

A SYSTEMATIC LITERATURE REVIEW OF TECHNOLOGY-ENHANCED MULTIMODAL COMPOSITION IN EFL CONTEXTS

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Abstract: Technology-Enhanced Multimodal Composition has emerged as an innovative pedagogical approach in English as a Foreign Language (EFL) writing instruction due to the rapid advancement of digital technology and the increasing demand for twenty-first-century literacy skills. This study aims to systematically review previous research concerning the implementation of Technology-Enhanced Multimodal Composition in EFL writing contexts. Specifically, the review examines the types of technologies utilized, learning outcomes achieved, research methodologies employed, educational contexts investigated, and pedagogical activities implemented in Technology-Enhanced Multimodal Composition studies. This study employed a qualitative Systematic Literature Review (SLR) design by analyzing seven peer-reviewed studies published between 2020 and 2026. The data were collected from several academic databases, including Google Scholar, Scopus, ScienceDirect, Springer, Taylor & Francis, and ERIC, using keywords related to digital multimodal composing, multimodal writing, and AI-supported writing instruction. The findings reveal that Technology-Enhanced Multimodal Composition significantly enhances EFL learners' writing performance, engagement, creativity, critical thinking, motivation, and digital literacy through the integration of multiple semiotic modes such as text, images, audio, video, and AI-assisted technologies. Furthermore, collaborative multimodal activities and GenAI-supported composing practices were found to foster behavioral, cognitive, and affective engagement, as well as self-regulated learning and metacognitive awareness. The review also indicates that quantitative and quasi-experimental approaches dominate current Technology-Enhanced Multimodal Composition research, with most studies conducted in higher education settings. Overall, Technology-Enhanced Multimodal Composition offers substantial pedagogical potential for transforming traditional monomodal writing instruction into more interactive, collaborative, creative, and technology-enhanced learning experiences in EFL classrooms.

Keywords: Technology-Enhanced Multimodal Composition; EFL; Writing Skills

Accepted: 12 May 2026 Approved: 12 June 2026 Published: 29 Juni 2026



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INTRODUCTION

Writing is considered one of the most essential yet challenging skills in English as a Foreign Language (EFL) learning. EFL learners are often required to generate ideas, organize information coherently, apply appropriate grammatical structures, and communicate meaning effectively in written form (Vula et al., 2024). However, many learners still encounter difficulties in developing writing quality, maintaining motivation, and engaging actively in the writing process. Traditional writing instruction, which predominantly emphasizes monomodal text production, frequently limits students' opportunities to express meaning creatively and interactively. As a result, there is an increasing need for innovative instructional approaches that can support learners' writing development while simultaneously promoting engagement, creativity, collaboration, and digital literacy (Yadav, 2024).

The rapid advancement of digital technology has significantly transformed language learning environments, particularly in writing instruction (Peterson & Jabbari, 2023). One emerging approach that has gained considerable attention is Technology-Enhanced Multimodal Composition. Technology-Enhanced Multimodal Composition refers to the process of creating meaning by integrating multiple semiotic modes, such as written text, images, audio, video, animation, and other multimedia elements, through the use of digital technologies. Unlike traditional monomodal writing practices, Technology-Enhanced Multimodal Composition allows learners to communicate ideas through various modes simultaneously, enabling more interactive, creative, and meaningful learning experiences. The incorporation of multimodal resources into writing activities aligns with the demands of twenty-first-century learning, where students are expected not only to develop linguistic competence but also to acquire digital literacy, critical thinking, collaboration, and creativity skills (Zeng, 2024).

In EFL contexts, the implementation of technology-enhanced multimodal composing has increasingly been integrated into writing instruction through various digital platforms and pedagogical activities (Çela, 2025). Previous studies have utilized blogs, vlogs, digital storytelling, multimedia projects, collaborative online platforms, and more recently, Generative Artificial Intelligence (GenAI)-supported tools to facilitate students' multimodal writing experiences. These technologies provide learners with opportunities to combine textual and visual elements, collaborate with peers, revise their work interactively, and engage more actively in the writing process. Consequently, Technology-Enhanced Multimodal Composition has been recognized as a promising pedagogical approach that can transform conventional writing classrooms into more student-centered and technology-enhanced learning environments.

Several previous studies have reported positive impacts of Technology-Enhanced Multimodal Composition on EFL learners' writing development. Research findings indicate that Technology-Enhanced Multimodal Composition contributes to improvements in writing

quality, writing performance, communicative achievement, creativity, motivation, engagement, digital literacy, and critical thinking (Imsa-ard & Barrot, 2024). Students participating in multimodal composing activities tend to demonstrate stronger behavioral, cognitive, and affective engagement, as they actively construct meaning through multiple modes and collaborative interactions. Furthermore, recent studies integrating GenAI-supported multimodal composing suggest that artificial intelligence can further enhance students' writing engagement, metacognitive awareness, and digital literacy when appropriately implemented in EFL instruction.

