006). They argue that effective technology integration requires teachers to possess not only a strong understanding of their subject matter but also an awareness of how to utilize technology pedagogically to facilitate learning. This integrated perspective compels educators to rethink their approaches and adapt their methodologies to optimize student engagement and comprehension in the language learning process.

Research demonstrates that the successful integration of technology in ELT can lead to enhanced student motivation and engagement. For instance, Timotheou et al., (2022) highlight findings that suggest technology positively affects students' performances when utilized appropriately in learning contexts (Timotheou et al., 2022). Saud's study illustrates that educators' perceptions significantly influence the effective use of Information and Communication Technology (ICT) in ELT, emphasizing the need for ongoing professional development to build teachers' confidence and competence (Saud, 2023). A supportive environment coupled with adequate training can enable teachers to leverage digital tools to create interactive learning experiences, thereby fostering a more vibrant and responsive educational atmosphere.

The present study adopts the Technological Pedagogical Content Knowledge (TPACK) framework (Mishra & Koehler, 2006) as its primary theoretical lens. TPACK provides a comprehensive perspective for examining how teachers integrate technological knowledge, pedagogical knowledge, and content knowledge in text-based English instruction. Through this framework, the study investigates how teachers utilize digital technologies to support language literacy, digital literacy, and workplace communication skills simultaneously within Front Office English classes. By focusing on teachers' pedagogical practices, the study contributes to a more integrated understanding of technology-enhanced literacy development in vocational tourism education.

2.4 Review of Previous Studies

Research on English language teaching in vocational education has increasingly focused on three interconnected areas: genre-based or text-based pedagogy, digital technology integration, and the development of employability-related competencies. A review of previous studies reveals several important trends while also highlighting methodological limitations, conceptual gaps, and unresolved pedagogical issues that warrant further investigation.

A prominent trend in the literature is the growing use of genre-based approaches to enhance learners' professional communication skills. Wang (2021) examined the use of a genre-based approach in Business Translation teaching to enhance learners' professional language competence. Using a quasi-experimental design, the study compared students receiving genre-based instruction with those taught through traditional methods. Data from

translation performance tests showed that genre-based instruction significantly improved translation accuracy, genre awareness, and communicative purpose understanding. While the findings confirm the pedagogical value of genre-based instruction in professional language education, the study is limited to translation contexts and does not address digital technology integration or vocational tourism education.

Similarly, Chang (2024) investigated genre and task based English instruction in a Hospitality and Tourism technical course during emergency remote learning. Employing a qualitative descriptive design, the study analysed instructional materials and reflective teaching notes. The results indicated that genre-task integration enhanced student engagement and contextualized tourism-related language use. However, digital technology served primarily as a delivery medium rather than as an integrated component of literacy development.

To answer this call, Izzah et al., (2025) examined the use of Kahoot in a genre-based English teaching model for vocational students through a design-based and quasi-experimental approach. Data from achievement tests, questionnaires, and classroom observations showed increased motivation, engagement, and genre understanding. Nevertheless, the study focused mainly on learning outcomes and offered limited insight into teachers' pedagogical strategies or broader literacy development.

Beyond classroom instruction, studies have highlighted the role of digital literacy in employability. Nikou et al., (2022) found a strong relationship between digital competence, English communication skills, and employability readiness among vocational students. Similarly, Stylianou & Pericleous (2025) reported that digital communication skills significantly influenced employability in tourism education. However, both studies examined employability as an outcome and did not explore how such competencies are pedagogically developed through text-based ESP instruction.

These existing studies frequently examine genre-based instruction, digital technology use, and employability skills as separate areas of inquiry. Research on genre-based pedagogy often focuses on language development without considering digital literacy, whereas studies on educational technology commonly emphasize technological tools rather than literacy development. Similarly, employability research tends to investigate outcomes of communication and digital competence without examining how these competencies are developed pedagogically in classroom settings. As a result, there is limited theoretical understanding of how language literacy, digital literacy, and workplace communication skills can be integrated within a single instructional framework.

Furthermore, unresolved pedagogical issues persist in vocational English language education. Although previous studies acknowledge the importance of digital tools and professional communication skills, little attention has been given to how teachers design and implement text-based English instruction that simultaneously develops language proficiency, digital literacy, and workplace readiness. This issue is particularly relevant in vocational tourism education, where students are expected to communicate effectively across multiple digital and professional contexts. Existing research provides limited evidence regarding how teachers select technologies, adapt pedagogical strategies, and connect instructional content to authentic workplace communication demands.

