

Integration of Technology in EFL Writing Instruction: A Systematic Review of Insights from SIELE Journal Articles

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Abstract: This systematic review examines the integration of technology in English as a Foreign Language (EFL) writing instruction, focusing on articles published in the SIELE Journal from 2019 to 2024. Utilizing the PRISMA methodology, the study synthesizes findings on the effectiveness of digital tools in enhancing EFL writing skills. The analysis indicates that technology significantly boosts student engagement, writing proficiency, and the quality of feedback provided to learners, making the learning process more interactive and conducive to writing development. However, several challenges impede the full potential of technology integration, such as varying levels of digital literacy among students and educators, inconsistent access to technology and internet, and the need for comprehensive teacher training programs. Addressing these issues is crucial for maximizing the benefits of technology in EFL writing instruction. By overcoming these barriers, educators can better leverage digital tools to improve educational outcomes, equipping students with essential skills for success in an increasingly digital world. This research underscores the transformative role of technology in modern education.

Keywords: EFL Writing, Systematic Review, Technology Integration

A. Introduction

In English as a Foreign Language (EFL) education, writing skills are crucial, serving as an important foundation for both academic success and professional growth. The ability to write competently allows students to effectively express their ideas, which is vital for achieving academic milestones and advancing in their careers (Hyland, 2019). In the current digital era, the role of technology in education has expanded significantly, introducing innovative tools and methods to enhance learning experiences. Integrating technology into EFL writing instruction provides a promising solution to the persistent challenges in achieving high levels of writing proficiency. Modern technological advancements offer various platforms and tools that support and enhance the writing process for EFL students (Chun, Kern, & Smith, 2016).

Emerging models of technological integration, such as digital writing platforms,

demonstrate substantial potential for enhancing students' writing abilities by engaging them in practical projects that foster deep understanding (Zhang, Zou, & Wang, 2021). However, technology-enhanced learning environments face challenges, including delayed feedback (Paudel, 2020) and the perceived complexity of these tools (Kumarasamy et al., 2020; McGuinness & Fulton, 2019). Numerous studies have explored the use of technology in ESL, EFL, and ESP settings, focusing on its impact on various language skills, particularly writing (Ghazizadeh & Fatemipour, 2017; Othman et al., 2019; Almansour & Al-Ahdal, 2020; Rafiq et al., 2020). Writing remains a crucial skill for EFL learners, essential for academic and professional success, especially given English's prominence in scientific communication (Alkhuzaee et al., 2019). EFL students are expected to articulate arguments and develop ideas effectively in academic writing, a key determinant of their academic success (Fareed et al., 2016; Byrne, 2020). The 2018 PISA report highlighted Indonesian students' significantly lower reading and writing scores compared to international peers, underscoring the urgent need for improved educational strategies (OECD, 2019). In a globalized world, proficiency in English writing is vital for academic and professional growth, yet many students continue to struggle with achieving high levels of writing proficiency (Teng, 2019; Mellati & Khademi, 2018).

To provide a comprehensive understanding of these issues, the study focuses on articles from the last five years. This timeframe is chosen not only for its relevance and timeliness but also due to the rapid advancements in educational technology, which have particularly influenced EFL writing instruction. The last five years have seen unprecedented growth in the use of technologies such as AI-based writing assistants, online collaborative tools, and digital classrooms. These tools have significantly transformed traditional teaching and learning methods, making it essential to study their implications and effectiveness.

Based on the review by Haleem et al. (2022), the past few years have witnessed a paradigm shift in education, with digital tools becoming integral to teaching methodologies, particularly in language learning." This period has been characterized by the development and widespread adoption of innovative educational technologies, underscoring the importance of understanding their implications and effectiveness. Furthermore, as emphasized by Yadav (2024), "the rapid evolution of educational technology necessitates continuous research to keep up with new developments and assess their impact on learning outcomes." This assertion highlights the critical need for ongoing studies to evaluate the effects of new technologies on educational practices and student performance. It underscores the importance of understanding and adapting to these advancements to maximize their potential benefits in educational settings." Similarly, Danca et al. (2023) state, the incorporation of digital tools in education over the past five years has not only enhanced accessibility and engagement but also provided new ways to assess and improve student learning.

