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IMPROVING EFL STUDENTS' WRITING SKILLS THROUGH DIGITAL LEARNING PLATFORMS

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ABSTRAK

Menulis merupakan salah satu keterampilan yang kompleks bagi pembelajar EFL (*English as a Foreign Language*) karena melibatkan penguasaan tata bahasa, kosakata, pengorganisasian gagasan, dan penyampaian makna secara koheren. Perkembangan teknologi menghadirkan berbagai platform digital yang dapat dimanfaatkan untuk mendukung proses pembelajaran menulis, terutama melalui fitur kolaborasi, umpan balik, dan penilaian. Artikel ini bertujuan untuk mengkaji peran dan pemanfaatan platform pembelajaran digital dalam pembelajaran keterampilan menulis EFL berdasarkan hasil penelitian terdahulu. Penelitian ini menggunakan metode kajian literatur terhadap 15 publikasi ilmiah yang terbit pada periode 2021–2025. Data dianalisis secara tematik dengan mengelompokkan temuan berdasarkan fungsi teknologi dalam pembelajaran menulis. Hasil kajian mengidentifikasi tiga tema utama. Pertama, Google Docs mendukung penulisan kolaboratif melalui penyusunan dan penyuntingan teks bersama, interaksi antarpembelajar, serta keterlibatan dalam proses menulis. Kedua, teknologi berbasis kecerdasan buatan, khususnya ChatGPT, menyediakan alternatif umpan balik dan dukungan revisi tulisan, meskipun ketepatan dan relevansi hasilnya tetap memerlukan evaluasi serta pendampingan guru. Ketiga, perangkat berbasis AI dapat dimanfaatkan sebagai sumber tambahan dalam penilaian tulisan, tetapi perbedaan hasil penilaian antara manusia dan AI menunjukkan bahwa penilaian otomatis belum dapat sepenuhnya menggantikan pertimbangan penilai manusia. Kajian ini menyimpulkan bahwa platform digital memiliki fungsi yang saling melengkapi dalam pembelajaran menulis EFL, tetapi pemanfaatannya perlu disesuaikan dengan tujuan pembelajaran, karakteristik pembelajar, dan strategi pedagogis. Keterbatasan kajian terletak pada cakupan publikasi dan dominasi penelitian mengenai Google Docs serta perangkat berbasis AI. Penelitian selanjutnya perlu mengeksplorasi platform lain dan menguji pengaruh literasi digital, pendampingan guru, serta akses teknologi terhadap proses pembelajaran menulis EFL.

Kata kunci: *EFL; Kecerdasan Buatan; Kajian Literatur; Pembelajaran Digital; Keterampilan Menulis*

ABSTRACT

Writing is a complex skill for EFL (*English as a Foreign Language*) learners because it involves grammatical competence, vocabulary knowledge, idea organization, and the ability to convey meaning coherently. Technological developments have introduced various digital platforms that can support writing instruction, particularly through collaborative features, feedback, and assessment tools. This article aims to examine the roles and uses of digital learning platforms in EFL writing instruction based on previous research. This study employed a literature review method involving 15 scholarly publications published between 2021 and 2025. The data were analyzed thematically by categorizing the findings according to the functions of technology in writing instruction. The review identified three major themes. First, Google Docs supports collaborative writing through shared text production and editing, interaction among learners, and engagement in the writing process. Second, artificial intelligence-based technologies, particularly ChatGPT, provide alternative sources of feedback and support for writing revision, although the accuracy and relevance of their outputs still require evaluation and teacher

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guidance. Third, AI-based tools can serve as additional resources for writing assessment; however, differences between human and AI scoring indicate that automated assessment cannot fully replace human judgment. This review concludes that digital platforms serve complementary functions in EFL writing instruction, but their use should be aligned with learning objectives, learner characteristics, and appropriate pedagogical strategies. The limitations of this review include its publication coverage and the predominance of studies focusing on Google Docs and AI-based tools. Future research should explore other digital platforms and investigate the influence of digital literacy, teacher guidance, and technology access on EFL writing instruction.