To address these limitations, the present study adopts the Technological Pedagogical Content Knowledge (TPACK) framework (Mishra & Koehler, 2006) as its primary theoretical lens. The TPACK framework offers a comprehensive perspective for examining how teachers

integrate technological knowledge, pedagogical knowledge, and content knowledge in text-based English instruction. By investigating teachers' practices in Front Office English classes, this study seeks to contribute to a more integrated understanding of how language literacy, digital literacy, and workplace communication skills can be developed simultaneously in vocational tourism education.

3. Research Method

3.1 Research Design

This study employed an explanatory sequential mixed-method design. This design was chosen to obtain a comprehensive understanding of digital technology integration in text-based English for Front Office (EFO) learning by combining quantitative and qualitative data. The quantitative phase was conducted first to identify general patterns of digital technology use among teachers, followed by a qualitative phase to explore pedagogical practices, challenges, and strategies in greater depth. This approach is appropriate for literacy-oriented research that seeks to explain not only what happens in classrooms, but also how and why instructional practices are enacted.

3.2 Research Context and Participants

This study was conducted in vocational tourism schools (*Sekolah Menengah Kejuruan/SMK Pariwisata*) in Bali, Indonesia. In this context, English for Front Office (EFO) is a core subject designed to prepare students for communication tasks in the hospitality industry. The learning context reflected the increasing integration of digital technology in vocational education, particularly following curriculum demands and instructional practices that encourage blended and digital learning modes.

The participants of this study were 20 English teachers teaching in vocational tourism schools across Bali. The teachers were selected using purposive sampling based on specific criteria: (1) they taught English subjects related to tourism, particularly *English for Front Office*; (2) they had experience integrating digital technology into their instructional practices; and (3) they were willing to participate voluntarily in the study. The participating teachers represented various schools with different levels of technological infrastructure and institutional support. The selection of 20 English teachers was considered appropriate for the purposes of this explanatory sequential mixed-method study. The participants were recruited through purposive sampling because they possessed specific characteristics relevant to the research objectives, namely experience teaching English for Front Office (EFO) and integrating digital technology into their instructional practices.

3.3 Research Instruments

This study employed three research instruments: a questionnaire, a semi-structured interview guide, and a document analysis checklist. All instruments were designed to explicitly capture teachers' practices in integrating digital technology to support language literacy and digital literacy in text-based *English for Front Office* (EFO) instruction. Each instrument is described below.

The questionnaire consisted of closed-ended items using a Likert-scale format. It was designed to identify the types of digital technologies used by teachers and the frequency of their use in EFO classes. The items covered several categories of digital tools, including

learning management systems, presentation and visual design tools, communication applications, multimedia and video-editing tools, virtual tours, and AI-based applications. In addition, selected items focused on how these technologies were used to support literacy-related activities, such as reading workplace texts, writing professional messages, practicing spoken interaction, and engaging in multimodal meaning-making.

The semi-structured interview guide contained open-ended questions aimed at exploring teachers' pedagogical practices and reasoning in greater depth. The interview questions explicitly addressed how teachers integrated digital technology into text-based instruction to develop students' language literacy (e.g., understanding and producing workplace texts) and digital literacy (e.g., using digital platforms critically and meaningfully). The interviews also explored teachers' perceptions of employability skills development, the challenges they encountered in implementing literacy-oriented digital instruction, and the strategies they adopted to address contextual constraints.

The document analysis checklist was used to examine instructional documents and digital learning artifacts, such as lesson plans, teaching materials, students' written texts, video projects, and online learning activities. The checklist focused on identifying key features of text-based instruction and digital literacy practices, including the use of authentic workplace texts, multimodal tasks, digital platforms, and opportunities for students to engage in reading, writing, speaking, and digital meaning-making. This instrument enabled the researcher to triangulate reported practices with actual instructional evidence.

3.4 Data Collection Procedures

The data were collected by following some procedures. The first stage was the preparation stage, which involved obtaining ethical clearance and securing formal approval from the principals of the participating vocational tourism schools. This stage ensured that the research complied with institutional and ethical requirements and that all participants were informed about the purpose of the study and their voluntary involvement.