Despite the growing body of research on Technology-Enhanced Multimodal Composition, several gaps remain evident in the literature. Previous studies have primarily focused on the effectiveness of Technology-Enhanced Multimodal Composition in improving writing performance, while less attention has been given to systematically examining the types of technologies used, pedagogical activities implemented, research methodologies applied, educational contexts involved, and broader learning outcomes generated across studies. In addition, most Technology-Enhanced Multimodal Composition research has been conducted in higher education settings, particularly among university students, whereas studies involving secondary schools, rural educational contexts, and diverse learner populations remain relatively limited. Moreover, the rapid integration of AI-supported technologies into multimodal composing practices has created new pedagogical and ethical considerations that require further investigation.

Therefore, this study aims to systematically review previous studies related to digital multimodal composing in EFL writing instruction. Specifically, this review focuses on identifying the types of technologies utilized, learning outcomes achieved, research methodologies employed, educational contexts investigated, and pedagogical activities implemented in Technology-Enhanced Multimodal Composition studies. By synthesizing findings from previous research, this study is expected to provide comprehensive insights into the development and implementation of technology-enhanced multimodal composing in EFL contexts. Furthermore, the findings may contribute to the development of more effective, innovative, and technology-supported writing instruction practices that promote students' writing development, engagement, creativity, and digital literacy in EFL classrooms.

METHOD

This study employed a Systematic Literature Review (SLR) design to investigate the implementation of Technology-Enhanced Multimodal Composition in English as a Foreign Language (EFL) writing instruction. The systematic review approach was selected to comprehensively identify, analyze, and synthesize previous studies related to the use of technology-enhanced multimodal composing in EFL contexts. Through this method, the study aimed to provide an organized overview of the types of technologies used, learning outcomes achieved, research methodologies employed, educational contexts investigated,

and pedagogical activities implemented in Technology-Enhanced Multimodal Composition research.

Research Design

The study adopted a qualitative systematic literature review design. A systematic review enables researchers to collect and critically analyze relevant studies in a structured and transparent manner. This approach was considered appropriate because it allows for the synthesis of findings from multiple studies to identify research trends, similarities, differences, and gaps in the implementation of Technology-Enhanced Multimodal Composition in EFL writing instruction.

Data Sources and Search Strategy

The data for this study were collected from reputable academic databases, including Google Scholar, Scopus-indexed journals, ScienceDirect, Taylor & Francis, Springer, and ERIC. The researcher used several keywords and combinations of keywords related to the topic, such as:

“digital multimodal composing”; “multimodal composition in EFL”; “technology-enhanced writing instruction”; “digital storytelling in EFL”; “multimodal writing”; “GenAI-supported writing”; “AI-assisted multimodal composing”; “EFL writing and digital multimodal composition”;

The search process focused on studies published between 2020 and 2026 to obtain recent and relevant research findings regarding the development of Technology-Enhanced Multimodal Composition and AI-supported multimodal composing in EFL education.

Inclusion and Exclusion Criteria

To ensure the relevance and quality of the reviewed articles, several inclusion and exclusion criteria were applied.

Inclusion Criteria

The studies included in this review met the following criteria:

- The studies focused on Technology-Enhanced Multimodal Composition in EFL or ESL writing instruction.
- The studies investigated technology-enhanced multimodal writing activities.
- The studies were published in peer-reviewed journals between 2020 and 2026.
- The studies reported learning outcomes, pedagogical activities, technologies used, or students' engagement in Technology-Enhanced Multimodal Composition.
- The studies were written in English.

Exclusion Criteria

- **The studies were excluded if:**
- They did not focus specifically on EFL/ESL writing instruction.
- They discussed multimodality without involving digital technologies.
- They were conference abstracts, book reviews, unpublished theses, or non-peer-reviewed articles.
- They lacked sufficient methodological or empirical information.

Data Collection Procedures

The researcher conducted the article selection process in several stages. First, relevant articles were identified through database searches using the selected keywords. Second, duplicated articles were removed. Third, the titles and abstracts of the identified studies were screened to determine their relevance to the research objectives. Finally, full-text articles were carefully reviewed based on the inclusion and exclusion criteria.

After the screening process, seven relevant studies were selected for detailed analysis. These studies were then categorized and analyzed according to several aspects, including: research focus, types of technology used, learning outcomes, research methodologies, educational contexts, and pedagogical activities.