Moreover, this review exclusively selects articles from the SIELE journal, a Q1-indexed publication renowned for its rigorous peer-reviewed research in language education and applied linguistics. The Q1 status of SIELE indicates that it is a leading source of high-quality research, making it a primary reference at the global level in its field. This selection ensures that the articles reviewed are not only of high academic standard but also highly relevant to the study's objectives. The focus on SIELE allows for a coherent and specialized analysis, providing valuable insights for stakeholders such as curriculum developers, educators, and policymakers. The journal's international scope also ensures that the findings are applicable across diverse educational contexts, offering a global perspective on the integration of technology in EFL writing instruction.

By focusing on recent literature, this review aims to capture the most current and relevant trends and innovations in EFL writing instruction. Analyzing studies from the past five years allows for a comprehensive understanding of how contemporary technological advancements are shaping the teaching and learning of EFL writing, addressing both opportunities and challenges. This approach ensures that the study's findings and recommendations are aligned with the latest technological and pedagogical developments, offering valuable insights for educators, curriculum developers, and policymakers.

This systematic review aims to address the latest trends and research in new models of technology integration in EFL writing instruction, focusing on two primary research questions:

1. How do technological tools assist students in enhancing their writing skills?
2. What challenges are associated with integrating technology into EFL writing instruction?

B. Methods

A Systematic Literature Review (SLR) is a term used in specific research methodologies aimed at collecting and evaluating studies related to a specific topic focus (Putra & Milenia, 2021; Triandini et al., 2019). According to Briner & Denyer (2012), a systematic literature review is a method consistent with recent impactful reviews, structured to answer predetermined research questions through a structured synthesis (Hardy et al., 2020). The goal of this method is to gather as many relevant previous studies or research as possible related to the research topic (Salim Al Idrus, 2019; Arviansyah, 2020; Hardy et al., 2020; Sunarsi et al., 2020). The SLR method is used to identify, review, evaluate, and interpret all available research on a specific phenomenon of interest, with particular research questions relevant to the topic (Triandini et al., 2019). The use of the SLR method allows for a systematic review and identification of journals, with each process following established steps or protocols (Triandini et al., 2019). SLR research is conducted for various purposes, including

identifying, reviewing, evaluating, and interpreting all available research on a specific phenomenon of interest, with relevant specific research questions.

The inclusion criteria encompass peer-reviewed journal articles, systematic reviews, meta-analyses, empirical research studies, and theoretical or conceptual papers. Conversely, the exclusion criteria eliminate conference papers, dissertations, theses, non-peer-reviewed articles, editorials, opinion pieces, and book reviews to maintain a high standard of evidence. Articles not written in English or published before 2019 are excluded to ensure language consistency and current relevance. Studies that do not focus specifically on EFL writing, those that investigate non-technological interventions, or that focus on other language skills such as speaking, listening, or reading are excluded. Additionally, studies that lack a clear methodological approach, provide insufficient data, or have poorly defined results are excluded. Finally, articles that do not directly address the research questions or do not offer significant insights into the integration of technology in EFL writing instruction are omitted from the review.