After receiving the necessary approvals, the questionnaire distribution stage was conducted. The questionnaires were distributed online using Google Forms and shared with all participating English teachers. This method was chosen to facilitate efficient data collection and to allow teachers to respond at their convenience. The questionnaire data provided an initial overview of the types of digital technologies used in English for Front Office instruction and the frequency of their use.

Following the preliminary analysis of the questionnaire responses, the interview stage was carried out. Semi-structured follow-up interviews were conducted with selected teachers to clarify emerging patterns and to explore teachers' pedagogical perspectives in greater depth. Each interview lasted approximately 30-45 minutes. The interviews focused on how digital technology was integrated into text-based instruction, the challenges encountered, and the strategies adopted to support language literacy and digital literacy. With participants' consent, the interviews were audio-recorded to ensure accuracy in data transcription and analysis.

The final stage involved document analysis. Relevant instructional documents and digital learning artifacts, such as lesson plans, teaching materials, students' assignments, and online learning activities, were collected and analyzed. This procedure aimed to examine how digital technology and text-based instruction were reflected in actual classroom

practices. Document analysis also served to triangulate data from questionnaires and interviews, thereby strengthening the credibility of the findings.

3.5 Data Analysis

Data analysis was conducted in two main stages, following the explanatory sequential mixed-method design. Quantitative data analysis was carried out first, followed by qualitative data analysis to explain and elaborate the quantitative findings. In the quantitative phase, data obtained from the questionnaires were analyzed using descriptive statistics. The analysis focused on frequencies and percentages to identify the types of digital technologies used by teachers and the frequency of their use in *English for Front Office* instruction. The results of this phase provided an overall picture of digital technology integration and served as a basis for selecting participants and determining focal issues for the qualitative analysis.

In the qualitative phase, data from semi-structured interviews and document analysis were analyzed using thematic analysis. The steps are: first, the researchers familiarized themselves with the data by repeatedly reading interview transcripts and instructional documents to gain an overall understanding of participants' experiences and practices. Second, initial codes were generated by systematically identifying meaningful segments of data related to technology integration, language literacy development, digital literacy practices, pedagogical challenges, and instructional strategies. Both interview and document data were coded to facilitate cross-data comparison. Third, the initial codes were reviewed and grouped into broader categories based on conceptual similarities and recurring patterns. Fourth, these categories were further refined into potential themes that captured significant aspects of teachers' experiences and pedagogical practices. Fifth, the themes were reviewed and refined by examining their coherence within and across data sources to ensure that they accurately represented the dataset. Finally, the themes were clearly defined, named, and organized to provide a coherent explanation of how teachers integrated digital technology in literacy-oriented EFO instruction.

3.6 Trustworthiness and Validation

To ensure the trustworthiness of qualitative findings, the study employed four criteria: a) Credibility was achieved through data triangulation (questionnaire, interview, observation) and member checking by sharing interview transcripts with participants for validation; b) Transferability was addressed by providing detailed contextual descriptions of schools, participants, and teaching environments, allowing readers to assess applicability to similar contexts; c) Dependability was established by maintaining an audit trail of data collection procedures and coding decisions; d) Confirmability was ensured through researcher reflexivity and peer debriefing with colleagues in the English Education Department.

4. Results and Discussion

The results of this study are presented based on the integration of quantitative and qualitative findings, following the explanatory sequential mixed-method design. The findings are organized into four main themes: (1) types of digital technologies used in EFO instruction, (2) pedagogical integration of digital technology in text-based literacy practices,

(3) challenges in implementing digital literacy-oriented instruction, and (4) teachers' pedagogical strategies in addressing these challenges.

4.1 Types of Digital Technologies Used in EFO instruction

The findings from the questionnaire indicate that teachers in vocational tourism schools employ a wide range of digital technologies to facilitate English language learning. These technologies can be grouped into eight main categories as shown in Table 1.

Table 1.

Types of Digital Technologies Used in EFO Instruction

Category	Tools Used	Percentage
Communication Apps	WhatsApp	17%
Presentation & Interactive Media	PowerPoint, Canva	16%
Learning Management Systems (LMS)	Google Classroom, Moodle	15%
Gamified Learning Platforms	Kahoot!, Quizizz, Wordwall	14%
Meeting & Collaboration Apps	Zoom, Google Meet	13%
Multimedia & Video Editing	CapCut, Filmora	12%
AI & Self-Learning Tools	Duolingo, Grammarly, ChatGPT	8%
Virtual & Simulation Tools	Google Earth, VR Tour	5%