Data Analysis

The selected studies were analyzed using qualitative content analysis. The researcher systematically examined and synthesized the findings from each study to identify common themes, patterns, similarities, and differences related to MC implementation in EFL writing instruction. The analysis focused on how digital multimodal composing contributed to students' writing development, engagement, creativity, digital literacy, and critical thinking. The findings were then organized into several thematic categories and presented descriptively in tables and narrative discussions to provide a comprehensive understanding of the current trends and developments in MC research.

Trustworthiness of the Study

To ensure the trustworthiness and credibility of the review, the researcher employed systematic procedures in selecting, analyzing, and synthesizing the studies. Only peer-reviewed and relevant articles were included in the review process. In addition, the use of clear inclusion and exclusion criteria helped maintain the consistency and validity of the selected studies. The researcher also compared findings across studies to minimize bias and improve the reliability of the analysis.

RESULT AND DISCUSSION

The reviewed studies indicate that the integration of technology-enhanced multimodal composition into EFL writing instruction has significantly contributed to the improvement of EFL learners' writing performance, engagement, digital literacy, creativity, and critical thinking. Through the use of various digital technologies, collaborative multimodal activities, and AI-supported tools, students demonstrated more active participation and meaningful engagement in the writing process. Based on these findings, several key results and related discussions are presented below.

Table 1. Research Result

Article Title (Author)	Research Focus
Writing to Make Meaning through Collaborative Multimodal Composing among Korean EFL Learners: Writing Processes, Writing Quality and Student Perception (Kim & Kang, 2020)	This study aims to examine Korean EFL students' focus of discussion during collaborative multimodal composing, the relationship between their interactive writing processes and multimodal composing outcomes, and their perceptions of multimodal composing activities.
Vlog-Based Multimodal Composing: Enhancing EFL Learners' Writing Performance (Xie et al., 2021)	This study aims to investigate the effects of SNS-based vlog multimodal composing activities on EFL learners' writing performance across secondary and higher education contexts.
Integrating Digital Multimodal Composition into EFL Writing Instruction (Maghsoudi et al., 2022)	This study aims to examine the differential effects of digital multimodal and monomodal composition on EFL learners' writing proficiency in terms of content, communicative achievement, organization, and language performance.
Investigating the effects of digital multimodal composing on Chinese EFL learners' writing performance: a quasi-experimental study (Xu, 2023)	This study aims to investigate whether and to what extent digital multimodal composing (DMC) influences Chinese EFL learners' L2 writing performance across various aspects of writing development.
Comparing the characteristics of EFL students' multimodal composing and traditional monomodal writing: The case of a reading-to-write task (Cho & Kim, 2024b)	This study aims to compare Korean high school students' digital multimodal composing and traditional monomodal writing in terms of writing quality, content and language alignment, and

Article Title (Author)	Research Focus
GenAI-supported digital multimodal composing: facilitating EFL students' GenAI literacy, writing engagement, motivation, and abilities (Tsz et al., 2025)	degree of reflection in an academic integrated-skills task. This study aims to investigate the impact of GenAI-supported digital multimodal composing instruction on EFL students' GenAI literacy, writing engagement, motivation, and writing abilities, as well as to explore their perceptions of the learning experience.
Engaging students with collaborative digital multimodal composing in an EFL classroom (Mao & Cao, 2026)	This study aims to explore how Chinese EFL undergraduates behaviorally, cognitively, and affectively engage with collaborative digital multimodal composing projects to enhance their learning and writing development.

The article titled "Writing to Make Meaning through Collaborative Multimodal Composing among Korean EFL Learners: Writing Processes, Writing Quality and Student Perception" by Kim & Kang (2020) investigated Korean EFL students' focus of discussion during collaborative multimodal composing, the relationship between their interactive writing processes and multimodal composing outcomes, and their perceptions of multimodal composing activities. In this research, the findings revealed that collaborative digital multimodal composing (DMC) significantly enhanced Chinese EFL students' behavioral, cognitive, and affective engagement in writing activities. Students actively participated in the composing process by investing considerable time, revising their work thoughtfully, and utilizing various digital resources to improve their multimodal projects. Cognitively, they applied metacognitive strategies, critical thinking, and reflective practices to develop their writing quality and deepen their understanding of the learning materials. Affectively, students reported increased motivation, enjoyment, confidence, and positive learning experiences while collaborating with peers during DMC activities. These results suggest that collaborative DMC can effectively transform traditional monomodal writing instruction into a more interactive, meaningful, and engaging learning experience for EFL learners. Based on these findings, the study recommends that EFL teachers integrate collaborative DMC projects into writing instruction, provide students with sufficient technological support and guidance, and design multimodal tasks that encourage creativity, interaction, and critical engagement to enhance students' writing development and overall learning outcomes.