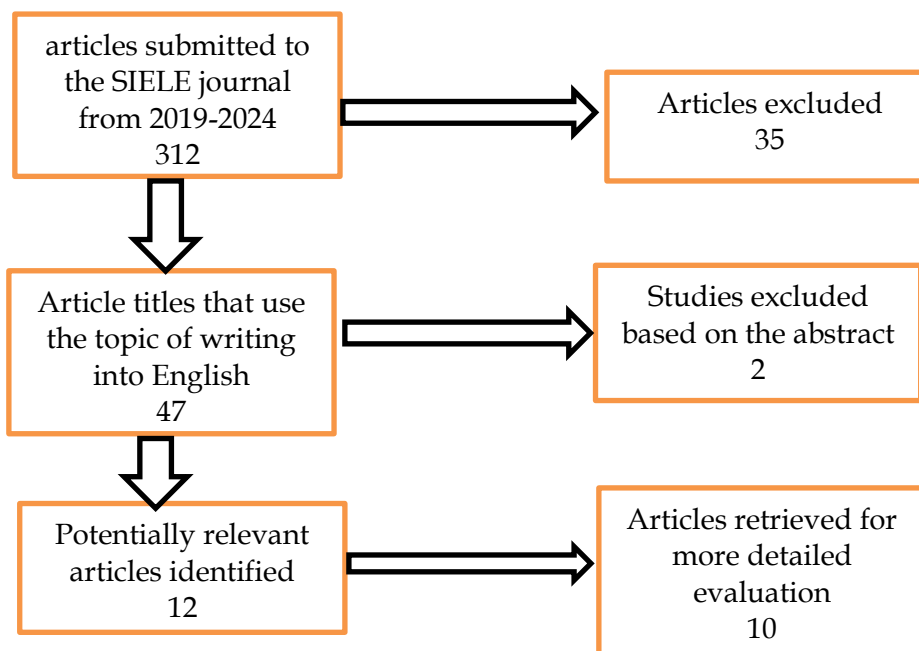


Figure 1. Literature Selection Process

Table 1. Keyword Search

No	Keyword search	Number of Articles
1.	"Limit to Articles in SIELE Journal	312
2.	Limit to the Article and Restrict to "Integration of Technology" AND "EFL Writing	47
2.	"Screen Manually for Relevance"	12
3.	Manually Screened	10

Table 2. Inclusion and Exclusion criteria

Inclusion Criteria
Articles written in English.
Articles published between 2019 and 2024 in Journal SIELE
Studies focusing specifically on the integration of technology in English as a Foreign Language (EFL) writing instruction.
Concerning the role of technology in enhancing EFL writing skills.
Exclusion Criteria
Articles not written in English.
Articles published before 2019.
Articles irrelevant to the scope of the review
Duplicate papers
Conference Proceedings

Based on the explanation above, the initial process of literature search revealed 47 articles discussing the topic of writing within the last five years in the SIELE Journal. The first selection process involved screening the article titles and abstracts, which allowed the researchers to exclude 47 journal articles due to their irrelevance and failure to meet the inclusion criteria. Consequently, 12 journal articles were identified as having potential for comprehensive analysis. Each of the 12 articles was then re-evaluated by the authors according to the inclusion criteria. The second selection process focused on the research objective, specifically the integration of technology in English as a Foreign Language (EFL) writing instruction, as well as the sectors of interest to the authors. This resulted in 10 journal articles meeting the inclusion criteria.

C. Results and Discussion

General Findings and Background of the study

The use of the PRISMA methodology facilitates the selection and categorization of articles into broader themes. The diagram effectively outlines the steps of identifying and screening the literature based on set criteria, including eligibility, inclusion, and exclusion factors, relevant to the review's focus. A systematic review employs a methodical approach to evaluating the existing literature, aiming to minimize biases that may arise from purely narrative analysis (Pittaway et al., 2004).

The review conducted in this paper demonstrates that the incorporation of technology into English as a Foreign Language (EFL) writing instruction has received considerable attention in recent years, particularly as educators adapt to new educational paradigms. This systematic review, employing the PRISMA methodology, synthesizes insights from articles published in the SIELE Journal from 2019 to 2024.

The selected articles were thoroughly analyzed, and key information was extracted, including: (1) author(s) and year of publication, (2) title, (3) sample country, (4) methodology, and (5) main findings reported. The literature was then coded and categorized into two research clusters for an in-depth analysis using a predatory reading approach. The identified research clusters are: (1) The Function of Technological Tools in Enhancing Writing Skills, and (2) Challenges in Implementing Digital Tools for EFL Writing Instruction. Table 1 details the process and results of the keyword search conducted for this systematic review. It indicates the number of articles identified at various stages of the selection process based on specific keywords. Initially, a broad search limit in the SIELE Journal resulted in 312 articles. A more focused search with the keywords "Integration of Technology" and "EFL Writing" narrowed this to 47 articles. Further manual screening based on relevance reduced the count to 12 potentially relevant articles. After a comprehensive evaluation, 10 articles were ultimately selected for detailed analysis.

Table 2 details the inclusion and exclusion criteria used in this review. The inclusion criteria specified that articles must be written in English and published between 2019 and 2024 in the SIELE Journal. Additionally, the studies had to specifically address the integration of technology in English as a Foreign Language (EFL) writing instruction, with a focus on the role of technology in enhancing EFL writing skills. In contrast, the exclusion criteria eliminated articles not written in English, those published before 2019, articles that did not fall within the review's scope, duplicate publications, and conference proceedings. These criteria ensured the selection of high-quality, relevant studies for a comprehensive and focused analysis.

The Function of Technological Tools in Enhancing Writing Skills

The integration of technological tools in English as a Foreign Language (EFL) writing instruction has significantly enhanced students' writing skills. A systematic review of relevant literature reveals a variety of approaches and tools that offer both pedagogical and motivational benefits. For instance, studies by Krishnapatria, Kurniati, and Saefullah (2019) have shown that tools like Google Maps can make learning more interactive and engaging. By enabling students to visualize and recount their experiences, these tools increase motivation and engagement, making writing tasks more enjoyable and relatable. Similarly, Rahmi et al. (2024) found that AI-generated writing assistants not only improve students' lexical diversity and

grammatical accuracy but also further engage them in the writing process through personalized feedback.