Keywords: *Artificial Intelligence; Digital Learning; EFL; Literature Review; Writing Skills*

INTRODUCTION

In the context of English language learning, writing is a crucial productive skill that enables learners to express ideas, communicate information, and construct meaning through written language. For EFL (*English as a Foreign Language*) learners, however, writing is often challenging because it requires the simultaneous use of multiple linguistic and cognitive abilities. Learners are expected not only to demonstrate appropriate grammar, vocabulary, and language mechanics but also to organize ideas coherently and develop written texts in accordance with communicative purposes. Difficulties in these interconnected aspects may affect the quality of students' written work and make writing instruction a demanding component of EFL learning.

The development of information and communication technology has expanded the range of environments in which writing can be taught and practiced. Digital learning platforms and web-based applications provide spaces where learners can compose, revise, share, and discuss written texts. Platforms such as Google Docs and other online learning environments have received particular attention because their features can facilitate collaborative writing, interaction, revision, and feedback. Previous studies have examined specific technological tools and their relationship with particular aspects of EFL writing. For example, synchronous collaborative writing using Google Docs has been associated with students' individual writing performance (Alwahoub et al., 2022), while collaborative writing through Google Docs has also been examined in relation to classroom engagement (Hemati & Farahian, 2024) and learner motivation in online writing activities (Shahidan et al., 2022). Other research has explored learners' perceptions and comfort in using Google Docs for synchronous collaborative writing (Khoiriyah, 2021), as well as the linguistic processes involved in e-collaborative writing tasks (Kazemi et al., 2022).

More recent developments have further broadened the technological landscape of EFL writing through artificial intelligence (AI)-assisted writing evaluation and feedback. Studies have investigated the interaction between AI-assisted writing evaluation and students' writing performance (Al Ghaithi & Behforouz, 2025), the potential of ChatGPT to support teacher feedback (Guo & Wang, 2024), and the use of AI-based systems for automated scoring and feedback (Chen et al., 2025; Toscu, 2025). Research has also raised questions regarding the reliability of AI-supported writing assessment, particularly when comparing automated and human scoring or considering the influence of rubrics and writing genres (Taşçı, 2025). These studies demonstrate that technology-supported writing instruction encompasses different functions, including collaboration, engagement, feedback, assessment, and revision.

Nevertheless, the existing literature remains relatively fragmented because many studies concentrate on a particular platform, technological feature, or instructional outcome. Research on Google Docs, for instance, has commonly focused on collaborative writing, learner engagement, motivation, interaction, or specific writing processes (Alwahoub et al., 2022;

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Hemati & Farahian, 2024; Kazemi et al., 2022; Shahidan et al., 2022). Meanwhile, studies on AI-supported writing have primarily examined automated evaluation, feedback, scoring, and the reliability of AI-based assessment systems (Al Ghaithi & Behforouz, 2025; Bucol & Sangkawong, 2025; Chen et al., 2025; Taşçı, 2025; Toscu, 2025). Although these studies provide important evidence concerning particular applications of technology, they do not necessarily offer an integrated understanding of how digital learning platforms can function as broader learning environments for EFL writing instruction.

This fragmentation creates an important research gap. The discussion of technology-supported EFL writing has often been organized around individual tools or specific technological functions rather than around a broader synthesis of the pedagogical roles that digital learning platforms can play throughout the writing process. Consequently, there remains a need to synthesize findings concerning how different digital platforms support key processes in writing instruction, including idea development, drafting, collaboration, revision, feedback, and assessment. In addition, the literature presents different emphases regarding the outcomes of technology-supported writing. Some studies focus on writing performance, whereas others emphasize engagement, motivation, collaboration, learner perceptions, or the reliability of automated feedback and assessment. These differences make it necessary to examine digital learning platforms not simply as tools that automatically improve writing proficiency, but as technological environments whose contribution depends on their features, pedagogical integration, and the ways learners and teachers use them.

The present study contributes to the existing literature by providing a broader literature-based synthesis of the role of digital learning platforms in EFL writing instruction. Unlike studies that focus on a single platform or technological function, this article examines digital learning platforms from multiple pedagogical perspectives, particularly their roles in supporting collaboration, feedback, revision, learner engagement, autonomy, and the development of writing-related competencies. The study also considers the limitations and pedagogical conditions that influence the usefulness of these platforms, thereby avoiding the assumption that the mere availability of technology necessarily results in improved writing ability.