The study entitled “Vlog-Based Multimodal Composing: Enhancing EFL Learners’ Writing Performance” by (Xie et al., 2021) scrutinized the effects of SNS-based vlog multimodal composing activities on EFL learners’ writing performance across secondary and higher education contexts. The findings of the study revealed that collaborative digital multimodal composing (DMC) positively enhanced EFL students’ writing development through increased behavioral, cognitive, and affective engagement. Students actively participated in the composing process by revising their work, utilizing various digital resources, and combining multiple modes such as text, images, audio, and video to construct meaning. The study also showed that students focused on content development, language use, task management, and multimodal design, indicating that DMC supported both linguistic improvement and digital literacy development. In addition, students demonstrated greater motivation, confidence, enjoyment, and critical thinking during collaborative writing activities, and they perceived DMC as an innovative and engaging learning approach compared to traditional monomodal writing. Based on these findings, the study recommends that EFL teachers integrate collaborative DMC into writing instruction by designing technology-based multimodal tasks such as videos, blogs, and digital storytelling to promote students’ creativity, engagement, and writing proficiency. Furthermore, sufficient technological support, teacher guidance, and digital literacy training are necessary to maximize the effectiveness of DMC implementation in EFL classrooms.

Research conducted by Maghsoudi et al., (2022) discusses “Integrating Digital Multimodal Composition into EFL Writing Instruction”. The findings of the study demonstrated that collaborative digital multimodal composing (DMC) substantially contributed to the improvement of EFL students’ writing development by fostering greater behavioral, cognitive, and affective engagement throughout the learning process. Students actively engaged in multimodal writing activities by investing considerable effort in revising their work, utilizing diverse digital resources, and integrating various semiotic modes such as text, images, audio, and video to construct meaningful communication. The study further revealed that students focused intensively on content development, language use, multimodal design, and task management, indicating that DMC not only enhanced their linguistic competence but also strengthened their digital literacy and creativity. Moreover, students demonstrated higher levels of motivation, confidence, enjoyment, and critical thinking during collaborative composing activities, and they perceived DMC as a more interactive, innovative, and student-centered learning approach compared to traditional monomodal writing practices. Although the amount of collaborative interaction did not significantly influence the final quality of the multimodal products, the overall learning experience remained highly positive and meaningful for the participants. Based on these findings, the study recommends that EFL teachers integrate collaborative DMC into writing instruction by designing technology-enhanced multimodal tasks involving videos, blogs, digital storytelling, audio, and visual media to promote students’ engagement, creativity, and writing proficiency. Furthermore, adequate technological facilities, continuous teacher guidance, and digital literacy training should be provided to maximize the effectiveness of DMC implementation in EFL classrooms and to support the development of twenty-first-century literacy skills.

Research conducted by Xu (2023) discussed “Investigating the effects of digital multimodal composing on Chinese EFL learners’ writing performance: a quasi-experimental study”. The findings of the study revealed that the implementation of digital multimodal composing (DMC) significantly improved Chinese EFL learners’ L2 writing performance compared to traditional monomodal writing instruction. Students in the experimental group who completed multimodal projects demonstrated substantial progress in five major aspects of writing, namely text length, mean length per T-unit, task requirement fulfillment, content quality, and comprehensibility. These results indicate that DMC effectively enhanced students’ ability to generate longer and more meaningful texts, organize and develop ideas more clearly, and produce writing that was easier to understand. The integration of multiple semiotic modes such as images, videos, and other digital elements also encouraged students to engage more actively and creatively in the writing process, which contributed to richer content development and improved communicative effectiveness. Furthermore, the study suggests that DMC creates a more interactive and meaningful learning environment that supports both language development and digital literacy skills in EFL contexts. Based on these findings, the study recommends that EFL teachers incorporate DMC into writing instruction through technology-enhanced multimodal projects to foster students’ writing proficiency, creativity, and engagement. In addition, educational institutions should provide adequate technological resources and pedagogical support to facilitate the effective integration of DMC into L2 writing classrooms.

Previous research conducted by Cho and Kim (2024) discussed “Comparing the characteristics of EFL students’ multimodal composing and traditional monomodal writing: The case of a reading-to-write task”. The study by Cho and Kim (2024) revealed that there were no statistically significant differences between Korean high school students’ digital multimodal composing (DMC) and traditional monomodal writing in terms of overall writing quality, content and language alignment, and the degree of reflection. Although students utilized multiple modes such as pictures and movies in DMC while relying solely on written text in traditional writing, both composing approaches produced relatively similar writing outcomes. These results suggest that the integration of multimodal elements did not automatically lead to higher writing performance or deeper reflection compared to conventional monomodal writing tasks. Nevertheless, the study highlights that DMC can still provide alternative opportunities for students to express ideas creatively and engage with texts through multiple semiotic resources without negatively affecting their linguistic performance. The findings also imply that the effectiveness of DMC may depend on factors such as task design, students’ familiarity with multimodal composing, and instructional support provided during the learning process. Based on these findings, the study recommends that EFL teachers carefully design integrated-skills multimodal tasks and provide clear guidance on how to effectively combine visual and textual elements to support students’ writing development. Furthermore, future research is encouraged to investigate the long-term

effects of DMC, different task types, and the role of students' digital literacy in influencing multimodal writing performance.