Moreover, digital platforms facilitating collaborative writing have been emphasized as crucial for enhancing writing skills. Sundari and Febriyanti (2023) noted that collective scaffolding within virtual collaborative writing environments enables students to jointly construct texts, while also cultivating social and communication skills. This method of collaboration not only improves individual writing capabilities but also promotes a sense of community and shared learning among students.

The adoption of flipped classrooms and the use of authentic materials have proven effective in enhancing writing skills. For example, Muluk, Zainuddin, and Dahliana (2022) reported that students in a flipped classroom setting showed significant improvement in their IELTS writing scores compared to those in traditional methods. The flexibility and independence offered by such models allow students to engage with content at their own pace, leading to a better understanding and application of writing principles.

Furthermore, digital tools such as Muslem et al. (2024) found that weblogs offering online multimodal feedback effectively improve students' writing skills by delivering prompt and constructive feedback. These tools support the continuous development of writing skills, encourage reflection, and foster deeper engagement with the writing process. Together, these studies illustrate the multifaceted benefits of integrating technological tools into EFL writing instruction, enhancing both the learning experience and students' proficiency.

Table 3. The Function of Technological Tools in Enhancing Writing Skills

Author(s) (Year)	Title	Sample	Methodology	Findings
Cluster 1: The Function of Technological Tools in Enhancing Writing Skills				
Krishnapatria, K., Kurniati, N. I., & Saefullah, H. (2019)	Engaging Students in Writing Recount Text through Google Maps	Six students from the 10th grade and one teacher from a high school in Karawang, Indonesia.	This study used a descriptive qualitative approach, involving observation, interviews, and documentation analysis.	The findings indicated that using Google Maps helped students to better visualize and remember their experiences, thereby enhancing their engagement and motivation in writing. Students responded positively to the activity, expressing that it made learning English more interactive and enjoyable. The use of Google Maps facilitated a new and exciting learning experience, enabling students to create recount texts based on their visits to specific locations. The activity was found to be effective in improving students' writing skills, as they were able to integrate visual and written information seamlessly. Overall, the implementation of Google Maps in English language teaching showed potential benefits for improving students' writing skills and engagement
Muluk, S., Zainuddin, Z., & Dahliana, S. (2022).	Flipping an IELTS Writing Course: Investigating its impacts on students' performance and attitudes.	25 participants from various professional backgrounds, intending to pursue master's and doctoral degrees.	Mixed-method approach	Participants in the flipped classroom (FC) group showed significant improvement in IELTS writing scores compared to the control group. Positive attitudes towards the FC method were reported, highlighting method flexibility, independent learning, collaborative and active learning, and better writing results.
Sundari, H., & Febriyanti, R. H. (2023)	Collective Scaffolding in Virtual Collaborative Writing: A Study during Emergency Remote Teaching in Indonesia	43 EFL university students participated in the study during an academic writing course.	a qualitative case study design	The study found that collective scaffolding occurred during virtual collaborative writing, helping students co-construct texts and improve their L2 writing skills. Students experienced mutual support, shared ideas, and developed social and communication skills. Teacher assistance remained crucial throughout the process. However, some students faced challenges such as technological constraints and group dynamics, impacting their collaborative experience and writing task outcomes. The overall response to collaborative writing was positive, but not all students found it effective, highlighting the complexities of group work in virtual environments.