Therefore, this literature review aims to examine how digital learning platforms have been used to support EFL writing instruction and to synthesize their potential pedagogical roles across different stages of the writing process. Specifically, the study seeks to identify: (1) the forms and features of digital platforms used in EFL writing instruction; (2) the aspects of writing and learning processes that these platforms are reported to support; and (3) the pedagogical conditions and challenges that should be considered when integrating digital learning platforms into EFL writing instruction. Through this synthesis, the study is expected to provide a more integrated understanding of the potential contribution and limitations of digital learning platforms as supportive environments for teaching and learning EFL writing.

RESEARCH METHOD

This study employed a systematic literature review to examine the role of digital learning platforms in supporting EFL (*English as a Foreign Language*) writing instruction. Published scholarly literature served as the primary data source, which was systematically identified, selected, and synthesized to develop an integrated understanding of technology-supported EFL writing.

The review covered publications from 2021 to 2025. The initial corpus consisted of 20 scholarly publications selected using keywords related to “EFL writing,” “digital learning platforms,” “technology-enhanced writing,” “collaborative writing,” “Google Docs,” “online

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writing," "AI-assisted writing evaluation," "ChatGPT," "automated writing feedback," and "writing assessment." Sources were included if they addressed EFL/ESL/L2 writing and the use of digital platforms or technology-based tools in writing-related learning processes. Sources focusing primarily on reading strategies, reading comprehension, or reading instruction were excluded.

The selection process involved the identification and screening of 20 publications, followed by the exclusion of five articles that did not directly address writing or technology-supported writing (Al-Ahdal & Alolaywi, 2022; Khellab et al., 2022; Mulatu & Regassa, 2022; Pardede, 2022; Wendaferew & Damtew, 2023). Consequently, 15 articles were retained for full-text review and final analysis. These studies addressed collaborative writing, online learning environments, learner engagement, AI-assisted writing evaluation, feedback, and writing assessment.

The selected articles were analyzed through thematic synthesis. Relevant information was extracted and coded based on the type of technology used, pedagogical features, writing-related learning processes, reported contributions, and identified limitations. Similar findings were then grouped and interpreted into major themes, including collaboration, engagement and motivation, feedback and revision, AI-assisted evaluation, writing assessment, and pedagogical integration of technology.

The review process followed the sequence of identification (n = 20) → screening → exclusion of irrelevant sources (n = 5) → full-text review and thematic analysis (n = 15) → synthesis and interpretation. The analysis focused on identifying how different digital platforms and technological features support EFL writing processes and the pedagogical conditions and limitations associated with their use, rather than assuming that technology automatically improves students' writing proficiency.

RESULTS AND DISCUSSION

Results

The literature synthesis of 15 selected articles identified three major themes: (1) digital platforms for collaborative writing and learner engagement, (2) technology-assisted feedback and writing revision, and (3) digital tools for writing assessment. The findings indicate that different digital platforms serve distinct pedagogical functions and should not be treated as interchangeable tools.

Digital Platforms for Collaborative Writing and Learner Engagement

Google Docs was the most frequently discussed platform in the reviewed literature, particularly in relation to collaborative writing. Alwahoub et al. (2022) examined synchronous collaborative writing and its contribution to students' individual writing performance. Similarly, Shahidan et al. (2022) discussed the role of Google Docs in supporting learner motivation through online collaboration. Hemati and Farahian (2024) examined its contribution to classroom engagement, while Khoiriyah (2021) explored students' perceived comfort when using the platform for synchronous collaborative writing.

Other studies focused on the processes underlying digital collaboration. Chen et al. (2022) investigated student engagement through a social learning analytics tool, while Kazemi et al. (2022) examined written language processes during collaborative writing tasks. Yousefi et al. (2025) also explored Google Docs as a cloud-based collaborative learning environment. Collectively, these studies indicate that collaborative platforms facilitate interaction, shared text production, and opportunities for revision. However, the extent to which these activities contribute to individual writing development depends on learners' participation and instructional guidance.