The article titled "GenAI-supported digital multimodal composing: facilitating EFL students' GenAI literacy, writing engagement, motivation, and abilities" by Tsz et al., (2025) investigated the impact of GenAI-supported digital multimodal composing instruction on EFL students' GenAI literacy, writing engagement, motivation, and writing abilities, as well as to explore their perceptions of the learning experience. The findings of the study revealed that GenAI-supported digital multimodal composing (DMC) instruction significantly enhanced EFL students' GenAI literacy, writing engagement, motivation, and writing abilities across affective, behavioral, cognitive, and ethical dimensions. High-performing students demonstrated strong emotional engagement by forming meaningful connections with characters and narratives, actively collaborating with AI tools, revising ideas critically, and using AI to explore complex themes and character motivations. In contrast, low-performing students tended to rely passively on AI-generated suggestions, showed limited emotional and cognitive engagement, and lacked critical evaluation of AI outputs. The study further identified a four-dimensional relationship between GenAI literacy and writing engagement, categorizing students into groups with varying levels of literacy and engagement, ranging from low literacy-low engagement to high literacy-high engagement. Students with high GenAI literacy were more capable of using AI tools creatively, ethically, and critically to improve their storytelling and writing quality, whereas students with low literacy struggled to utilize AI effectively in the writing process. In addition, the findings showed that DMC instruction fostered students' creativity, confidence, collaboration, self-regulated learning, metacognitive awareness, and digital literacy, while simultaneously improving their reading and writing skills. Based on these findings, the study recommends that EFL teachers integrate GenAI-supported DMC into writing instruction by providing prompt-writing workshops, metacognitive strategy training, and ethical guidance regarding AI use to encourage deeper engagement and critical thinking. Teachers are also encouraged to design collaborative and multimodal writing tasks involving digital storytelling, animation, visualization, and AI-assisted writing activities to create more meaningful, interactive, and student-centered learning experiences. Furthermore, educational institutions should ensure adequate technological support and carefully consider the ethical and pedagogical implications of integrating GenAI tools into language education to maximize students' writing development and digital literacy skills.

The study entitled "Engaging students with collaborative digital multimodal composing in an EFL classroom" by Mao and Cao (2026) explored how Chinese EFL undergraduates behaviorally, cognitively, and affectively engage with collaborative digital multimodal composing projects to enhance their learning and writing development. The findings of the study revealed that collaborative digital multimodal composing (DMC) functioned as an effective and engaging pedagogical approach that significantly enhanced Chinese EFL students' behavioral, cognitive, and affective engagement in writing and learning activities. Students demonstrated strong behavioral engagement by actively investing time, utilizing

various digital resources, revising their work thoughtfully, and participating collaboratively throughout the composing process. Cognitively, students employed metacognitive strategies, critical thinking, and reflective practices to deepen their understanding and improve the quality of their multimodal compositions. Affectively, the collaborative DMC projects fostered positive emotions, motivation, confidence, and meaningful learning experiences, making writing activities more interactive and enjoyable compared to traditional monomodal writing practices. The study also highlighted that collaborative DMC transformed the conventional text-based writing approach into a more student-centered and technology-enhanced learning experience that supported both language development and digital literacy skills. Based on these findings, the study recommends that EFL teachers integrate collaborative DMC projects into writing instruction by designing multimodal tasks involving digital tools, images, audio, video, blogs, and other multimedia resources to enhance students' engagement, creativity, and writing proficiency. Furthermore, teachers should provide adequate guidance, opportunities for collaboration, and technological support to maximize students' participation and learning outcomes in multimodal writing environments.