Zulaiha, D., & Triana, Y. (2023).	Students' Perception toward the Use of Open Educational Resources to Improve Writing Skills	270 EFL (English as a Foreign Language) students from Universitas Islam Negeri Raden Mas Said Surakarta, Indonesia, aged 18-22 years.	a quantitative approach with a descriptive survey design	The majority of students had positive perceptions of using OER to improve their writing skills, with particular emphasis on motivation, quality of learning, and course quality. Factors influencing students' perceptions included gender, type of writing activity, type of learning delivery, teaching effectiveness, and the cost of education.
Saragih, E., Zein, T. T., & Sumbayak, D. M. (2023).	Contextualizing Corrective Feedback in Scientific Writing through Online Learning Platforms.	53 English lecturers (28 females and 25 males) from ten universities in five cities across Indonesia. The sample included lecturers with varying years of work experience: under 5 years (9.4%), 5-10 years (43.4%), 11-15 years (16%), 15-20 years (11.3%), and more than 20 years (18.9%).	a qualitative descriptive research method with a survey design	Perceptions: Lecturers generally preferred providing both oral and written feedback, with a higher inclination towards written feedback during the online learning period. Commonly used platforms included WhatsApp, Microsoft Word, and Telegram. Practices: Lecturers focused on correcting incorrect ideas, improving the logic of writing, and providing constructive feedback. They often corrected content, writing logic, grammar, and adherence to thesis guidelines. Self-Evaluation: Most lecturers rated their feedback provision as "very good" to "excellent." They noted challenges such as time constraints in thoroughly reviewing students' work.
Rahmi, R., Amalina, Z., Andriansyah, & Rodgers, A. (2024).	Does it Really Help? Exploring the Impact of AI-Generated Writing Assistant on the Students' English Writing.	Four seventh-semester EFL students (2 males and 2 females) from the undergraduate English Education program at two universities in Banda Aceh, Indonesia.	Descriptive qualitative method	Lexical Diversity: The AI-generated writing assistant significantly improved the students' lexical diversity, indicating better vocabulary use and sentence fluency. Grammatical Accuracy: The AI tool helped correct grammatical errors and enhanced text cohesion and coherence. Content Density and Expression: While the AI assistant improved language accuracy, it sometimes failed to convey the students' intended message accurately. There were instances where content was lost or misrepresented, and the AI-generated texts occasionally included unrelated ideas.
Inderawati, R., Eryansyah, Vianty, M., Zuraida, Hayati,	Exploring Collaborative Scriptwriting and Virtual Drama Performance:	18 graduate school students enrolled in the Appreciation and Literature Teaching course	a qualitative design approach	The process of collaborative drama scriptwriting highlighted students' active involvement in creative collaboration, critical thinking, and communication. The use of the university's Learning Management

R., Muthmainnah, & Putri, E. (2024).	Enhancing English Language Education through Technology Integration.	at a state university in Indonesia.		System (LMS) facilitated dialogues, research, and preparation for the virtual drama performance. Despite facing continuity issues and technical constraints, students demonstrated resilience and adaptability, successfully completing rehearsals and the final virtual performance. The integration of technology, such as Zoom and Canva, along with cultural sensitivity in the content, enriched the educational experience and emphasized communication, collaboration, critical thinking, and creativity.
Nurisma, R. A., Rohmana, W. I. M., Widyaningsih, T. L., & Cahyono, B. Y. (2024).	Implementing Double- Entry Journal Assisted with Instagram to Foster Engagement in EFL Writing.	42 undergraduate students from the English Department of a state university in Indonesia, equally divided between males and females.	Mixed-method design	Behavioral Engagement: Students actively participated in classroom and online activities, fulfilling assignments and engaging in discussions. Cognitive Engagement: Students showed high levels of engagement, particularly in brainstorming, gathering information, and revising their writing. Affective Engagement: Students had positive emotional responses, enjoying the use of Instagram for sharing their work and interacting with peers.
Muslem, A., Marhaban, S., Gani, S. A., Hamdalah, S., Amalia, D., & Hankinson, E. (2024)	The Contribution of Online Multimodal Feedback-Based Weblogs toward Students' Writing Skills Enhancement.	50 university students from the Department of English Education at Universitas Syiah Kuala, Banda Aceh, Indonesia.	a quantitative, quasi- experimental design	Improvement in Writing Skills: Students in the experimental group showed significant improvement in their writing skills, as indicated by higher post-test scores compared to the control group. Positive Student Perception: The majority of students in the experimental group responded positively to the use of online multimodal feedback-based weblogs, indicating enhanced motivation and engagement in writing activities.
Ariani, F., Kustati, M., Reflianto, Yanti, N., & Wandu, J. I. (2024).	The Effect of Flipped Digital Classroom and Student Engagement on English Writing Skills.	99 second-semester students from the Economic Faculty at Universitas Sumatera Barat Pariaman, Indonesia.	a quasi- experimental 2x3 factorial pretest- post-test non- equivalent group design	Writing Skills: Students in the FDC group showed a significant improvement in English writing scores compared to the control group. The study reported an average increase of 18 points in writing skills for FDC students. Student Engagement: The study found a significant relationship between the FDC method and student engagement, with high levels of engagement leading to better writing skills.