Technology-Assisted Feedback and Writing Revision

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A second theme concerns the use of artificial intelligence (AI) to support writing feedback and revision. Guo and Wang (2024) examined ChatGPT's potential to support teacher feedback in EFL writing. Al Ghaithi and Behforouz (2025) investigated interactions with AI-assisted writing evaluation and reported that AI feedback could support writing development, although researcher-provided feedback produced better results. Bucol and Sangkawong (2025) also explored ChatGPT as a writing assessment tool.

These studies indicate that AI-based technologies offer opportunities for learners to receive feedback and revise their written work. Nevertheless, automated feedback requires careful evaluation because suggestions generated by AI may not always correspond to the intended meaning, linguistic context, or writing objectives. Therefore, teacher involvement remains important in helping students interpret and apply feedback appropriately.

Digital Tools for Writing Assessment

The third theme concerns the use of digital technologies in writing assessment. Chen et al. (2025) examined ChatGPT-3.5 as an automated scoring system and feedback provider for IELTS writing. Taşçı (2025) investigated the reliability of human and AI scoring by considering the influence of assessment rubrics and writing genres. Toscu (2025) similarly examined the reliability of ChatGPT as an automated writing evaluation tool.

In addition, Polat and Gezmiş (2023) analyzed raters' scoring behaviors, providing a perspective on the challenges of maintaining consistency in writing assessment. These studies indicate that automated assessment can serve as an additional evaluation resource. However, differences between human and AI scoring highlight the importance of appropriate rubrics, genre considerations, and human judgment in determining writing quality.

Synthesis of Previous Studies

The following table presents the synthesis of the 15 selected studies based on their research focus, digital platforms or technologies, methodological approaches, and main findings.

Table 1. Synthesis of Previous Studies on Digital Learning Platforms in EFL Writing Instruction

Authors (Year)	Research Focus/Platform	Method	Main Findings
Alwahoub et al. (2022)	Google Docs; collaborative writing	Quantitative	Examined the contribution of synchronous collaboration to individual writing performance.
Chen et al. (2022)	Social learning analytics; online collaborative writing	Empirical study	Examined student engagement through learning analytics.
Hemati & Farahian (2024)	Google Docs; classroom engagement	Empirical study	Investigated engagement in collaborative writing activities.
Kazemi et al. (2022)	Google Docs; e-collaborative writing	Microgenetic analysis	Examined written language processes in collaborative tasks.
Khoiriyah (2021)	Google Docs; synchronous writing	Empirical study	Explored students' perceived comfort in collaborative writing.
Shahidan et al. (2022)	Google Docs; motivation	Empirical study	Examined motivation in online collaborative writing.

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Yousefi et al. (2025)	Google Docs; collaborative learning	Empirical study	Examined Google Docs as a cloud-based collaborative writing environment.
Al Ghaithi & Behforouz (2025)	AI-assisted writing evaluation	Experimental study	Found that AI feedback supported writing development, although researcher feedback achieved better results.
Bucol & Sangkawong (2025)	ChatGPT; writing assessment	Exploratory study	Explored ChatGPT as a writing assessment tool.
Chen et al. (2025)	ChatGPT-3.5; automated scoring	Empirical study	Examined AI-generated scoring and feedback in IELTS writing.
Guo & Wang (2024)	ChatGPT; teacher feedback	Empirical study	Examined the potential of AI to support teacher feedback in EFL writing.
Taşçı (2025)	Human and AI scoring	Comparative study	Investigated scoring reliability based on rubrics and writing genres.
Toscu (2025)	ChatGPT; automated writing evaluation	Empirical study	Examined the reliability of ChatGPT in writing evaluation.
Li & Zhang (2023)	L2 collaborative writing	Research review	Identified research directions and challenges in collaborative writing.
Polat & Gezmiş (2023)	Writing assessment	Empirical study	Examined variations in raters' scoring behaviors.

Source: Synthesis of the 15 selected publications (2021–2025).