Types of Technology Used in Digital Multimodal Composing Studies

The reviewed studies demonstrated that various types of digital technologies were utilized to support digital multimodal composing (DMC) activities in EFL writing instruction. Kim and Kang (2020) employed collaborative digital platforms and multimedia resources that enabled students to interact, revise, and construct meaning collaboratively during the composing process. Xie et al. (2021) specifically integrated SNS-based vlog technology, allowing learners to combine video, audio, text, and images to enhance their writing performance through multimodal communication. Similarly, Maghsoudi et al. (2022) implemented digital multimodal composing tools involving blogs, videos, audio, and visual media to create technology-enhanced writing environments. Xu (2023) also incorporated multimedia integration technologies such as images and videos into writing tasks to improve students' writing quality and comprehensibility. Furthermore, Cho and Kim (2024) utilized digital multimodal composing tools that enabled students to integrate pictures and movies into reading-to-write activities. More advanced technologies appeared in Tsz et al. (2025), where Generative AI (GenAI), AI-assisted writing tools, animation, visualization, and digital storytelling applications were integrated to support students' writing engagement, motivation, and GenAI literacy. Meanwhile, Mao and Cao (2026) employed collaborative digital tools and multimedia platforms such as blogs, audio, video, and images to facilitate collaborative multimodal composing projects. Overall, the findings indicate that DMC research has evolved from the use of conventional multimedia platforms toward more sophisticated AI-supported and collaborative digital technologies that promote writing development, engagement, creativity, and digital literacy among EFL learners.

Table 2. Types of Technology Used in Multimodal Composing Studies

No	Article	Types of Technology Used	Description of Technology Use
1	Kim & Kang (2020)	Collaborative digital platforms, multimedia resources	Students used collaborative digital environments and multimedia resources to compose multimodal texts through interaction, revision, and meaning-making activities.
2	Xie et al. (2021)	SNS platforms, vlog technology, video-based applications	The study utilized social networking service (SNS)-based vlog activities where students created video content integrating text, audio, images, and video for writing development.
3	Maghsoudi et al. (2022)	Digital composing tools, multimodal blogs, video and visual media	Students employed technology-enhanced multimodal platforms involving videos, blogs, visual media, and audio resources to support multimodal writing instruction.
4	Xu (2023)	Digital platforms, multimodal multimedia integration tools	The study implemented digital multimodal composing projects integrating images, videos, and other digital elements into students' writing tasks.
5	Cho & Kim (2024)	Digital composing tools, multimodal images, pictures and movies	Students used multimodal digital tools involving images, pictures and movies while completing reading-to-write tasks.
6	Tsz et al. (2025)	Generative AI (GenAI), AI-assisted writing tools, digital storytelling technologies	The study integrated GenAI-supported multimodal composing tools, including AI writing assistance, animation, visualization, and digital storytelling applications.
7	Mao & Cao (2026)	Collaborative digital tools, composing technologies involving blogs, audio, multimedia platforms, blogs video, images, and other multimedia resources	Students utilized collaborative multimodal composing technologies involving blogs, audio, video, images, and other multimedia resources to support engagement and writing development.

Learning Outcomes

The reviewed studies revealed various learning outcomes resulting from the implementation of digital multimodal composing (DMC) in EFL contexts. Kim and Kang (2020) reported improvements in students' writing quality, collaborative interaction, engagement, motivation, and critical thinking during collaborative multimodal composing activities.

Similarly, Xie et al. (2021) found that vlog-based multimodal composing enhanced learners' writing performance, creativity, digital literacy, confidence, and motivation. Maghsoudi et al. (2022) demonstrated that DMC positively influenced students' writing proficiency, communicative achievement, creativity, engagement, and digital literacy through the integration of multiple semiotic modes. Xu (2023) further identified significant improvements in text length, content quality, comprehensibility, task fulfillment, and overall writing performance among Chinese EFL learners participating in DMC projects. In addition, Cho and Kim (2024) revealed that although there were no statistically significant differences between multimodal and monomodal writing, DMC still supported creative expression, reflection, and integrated writing skills. More recent studies emphasized broader twenty-first-century learning outcomes. Tsz et al. (2025) showed that GenAI-supported DMC enhanced students' GenAI literacy, writing engagement, motivation, creativity, collaboration, self-regulated learning, metacognitive awareness, and digital literacy. Likewise, Mao and Cao (2026) reported that collaborative DMC strengthened students' behavioral, cognitive, and affective engagement, critical thinking, collaboration, writing development, and motivation. Overall, the findings indicate that DMC contributes not only to linguistic development and writing performance but also to higher-order thinking skills, digital literacy, creativity, collaboration, and learner engagement in EFL learning environments.