Table 1 shows that WhatsApp is the most frequently used digital tool. These findings are significant because they demonstrate that digital technology integration in vocational English education is driven primarily by pedagogical utility rather than technological sophistication. Teachers selected tools that effectively supported communication, text-based learning, and classroom management, suggesting that successful technology integration depends on the alignment between technological affordances and instructional objectives. From a theoretical perspective, the findings support the TPACK framework, which emphasizes that effective technology integration emerges from the interaction of technological, pedagogical, and content knowledge rather than from technology use alone. The predominance of communication platforms, presentation tools, and learning management systems indicates that teachers intentionally selected technologies that complemented text-based pedagogy and workplace-oriented language instruction. These findings are consistent with previous studies suggesting that teachers are more likely to adopt digital technologies that support classroom communication and instructional organization before integrating more complex digital tools (Pădurean, 2025 ;Rimadhona et al., 2025).

The findings also have important pedagogical implications for vocational tourism education. Rather than focusing exclusively on advanced technologies, teachers can foster both language literacy and digital literacy through accessible and familiar digital tools when these are embedded within meaningful communicative tasks. The results suggest that digital technologies are most effective when used to facilitate authentic workplace communication, collaborative learning, multimodal text production, and learner engagement. This highlights the need for professional development programs that help teachers move beyond technical competence toward pedagogically informed technology integration. The finding supports the view that digital tools can function as mediational means for literacy development when

they are integrated into authentic communicative tasks (Chenchen, 2024; Dahalan et al., 2023; Ravichandran & Mahapatra, 2023; Triastuti & Riazi, 2020; Yang, 2023).

The study contributes to the growing body of research on digital literacy and vocational language education by demonstrating how literacy development occurs through the combined use of communication, collaboration, and multimodal technologies. While previous studies have often examined technology use, literacy development, or employability skills separately, the present findings illustrate how these dimensions intersect within English for Front Office instruction. This contributes to a more integrated understanding of technology-enhanced literacy practices in vocational contexts and provides empirical evidence for the role of digitally mediated instruction in preparing students for communication demands in contemporary tourism workplaces.

4.2 Pedagogical Integration of Digital Technology in Text-Based Literacy Practices

Qualitative findings indicate that digital technology is integrated into English for Front Office (EFO) instruction through a range of text-based and multimodal pedagogical practices. It can be seen from Table 2.

Table 2. *Pedagogical Integration of Digital Technology in Text-Based Literacy Practices*

No.	Type of Practice	Representative Interview Excerpts
1	Lesson planning and organization through LMS	<i>"Every semester, I upload all materials and tasks on Google Classroom so students can access them anytime."</i> (Teacher A, interview)
2	Presentation and content delivery using visual media	<i>"If the slides are only text, students get bored quickly. Canva helps me design attractive visuals related to tourism themes."</i> (Teacher F, open-ended questionnaire)
3	Synchronous speaking practice and role-play via Zoom	<i>"I used Zoom for hotel service simulation. Students acted as receptionists and guests—it felt like an authentic situation."</i> (Teacher C, interview)
4	Informal communication and microlearning through WhatsApp	<i>"I often send voice notes for pronunciation practice. It's simple, and students can listen repeatedly."</i> (Teacher H, interview)
5	Project-based video production	<i>"Students made a short video of front-office dialogue wearing uniforms. They were very enthusiastic."</i> (Teacher L, interview)
6	Virtual exploration and tour-based activities	<i>"Students explored tourist spots virtually and described them as if they were tour guides."</i> (Teacher N, open-ended questionnaire)
7	Independent learning using AI-based tools	<i>"ChatGPT helps students generate sample dialogues quickly, but I always remind them to revise and understand the context."</i> (Teacher S, interview)
8	Digital assessment and feedback	<i>"Digital quizzes are fun for students. They enjoy competing while learning vocabulary."</i> (Teacher M, interview)

Table 2 presents a range of digital pedagogical practices employed by English teachers in text-based English for Front Office (EFO) instruction. The findings show that teachers integrate digital technology across multiple stages of the teaching–learning process, including lesson planning, content delivery, classroom interaction, assessment, and independent learning. At the planning and organizational level, teachers commonly use learning management systems to structure instruction and provide continuous access to learning materials. This practice indicates that digital technology functions as a foundational support for organizing literacy resources, rather than as an isolated teaching tool (Sumarno, 2023). Visual presentation tools are also widely used to support the delivery of tourism-related content, enabling teachers to combine written texts with contextual images and visuals.