Table 1 demonstrates that previous research has concentrated on three interconnected areas: collaborative writing, AI-assisted feedback, and digital writing assessment. Google Docs is primarily discussed as a collaborative writing environment, whereas ChatGPT and other AI-based tools are examined in relation to feedback and assessment. These differences indicate that the contribution of digital technology depends on its specific features and instructional purposes.

Overall, the reviewed literature suggests that digital learning platforms provide opportunities to support EFL writing instruction through collaboration, feedback, revision, and assessment. However, their contributions are not uniform, and technology use alone does not guarantee improvements in writing proficiency. The findings also emphasize the importance of teacher guidance, appropriate platform selection, and pedagogical integration in maximizing the potential of digital learning environments.

Discussion

Digital Platforms as Collaborative Writing Environments

The findings indicate that digital platforms, particularly Google Docs, play an important role in facilitating collaborative writing in EFL learning. Unlike conventional writing activities that are often completed individually, collaborative writing through Google Docs allows learners to compose, edit, and revise texts together in a shared digital environment. This feature

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creates opportunities for interaction, peer feedback, and shared responsibility throughout the writing process. The studies by Alwahoub et al. (2022), Hemati and Farahian (2024), Khoiriyah (2021), and Yousefi et al. (2025) collectively demonstrate the relevance of Google Docs as a medium for organizing collaborative writing activities.

The contribution of collaborative writing is not limited to the final written product. Interaction during the writing process enables learners to discuss vocabulary, grammar, sentence organization, and content development. Kazemi et al. (2022) examined written languaging in collaborative tasks, highlighting the importance of language-related discussion during digital writing activities. This suggests that the educational value of collaborative platforms also lies in the cognitive and linguistic processes that occur when learners negotiate and revise their texts. Therefore, teachers should not use Google Docs merely as a shared document repository but should design tasks that encourage meaningful discussion and active participation.

The findings also point to the relationship between collaboration, engagement, and motivation. Chen et al. (2022) examined the use of a student-facing social learning analytics tool to promote engagement in online collaborative writing, while Shahidan et al. (2022) investigated motivation in collaborative online writing through Google Docs. Hemati and Farahian (2024) further addressed classroom engagement in Google Docs-based collaborative writing. These studies suggest that digital collaboration can provide opportunities for students to participate more actively in writing activities. However, access to collaborative features does not automatically ensure equal participation. Differences in students' confidence, language proficiency, and willingness to contribute may influence the quality of collaboration. Teachers therefore need to establish clear roles, provide structured writing tasks, and monitor individual contributions.

This interpretation is consistent with Li and Zhang (2023), who identified collaborative writing in L2 classrooms as an area requiring continued research and pedagogical development. Collaborative writing should consequently be understood as an instructional approach rather than simply the use of a particular digital application. Its effectiveness depends on how interaction is organized, how feedback is provided, and how individual learning responsibilities are maintained within group activities.

AI-Assisted Feedback and Writing Revision

The second major finding concerns the use of artificial intelligence to support feedback and writing revision. The reviewed studies indicate that AI-based tools, particularly ChatGPT, have expanded opportunities for students to obtain feedback during the writing process. Guo and Wang (2024) examined the potential of ChatGPT to support teacher feedback in EFL writing, while Al Ghaithi and Behforouz (2025) investigated the effects of interaction with AI-assisted writing evaluation on students' writing performance. Bucol and Sangkawong (2025) also explored the use of ChatGPT as a writing assessment tool.

The potential contribution of AI-assisted feedback lies in providing learners with additional opportunities to identify and reconsider aspects of their writing. Students can use AI-generated suggestions to review language use, improve sentence construction, and reconsider the clarity of their ideas. This may support the revision process, particularly when learners receive feedback while they are still developing their texts. Nevertheless, feedback should not be treated as automatically correct or appropriate. AI-generated responses may overlook contextual meaning, produce unsuitable suggestions, or fail to reflect the specific requirements of an academic writing task.

The relationship between AI feedback and teacher feedback is therefore an important consideration. Guo and Wang (2024) framed the use of ChatGPT in relation to teachers' feedback practices, indicating that the integration of AI raises questions about whether teachers

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should resist or embrace this technology. Rather than positioning AI as a replacement for teachers, its use can be understood as an additional resource within the feedback process. Teachers remain responsible for evaluating the relevance of suggestions, explaining language problems, and helping students develop the ability to make independent revision decisions.