In conclusion, the comprehensive analysis presented in the table illustrates the diverse and impactful ways technological tools enhance EFL writing skills. The findings from various studies underscore the importance of integrating digital platforms, collaborative environments, and innovative instructional models to foster improved student engagement, motivation, and writing proficiency. These insights not only highlight the benefits of technology in language learning but also pave the way for future research to explore and refine these educational tools and methodologies. The successful implementation of these technologies in EFL contexts demonstrates their potential to transform writing instruction and contribute significantly to academic and professional development.

Challenges in Implementing Digital Tools for EFL Writing Instruction

The integration of digital tools in English as a Foreign Language (EFL) writing instruction offers numerous benefits but also presents a range of challenges that must be navigated to optimize their effectiveness. A systematic review of relevant studies highlights several key challenges encountered during implementation.

Technological constraints are a primary challenge. For instance, Sundari and Febriyanti (2023) noted that students often faced issues with access to necessary technology and stable internet connections, which hindered full participation in virtual collaborative writing activities. Similarly, Inderawati et al. (2024) observed that technical issues, such as poor lighting, lack of high-definition cameras, and difficulties with virtual backgrounds, adversely affected the quality of virtual drama performances.

Another significant challenge is digital literacy and familiarity. The varying levels of digital literacy among students and educators impact the effective use of these tools. Krishnapatria, Kurniati, and Saefullah (2019) found that differences in familiarity with digital tools, such as Google Maps, affected the success of using these tools in writing tasks. Additionally, Muslem et al. (2024) reported that some students struggled with navigating online platforms, potentially hindering their learning experience.

Group dynamics in collaborative environments also pose a challenge. Sundari and Febriyanti (2023) highlighted that managing group dynamics and technological constraints can significantly impact the success of collaborative writing projects. These challenges include ensuring equitable participation and managing interpersonal conflicts, which can affect the overall learning experience.

The shift to online learning environments has introduced challenges related to time management and engagement. Lestari, Setyowati, and Sukmawan (2021) noted that students experienced difficulties adjusting to the abrupt transition to hybrid learning, which affected their motivation and participation. Similarly, Ariani et al. (2024)

emphasized the difficulty of maintaining consistent engagement across different student levels in flipped classroom settings.

Concerns about content and feedback quality have arisen, particularly regarding the reliance on AI tools for writing assistance. Rahmi et al. (2024) highlighted instances where AI-generated feedback failed to accurately convey the intended message or provide nuanced understanding, potentially leading to an over-reliance on technology and a reduction in critical thinking skills.

Finally, cost and resource allocation are significant considerations. The effective implementation of digital tools requires adequate resources, including financial investment in technology and infrastructure. Saragih, Zein, and Sumbayak (2023) pointed out the need for proper digital infrastructure and the challenges related to allocating sufficient time for thorough feedback, especially in online learning contexts.

Overall, addressing these challenges requires a comprehensive approach that includes enhancing digital literacy, ensuring equitable access to technology, and fostering effective group dynamics. Additionally, careful consideration of the limitations of AI tools and adequate resource allocation are crucial for maximizing the benefits of digital learning environment.

Table 4. Challenges in Implementing Digital Tools for EFL Writing Instruction

Author(s) (Year)	Title	Findings	Challenges
Challenges in Implementing Digital Tools for EFL Writing Instruction			
Sundari, H., & Febriyanti, R. H. (2023)	Collective Scaffolding in Virtual Collaborative Writing: A Study during Emergency Remote Teaching in Indonesia	The study found that collective scaffolding occurred during virtual collaborative writing, helping students co-construct texts and improve their L2 writing skills. Students experienced mutual support, shared ideas, and developed social and communication skills. Teacher assistance remained crucial throughout the process. However, some students faced challenges such as technological constraints and group dynamics, impacting their collaborative experience and writing task outcomes. The overall response to collaborative writing was positive, but not all students found it effective, highlighting the complexities of group work in virtual environments.	The study highlighted the benefits and challenges of virtual collaborative writing in an EFL context, emphasizing the importance of teacher support and the potential of technology in facilitating writing skills development. However, group dynamics and technological limitations posed challenges that affected the overall effectiveness of the collaborative writing experience.
Krishnapatria, K., Kurniati, N. I., & Saefullah, H. (2019)	Engaging Students in Writing Recount Text through Google Maps	The findings indicated that using Google Maps helped students to better visualize and remember their experiences, thereby enhancing their engagement and motivation in writing. Students responded positively to the activity, expressing that it made learning English more interactive and enjoyable. The use of Google Maps facilitated a new and exciting learning experience, enabling students to create recount texts based on their visits to specific locations. The activity was found to be effective in improving students' writing skills, as they were able to integrate visual and written information seamlessly.	Varying levels of familiarity with the technology and potential technical issues