During instructional interaction, synchronous platforms such as Zoom are employed to facilitate role-play and speaking practice, allowing students to perform workplace-related dialogues in simulated professional settings. Informal communication platforms, particularly WhatsApp, extend learning beyond the classroom by enabling ongoing interaction, microlearning activities, and pronunciation practice. These findings suggest that literacy learning in EFO contexts occurs across both formal and informal digital spaces.

In addition, project-based video production emerges as a key practice for integrating language use with multimodal communication. Virtual tours and exploration activities, although less frequently used, provide opportunities for contextualized descriptive language practice. The use of AI-based tools and digital assessment platforms further illustrates how teachers support independent learning, feedback, and formative assessment through digital means.

The findings in Table 2 highlight that digital technology integration in EFO instruction is pedagogically driven rather than tool-driven. Teachers select and use digital tools based on their relevance to instructional goals, particularly the development of language literacy and workplace communication skills. This supports previous research arguing that effective digital literacy integration depends on pedagogical alignment rather than technological sophistication (Laksani et al., 2020). Digital technology integration in text-based EFO learning supports a holistic literacy framework, where language literacy, digital literacy, and employability skills are developed simultaneously. The findings reinforce the need for pedagogical guidance and institutional support to ensure that digital practices remain literacy-oriented, contextual, and ethically informed in vocational education.

4.3 Challenges in Integrating Digital Technology in Text-Based EFO Instruction

The results of qualitative data analysis show that teachers faced challenged during integrating digital technology in text based EDO instruction. It can be seen in Table 3.

Table 3.

Challenges in Integrating Digital Technology in Text-Based EFO Instruction

No.	Theme of Challenge	Representative Interview Excerpts
1	Infrastructure limitations	<i>“The internet connection is often unstable, so sometimes online role-play or video tasks cannot run smoothly.”</i> (Teacher B, interview)

No.	Theme of Challenge	Representative Interview Excerpts
2	Digital competence gaps	<i>"I can use basic tools, but for AI or video editing, I still need more training."</i> (Teacher D, interview)
3	Student motivation	<i>"Some students install learning apps like Duolingo, but they do not use them consistently without reminders."</i> (Teacher G, interview)
4	Teacher workload	<i>"Preparing digital materials and managing different platforms takes much more time than traditional teaching."</i> (Teacher K, interview)

Table 3 shows that despite the widespread use of digital technology in EFO instruction, teachers continue to face significant challenges that affect the consistency and depth of digital literacy-oriented practices. Infrastructure limitations remain a major barrier, particularly unstable internet connections and limited access to devices, which restrict the implementation of multimedia tasks and synchronous online activities.

Digital competence gaps also emerged as a persistent issue. While teachers are generally confident using basic digital tools, many reported difficulties in adopting more advanced technologies such as AI-based applications, video editing software, and virtual reality. Student motivation further complicates digital integration, as self-directed learning tools require a level of autonomy that not all students consistently demonstrate. Additionally, teachers reported increased workload due to the need to design digital materials, monitor multiple platforms, and provide continuous feedback.

The challenges identified in Table 3 reflect broader issues related to the digital divide in education. Infrastructure constraints continue to shape what is pedagogically feasible in vocational classrooms, particularly in contexts where access to technology is uneven. This indicates that technology integration is not solely determined by teachers' willingness or competence, but is strongly influenced by institutional readiness, including infrastructure, technical support, and policy alignment (Mane, 2025). In addition to structural constraints, issues related to student motivation highlight the need for pedagogical scaffolding in digital literacy-oriented instruction. Self-learning applications can only be effective when students are supported in setting goals, monitoring their progress, and reflecting on their learning processes. Without such guidance, the potential of digital tools for independent learning remains limited.

Taken together, these challenges suggest that successful integration of digital technology in text-based EFO learning depends not only on access to tools, but also on systemic support, pedagogical guidance, and sustainable workload management. Addressing these factors is essential to ensure that digital practices effectively contribute to language literacy, digital literacy, and employability skills development.

4.4 Teachers' Solutions and Adaptive Strategies

The results of the qualitative data analysis reveal that the teachers employed some strategies to cope with the challenges, as it shown in Table 4.

Table 4.