This distinction is also important in relation to students' dependence on automated correction. If learners accept AI-generated revisions without examining the reasons behind them, the technology may encourage surface-level editing rather than deeper engagement with writing. Accordingly, AI-assisted feedback should be accompanied by activities that require students to explain, select, reject, or modify the suggestions they receive. Such activities can help maintain students' responsibility for their own writing and encourage critical evaluation of automated feedback.

Digital Technologies in Writing Assessment

The third theme concerns the use of digital technologies for writing assessment. The studies by Chen et al. (2025), Taşçı (2025), Toscu (2025), and Bucol and Sangkawong (2025) demonstrate the growing research interest in the use of ChatGPT and AI-based systems to evaluate written texts. These studies address the potential of automated tools to provide scores and feedback, as well as questions concerning the reliability of their assessment.

Automated writing evaluation offers practical opportunities for providing feedback and supporting the assessment process. Compared with assessment that depends entirely on teacher evaluation, AI-based tools may provide additional responses that learners can use to review their writing. However, the presence of an automated score does not necessarily mean that the assessment fully represents the quality of a text. Writing involves several dimensions, including organization, content development, coherence, vocabulary, and grammatical accuracy. The extent to which an AI system evaluates these dimensions appropriately needs to be considered in relation to the assessment criteria and writing context.

The role of assessment rubrics is particularly important in this regard. Taşçı (2025) examined the influence of rubrics and genre on the reliability of human and AI scoring. This focus suggests that the consistency of automated assessment should not be considered separately from the criteria used to evaluate writing. Similarly, Chen et al. (2025) investigated ChatGPT-3.5 as an automatic scoring system and feedback provider in IELTS examinations, while Toscu (2025) examined the reliability of ChatGPT as an automated writing evaluation tool. These studies place reliability at the center of discussions about AI-based assessment.

Furthermore, Polat and Gezmiş (2023) examined raters' scoring behaviors, emphasizing that writing assessment also involves judgment and interpretation by human evaluators. This provides an important comparison for understanding automated assessment. Human scoring may involve differences in interpretation, whereas AI scoring may produce limitations related to system-generated judgments and the criteria embedded in the evaluation process. Consequently, the use of AI in writing assessment is more appropriate as a complementary resource than as the sole basis for determining students' writing achievement. Teachers should retain responsibility for reviewing scores, interpreting feedback, and making final assessment decisions.

The Relationship Between Digital Writing and Broader Literacy Skills

Although the main focus of this review is digital technology in EFL writing instruction, reading-related studies provide a broader perspective on the literacy skills that support written communication. Reading and writing are distinct language skills, but they are connected through vocabulary development, comprehension, organization of ideas, and the use of language. Al-Ahdal and Alolaywi (2022), Khellab et al. (2022), Mulatu and Regassa (2022),

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Pardede (2022), and Wendaferew and Damtew (2023) discussed reading strategies, reading comprehension, and instructional practices for developing reading skills in EFL contexts.

These studies do not directly evaluate digital writing platforms. Nevertheless, they provide relevant context for understanding the broader literacy demands involved in writing instruction. Students who have difficulty comprehending texts or identifying relevant information may also encounter challenges when developing arguments, organizing ideas, and supporting written statements. Reading strategies can therefore complement writing instruction, particularly when students are required to respond to texts, summarize information, or develop evidence-based arguments.

The connection between reading and writing should not, however, be interpreted as evidence that improvements in reading automatically lead to improvements in writing. The two skills require different instructional practices and assessment criteria. Reading instruction needs to develop comprehension and strategic text processing, whereas writing instruction requires learners to produce, organize, and revise written language. The integration of reading strategies into digital writing activities should therefore be intentional and aligned with the learning objectives.

Implementation Challenges and Pedagogical Implications

Despite the opportunities offered by digital platforms and AI-based tools, their integration into EFL writing instruction also presents several challenges. The first concerns access to technology and internet connectivity. Collaborative writing platforms and AI-based applications depend on access to suitable devices and stable internet connections. Unequal access may result in differences in students' opportunities to participate in digital activities. Consequently, teachers and educational institutions need to consider infrastructure availability before making digital platforms a central component of writing instruction.