Muluk, S., Zainuddin, Z., & Dahliana, S. (2022).	Flipping an IELTS Writing Course: Investigating its impacts on students' performance and attitudes.	Participants in the flipped classroom (FC) group showed significant improvement in IELTS writing scores compared to the control group. Positive attitudes towards the FC method were reported, highlighting method flexibility, independent learning, collaborative and active learning, and better writing results.	The study noted issues related to time management for participants who were also full-time employees. The FC method helped address these challenges by allowing participants to engage with learning materials at their own pace, outside of classroom hours.
Zulaiha, D., & Triana, Y. (2023).	Students' Perception toward the Use of Open Educational Resources to Improve Writing Skills	The majority of students had positive perceptions of using OER to improve their writing skills, with particular emphasis on motivation, quality of learning, and course quality. Factors influencing students' perceptions included gender, type of writing activity, type of learning delivery, teaching effectiveness, and the cost of education.	Challenges included varying perceptions based on gender and the effectiveness of different types of learning delivery methods. The study also highlighted the need for effective integration of OER with teaching strategies to maximize benefits.
Saragih, E., Zein, T. T., & Sumbayak, D. M. (2023).	Contextualizing Corrective Feedback in Scientific Writing through Online Learning Platforms.	Perceptions: Lecturers generally preferred providing both oral and written feedback, with a higher inclination towards written feedback during the online learning period. Commonly used platforms included WhatsApp, Microsoft Word, and Telegram. Practices: Lecturers focused on correcting incorrect ideas, improving the logic of writing, and providing constructive feedback. They often corrected content, writing logic, grammar, and adherence to thesis guidelines. Self-Evaluation: Most lecturers rated their feedback provision as "very good" to "excellent." They noted challenges such as time constraints in thoroughly reviewing students' work.	Limited time for providing comprehensive feedback due to teaching responsibilities and the need for improving the quality of feedback provision. Lecturers highlighted the necessity of allocating more time for thorough reviews and better understanding institutional guidelines for scientific writing.
Rahmi, R., Amalina, Z., & Andriansyah, &	Does it Really Help? Exploring the Impact of AI-Generated Writing	Lexical Diversity: The AI-generated writing assistant significantly improved the students' lexical diversity,	Lack of Content Density: AI-generated texts sometimes did not fully capture the students'

Rodgers, A. (2024).	Assistant on the Students' English Writing.	<p>indicating better vocabulary use and sentence fluency.</p> <p>Grammatical Accuracy: The AI tool helped correct grammatical errors and enhanced text cohesion and coherence.</p> <p>Content Density and Expression: While the AI assistant improved language accuracy, it sometimes failed to convey the students' intended message accurately. There were instances where content was lost or misrepresented, and the AI-generated texts occasionally included unrelated ideas.</p>	<p>intended meaning, leading to a loss of nuance and depth.</p> <p>Over-reliance on AI: There is a concern that reliance on AI tools may diminish students' critical thinking and creativity in writing.</p> <p>Misinterpretation of Ideas: The AI assistant occasionally misunderstood the context or intent behind certain words or phrases, leading to inaccurate representations.</p> <p>The study highlights the need for balancing the use of AI tools with traditional learning methods and emphasizes the importance of teacher guidance in ensuring students understand the limitations and strengths of such technology.</p>
Inderawati, R., Eryansyah, Vianty, M., Zuraida, Hayati, R., Muthmainnah, & Putri, E. (2024).	Exploring Collaborative Scriptwriting and Virtual Drama Performance: Enhancing English Language Education through Technology Integration.	<p>The process of collaborative drama scriptwriting highlighted students' active involvement in creative collaboration, critical thinking, and communication.</p> <p>The use of the university's Learning Management System (LMS) facilitated dialogues, research, and preparation for the virtual drama performance.</p> <p>Despite facing continuity issues and technical constraints, students demonstrated resilience and adaptability, successfully completing rehearsals and the final virtual performance.</p> <p>The integration of technology, such as Zoom and Canva, along with cultural sensitivity in the content, enriched the educational experience and emphasized communication, collaboration, critical thinking, and creativity.</p>	<p>Technical Issues: Poor lighting, lack of HD cameras, and challenges with virtual backgrounds were noted. Some students faced issues with equipment, requiring additional purchases like ring lights or cameras.</p> <p>Virtual Performance Limitations: Physical interaction in virtual settings was limited, posing difficulties for action scenes. The need for multitasking skills in scriptwriting and performance adaptation was emphasized.</p> <p>Continuity in Script: Maintaining narrative coherence when different individuals wrote various scenes was challenging. Effective communication and collaboration were necessary to ensure a seamless story flow.</p>
Nurisma, R. A., Rohmana, W. I. M.,	Implementing Double-Entry Journal Assisted with Instagram to Foster	<p>Behavioral Engagement: Students actively participated in classroom and online activities, fulfilling assignments and engaging in discussions.</p>	<p>Behavioral Challenges: Some students showed low interest in online discussions and had difficulty completing tasks on time.</p>