Teachers' Strategies in Addressing Digital Integration Challenges

No.	Strategy Theme	Interview Excerpts
1	Self-learning and peer mentoring	<i>"I learned how to use Canva and CapCut from YouTube and from sharing with other teachers at school."</i> (Teacher E, interview)
2	Collaborative material sharing	<i>"We had a shared Google Drive where teachers upload materials so we don't have to start from zero."</i> (Teacher J, interview)
3	Offline and low-tech adaptations	<i>"For students with limited internet, I give downloadable videos and flexible deadlines."</i> (Teacher M, interview)
4	Gamification and motivation strategies	<i>"Using quizzes and digital badges helps students stay motivated and participate more actively."</i> (Teacher P, interview)

Table 4 illustrates that teachers demonstrate strong digital resilience by adopting a range of adaptive strategies to address challenges in integrating digital technology into text-based EFO instruction. Collaborative material sharing emerged as an important institutional strategy, with schools establishing shared digital repositories for teaching resources. This practice not only reduced individual workload but also promoted consistency in instructional quality across classrooms. Building on this collaborative approach, teachers also implemented offline and low-tech adaptations to accommodate students with limited access to devices or internet connectivity. These efforts ensured continuity of learning and supported more equitable participation in digitally mediated instruction.

In addition to addressing structural constraints, teachers employed gamification strategies to enhance student motivation and engagement. Tools such as digital quizzes, badges, and competitive elements were used to create more interactive learning environments, particularly for vocabulary development and formative assessment. Together, these strategies demonstrate how teachers actively negotiate contextual limitations while maintaining a focus on literacy-oriented instruction.

From a broader perspective, these practices reflect teachers' capacity to adapt and innovate within constrained educational contexts. The reliance on self-directed learning and peer mentoring aligns with the concept of teacher professional learning ecosystems (Tammets et al., 2022), where informal learning, collaboration, and experimentation play a central role in pedagogical development. In this regard, collaborative resource sharing not only enhances efficiency but also fosters collective knowledge building and strengthens teachers' confidence in implementing digital pedagogy.

At the same time, the use of offline and low-tech adaptations highlights teachers' sensitivity to issues of equity and access, reinforcing the importance of context-aware rather than technology-driven approaches. Meanwhile, gamification illustrates how teachers strategically sustain student engagement in vocational settings, where interactive and goal-oriented learning is particularly effective. When aligned with pedagogical objectives, such strategies can support formative assessment and meaningful language use.

These findings suggest that teachers' digital resilience is a key factor in successful technology integration. Their adaptive strategies enable the continued development of language literacy, digital literacy, and employability skills despite structural limitations,

underscoring the need for institutional support and professional learning communities to sustain teacher-led innovation.

5. Conclusion

This study investigated the integration of digital technology in text-based English for Front Office (EFO) instruction in vocational tourism schools, focusing on the types of digital technologies used, pedagogical practices, challenges, and teachers' adaptive strategies. In line with the research objectives, the findings show that teachers employ a wide range of digital tools, including learning management systems, visual presentation platforms, communication applications, video-editing tools, virtual tours, and AI-based applications. These technologies are integrated pedagogically through text-based and multimodal practices such as role-play simulations, video projects, virtual exploration, and digital assessment, enabling the simultaneous development of language literacy, digital literacy, and employability skills.

The study also reveals that teachers face persistent challenges related to infrastructure limitations, digital competence gaps, student motivation, and increased workload. Despite these constraints, teachers demonstrate strong digital resilience by engaging in self-directed learning, peer mentoring, collaborative material sharing, low-tech adaptations, and motivational strategies. These adaptive practices highlight teachers' central role in mediating digital technology use and sustaining literacy-oriented instruction in vocational ESP contexts. This study extends ESP and vocational literacy scholarship by conceptualizing digital technology integration as a literacy-oriented pedagogical practice rather than merely technological adoption.

Based on the findings, several policy implications can be proposed. Educational institutions and policymakers should strengthen digital infrastructure in vocational schools and provide sustained professional development focused on literacy-oriented digital pedagogy, rather than on technical training alone. Institutional support systems, such as collaborative teacher communities and shared digital repositories, should be formally recognized and supported to reduce teacher workload and promote sustainable innovation. Future studies are recommended to explore students' perspectives and learning outcomes related to digital literacy-oriented EFO instruction. Longitudinal and classroom-based studies could provide deeper insights into how digital and language literacy develop over time. Further research may also examine the ethical and pedagogical implications of AI use in vocational English learning, particularly in relation to critical digital literacy and employability skills.

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