Table 3. Learning Outcomes in Digital Multimodal Composing Studies

No	Article	Learning Outcomes
1	Kim & Kang (2020)	Writing quality, collaborative interaction, student perception, behavioral engagement, cognitive engagement, affective engagement, critical thinking, motivation
2	Xie et al. (2021)	Writing performance, digital literacy, creativity, motivation, confidence, critical thinking, engagement
3	Maghsoudi et al. (2022)	Writing proficiency, digital literacy, creativity, motivation, confidence, communicative achievement, engagement
4	Xu (2023)	Writing performance, text length, content quality, comprehensibility, task fulfillment, creativity, digital literacy
5	Cho & Kim (2024)	Writing quality, content and language alignment, reflection, creative expression, integrated writing skills
6	Tsz et al. (2025)	GenAI literacy, writing engagement, writing ability, motivation, creativity, collaboration, self-regulated learning, metacognitive awareness, digital literacy
7	Mao & Cao (2026)	Behavioral engagement, cognitive engagement, affective engagement, writing development, critical thinking, motivation, collaboration, digital literacy

Research Methodology

The reviewed studies employed various research methodologies to investigate the implementation and effectiveness of digital multimodal composing (DMC) in EFL contexts. Kim and Kang (2020) utilized a mixed-method approach by combining collaborative writing analysis, writing quality assessment, and students' perception analysis to explore the relationship between writing processes and multimodal composing outcomes. Several studies adopted quantitative methodologies, particularly experimental and quasi-experimental designs, to examine the impact of DMC on students' writing performance. For example, Xie et al. (2021) conducted an experimental study focusing on vlog-based multimodal composing activities, while Maghsoudi et al. (2022) employed an experimental comparison between digital multimodal and monomodal composition. Similarly, Xu (2023) applied a quasi-experimental design to investigate the effects of DMC on Chinese EFL learners' writing development. Cho and Kim (2024) also used a quantitative comparative design to compare multimodal composing and traditional monomodal writing in reading-to-write tasks. In contrast, Tsz et al. (2025) adopted a mixed-method design by integrating experimental procedures with students' perception and engagement analysis to explore the effectiveness of GenAI-supported DMC instruction. Meanwhile, Mao and Cao (2026) employed a qualitative classroom-based exploratory study to examine students' behavioral, cognitive, and affective engagement during collaborative multimodal composing projects. Overall, the findings indicate that quantitative approaches, particularly experimental and quasi-experimental designs, remain dominant in DMC research, while qualitative and mixed-method studies are increasingly used to provide deeper insights into students' perceptions, engagement, and collaborative learning experiences.

Table 4. Research Methodology in Digital Multimodal Composing Studies

No	Article	Research Methodology	Research Design
1	Kim & Kang (2020)	Mixed-method	Collaborative writing analysis, writing assessment, and student perception analysis
2	Xie et al. (2021)	Quantitative	Experimental / quasi-experimental study
3	Maghsoudi et al. (2022)	Quantitative	Experimental comparison between multimodal and monomodal composition
4	Xu (2023)	Quantitative	Quasi-experimental study
5	Cho & Kim (2024)	Quantitative	Comparative study between multimodal and monomodal writing
6	Tsz et al. (2025)	Mixed-method	Experimental study combined with perception and engagement analysis
7	Mao & Cao (2026)	Qualitative	Classroom-based exploratory study on student engagement

Educational Context

The reviewed studies were conducted across various educational contexts, with higher education settings dominating digital multimodal composing (DMC) research in EFL classrooms. Kim and Kang (2020) investigated collaborative DMC among Korean university students in a higher education EFL context. Similarly, Maghsoudi et al. (2022), Xu (2023), Tsz et al. (2025), and Mao and Cao (2026) all focused on university-level EFL learners, particularly undergraduate students, indicating that DMC research has been extensively implemented in tertiary education environments where students generally possess greater digital literacy and technological access. In contrast, Xie et al. (2021) expanded the educational scope by examining vlog-based multimodal composing across both secondary school and higher education contexts, allowing for broader comparisons of multimodal learning implementation among different learner levels. Meanwhile, Cho and Kim (2024) specifically explored DMC within a secondary school EFL context involving Korean high school students. Overall, the findings suggest that most DMC studies are concentrated in higher education settings, while research involving younger learners, primary schools, vocational education, and rural educational contexts remains relatively limited. This indicates a potential research gap for future studies to investigate the implementation and effectiveness of DMC across more diverse educational levels and learning environments.

Table 5. Educational Context in Digital Multimodal Composing Studies References

No	Article	Educational Context	Participants
1	Kim & Kang (2020)	Higher education / university EFL context	Korean EFL university students
2	Xie et al. (2021)	Secondary and higher education EFL contexts	Secondary school and university EFL learners
3	Maghsoudi et al. (2022)	University EFL writing instruction	EFL university students
4	Xu (2023)	Higher education / university EFL context	Chinese EFL university students
5	Cho & Kim (2024)	Secondary school EFL context	Korean high school students
6	Tsz et al. (2025)	Higher education / university EFL context	EFL university students
7	Mao & Cao (2026)	Higher education / university EFL classroom	Chinese EFL undergraduate students