Widyaningsih, T. L., & Cahyono, B. Y. (2024).	Engagement in EFL Writing.	<p>Cognitive Engagement: Students showed high levels of engagement, particularly in brainstorming, gathering information, and revising their writing.</p> <p>Affective Engagement: Students had positive emotional responses, enjoying the use of Instagram for sharing their work and interacting with peers.</p>	<p>Cognitive Challenges: Students faced difficulties in selecting appropriate English articles, had limited writing skills, and lacked experience in writing on social media.</p> <p>Affective Challenges: Students experienced anxiety over negative feedback, fear of making mistakes, and low self-esteem when publishing their work on Instagram.</p>
Muslem, A., Marhaban, S., Gani, S. A., Hamdalah, S., Amalia, D., & Hankinson, E. (2024)	The Contribution of Online Multimodal Feedback-Based Weblogs toward Students' Writing Skills Enhancement.	<p>Improvement in Writing Skills: Students in the experimental group showed significant improvement in their writing skills, as indicated by higher post-test scores compared to the control group.</p> <p>Positive Student Perception: The majority of students in the experimental group responded positively to the use of online multimodal feedback-based weblogs, indicating enhanced motivation and engagement in writing activities.</p>	<p>Technical Challenges: Some students faced difficulties in navigating the online platforms, which could potentially affect their learning experience.</p> <p>Time Management: Balancing time for online learning and other responsibilities was challenging for some students, particularly those not accustomed to self-regulated learning environments.</p>
Ariani, F., Kustati, M., Reflianto, Yanti, N., & Wandu, J. I. (2024).	The Effect of Flipped Digital Classroom and Student Engagement on English Writing Skills.	<p>Writing Skills: Students in the FDC group showed a significant improvement in English writing scores compared to the control group. The study reported an average increase of 18 points in writing skills for FDC students.</p> <p>Student Engagement: The study found a significant relationship between the FDC method and student engagement, with high levels of engagement leading to better writing skills.</p>	<p>Ensuring consistent student engagement across different levels and the varying impacts of the FDC method depending on students' initial engagement levels.</p> <p>Accessing digital platforms and the need for proper digital infrastructure were highlighted.</p>

In conclusion, these findings underscore the multifaceted challenges associated with integrating digital tools in EFL writing instruction. Addressing these challenges requires a comprehensive approach that includes enhancing digital literacy, ensuring equitable access to technology, and fostering effective group dynamics. Additionally, careful consideration of the limitations of AI tools and adequate resource allocation are crucial for maximizing the benefits of digital learning environments. The continued exploration and resolution of these challenges will be essential for advancing the effectiveness of technology-enhanced EFL writing instruction.

D. Conclusions

The integration of technology in EFL writing instruction holds great potential to enhance language learning by creating more interactive, personalized, and effective environments; however, it also presents challenges such as digital literacy issues, limited access to technology, and the need for comprehensive teacher training. Despite these challenges, this review underscores the importance of leveraging digital tools to improve educational outcomes globally. Nevertheless, the review acknowledges limitations, including its narrow focus on articles from the SIELE Journal over the past five years and its emphasis on English-language studies, which may have excluded valuable non-English insights. Additionally, the short-term focus of most reviewed studies leaves the long-term impact of technology on writing proficiency less understood. Future research should address these gaps by conducting longitudinal studies to assess sustained impacts, exploring emerging technologies like VR and AR for more immersive learning, and investigating specific challenges faced by EFL learners and teachers. By doing so, researchers can contribute to more effective and sustainable technology integration in EFL writing instruction, better preparing learners for success in a digital world.

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