The second challenge relates to teachers' and students' digital competence. Familiarity with an application does not necessarily mean that users can employ its features effectively for learning. Students need guidance on how to collaborate, provide constructive feedback, manage document revisions, and evaluate AI-generated suggestions. Teachers, meanwhile, need sufficient digital and pedagogical competence to select appropriate tools, organize activities, and monitor the quality of students' work. Without such preparation, digital technology may be used primarily for submitting assignments rather than supporting meaningful learning processes.

The third challenge concerns academic responsibility and students' dependence on automated assistance. AI-based tools can make feedback and revision more accessible, but excessive reliance may reduce opportunities for learners to develop their own language awareness and editing skills. To address this issue, teachers can require students to document their revision decisions, explain the changes they make, and compare their original texts with revised versions. Such practices allow technology to support learning while preserving students' active involvement in the writing process.

Taken together, the findings suggest that digital platforms should be selected according to their pedagogical functions. Google Docs is particularly relevant for collaborative composition, peer interaction, and shared revision, whereas AI-based tools are more closely associated with feedback generation and writing evaluation. These technologies may complement one another, but they should not be treated as interchangeable. Their integration needs to be guided by clear learning objectives, appropriate assessment criteria, teacher supervision, and students' active participation.

Limitations and Directions for Future Research

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This review has several limitations. First, the reviewed publications cover different technologies, research purposes, learning contexts, and assessment approaches. These differences limit the possibility of making direct comparisons across all studies. Second, the literature on collaborative writing and AI-assisted assessment addresses different stages of the writing process, meaning that their contributions cannot be evaluated using identical criteria. Third, the reading-focused publications included in the reference list provide contextual support for broader literacy development but do not constitute direct evidence of the effectiveness of digital writing platforms.

Future research should investigate how collaborative platforms and AI-assisted tools can be integrated within a single instructional framework. Further studies could also examine whether the use of digital tools contributes to sustained improvements in students' independent writing performance, rather than only improving the quality of texts produced with technological assistance. In addition, research should consider the influence of internet access, digital competence, teacher guidance, and students' critical evaluation of AI-generated feedback. These issues are important for determining not only whether digital technologies can support EFL writing instruction, but also under what conditions their use produces meaningful learning outcomes.

CONCLUSION

This literature review identifies three major contributions of digital technologies to EFL writing instruction: collaborative writing, technology-assisted feedback and revision, and writing assessment. Among the platforms examined, Google Docs is particularly relevant to collaborative writing because its shared-document features allow students to compose, edit, and revise texts collaboratively. The reviewed studies also associate its use with learner engagement, motivation, and opportunities for interaction during the writing process. Meanwhile, AI-based tools, particularly ChatGPT, provide additional support through automated feedback, suggestions for revision, and writing evaluation. However, their usefulness depends on the accuracy and relevance of the generated feedback, while differences between human and AI scoring indicate that automated assessment should not be treated as a complete substitute for human judgment.

These findings suggest that digital technologies serve different but complementary functions in EFL writing instruction. Collaborative platforms primarily support interaction and shared text development, whereas AI-based tools facilitate feedback and provide additional assessment resources. Their integration should therefore be guided by specific learning objectives, appropriate instructional strategies, and teacher supervision. Students also need to develop the ability to evaluate digital feedback critically rather than accept automated suggestions without considering their accuracy and suitability.

This review has several limitations. It covers 15 selected publications from 2021 to 2025, and the reviewed literature is predominantly concerned with Google Docs and AI-assisted writing tools. Consequently, the findings do not represent all digital platforms used in EFL writing instruction. Differences in research contexts, approaches, and assessment measures also limit the extent to which findings can be directly compared. Future research should examine a wider range of digital platforms, investigate how specific technological features support different dimensions of writing competence, and compare the effectiveness of human and AI-generated feedback across writing genres and proficiency levels. Further empirical studies are also needed to explore the influence of teacher guidance, students' digital literacy, and access to technological infrastructure on the implementation of digital writing environments.

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