Pedagogical Activities

The reviewed studies implemented various pedagogical activities to support digital multimodal composing (DMC) in EFL writing instruction. Kim and Kang (2020) employed collaborative multimodal composing activities involving peer discussion, collaborative writing, and multimodal project development to encourage interaction and meaning-making among students. Xie et al. (2021) focused on SNS-based vlog creation activities in which learners produced multimodal video content by integrating text, images, audio, and video elements into digital storytelling practices. Similarly, Maghsoudi et al. (2022) implemented digital multimodal writing tasks such as blog writing, multimedia-based composition, and digital storytelling to enhance students' writing proficiency and engagement. Xu (2023) utilized multimodal writing projects that integrated images, videos, and other digital resources into technology-enhanced composition tasks to improve students' writing development and creativity. In addition, Cho and Kim (2024) designed reading-to-write multimodal activities where students combined textual writing with visual elements such as pictures and movies. More recent studies incorporated advanced pedagogical innovations involving artificial intelligence. Tsz et al. (2025) implemented GenAI-supported digital storytelling, AI-assisted writing, animation, visualization projects, and collaborative multimodal composing activities to foster students' GenAI literacy and engagement. Meanwhile, Mao and Cao (2026) emphasized collaborative multimodal composing projects involving blogs, multimedia integration, peer collaboration, and technology-enhanced writing activities. Overall, the findings indicate that DMC pedagogical activities have evolved from basic multimedia integration toward more collaborative, creative, and AI-supported multimodal learning practices that promote writing development, engagement, and digital literacy in EFL classrooms.

Table 6. Pedagogical Activities in Digital Multimodal Composing Studies

No	Article	Pedagogical Activities
1	Kim & Kang (2020)	Collaborative multimodal composing, peer discussion, collaborative writing, multimodal project development
2	Xie et al. (2021)	SNS-based vlog creation, video composing, multimodal storytelling, digital content production
3	Maghsoudi et al. (2022)	Digital multimodal writing tasks, blog writing, digital storytelling, multimedia-based composition
4	Xu (2023)	Multimodal writing projects, integration of images and videos into writing tasks, technology-enhanced composition
5	Cho & Kim (2024)	Reading-to-write multimodal tasks, integrating pictures and movies into writing activities
6	Tsz et al. (2025)	GenAI-supported digital storytelling, AI-assisted writing, animation and visualization projects, collaborative multimodal composing

No	Article	Pedagogical Activities
7	Mao & Cao (2026)	Collaborative multimodal composing projects, blog-based writing, multimedia integration activities, peer collaboration

CONCLUSION

The present review demonstrates that Technology-Enhanced Multimodal Composition has become an innovative and effective pedagogical approach in EFL writing instruction. The integration of technology-enhanced multimodal composition into EFL classrooms significantly contributes to the improvement of learners' writing performance, engagement, creativity, digital literacy, and critical thinking. Through the use of various digital technologies such as collaborative platforms, blogs, vlogs, multimedia resources, digital storytelling applications, and Generative Artificial Intelligence (GenAI)-supported tools, students are able to participate more actively and meaningfully in the writing process. The reviewed studies also reveal that Technology-Enhanced Multimodal Composition promotes behavioral, cognitive, and affective engagement by encouraging learners to collaborate, reflect critically, revise their work, and construct meaning through multiple semiotic modes.

Furthermore, the findings indicate that Technology-Enhanced Multimodal Composition supports not only linguistic development but also broader twenty-first-century skills, including collaboration, self-regulated learning, metacognitive awareness, creativity, and digital literacy. The evolution of Technology-Enhanced Multimodal Composition practices from basic multimedia integration toward AI-supported multimodal composing demonstrates the increasing role of advanced technologies in language education. Nevertheless, the effectiveness of Technology-Enhanced Multimodal Composition is influenced by several factors, including task design, students' digital literacy, technological accessibility, and the level of instructional support provided by teachers.

The review also shows that most studies employed quantitative approaches, particularly experimental and quasi-experimental designs, and were primarily conducted in higher education settings. This suggests that further research is needed to explore Technology-Enhanced Multimodal Composition implementation in more diverse educational contexts, such as primary schools, vocational education, and rural learning environments. In addition, future studies are encouraged to investigate the long-term impact of Technology-Enhanced Multimodal Composition, the ethical implications of AI integration, and the effectiveness of different multimodal task designs in supporting EFL learners' writing development.

Overall, digital multimodal composing offers substantial pedagogical potential for transforming traditional monomodal writing instruction into more interactive, collaborative, creative, and technology-enhanced learning experiences. Therefore, EFL teachers, researchers, and educational institutions are encouraged to integrate Technology-Enhanced

Multimodal Composition into writing instruction while providing adequate technological support, pedagogical guidance, and opportunities for collaborative and reflective learning to maximize students' writing achievement and overall learning outcomes.

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