

## MULTIMODAL DIGITAL STORYTELLING AND STORYBIRD FOR EFL WRITING SKILL DEVELOPMENT: A NARRATIVE THEMATIC REVIEW

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### ABSTRAK

Teknologi digital telah mengubah cara kita mengajar dengan memfasilitasi pembelajaran interaktif dan multimodal. Digital storytelling (DST) adalah salah satu cara baru untuk melakukannya. DST menggabungkan teks, gambar, audio, dan video dengan sebuah cerita sehingga siswa dapat belajar, menciptakan, dan berinteraksi dengan konten secara bermakna. Studi ini merupakan tinjauan literatur naratif tematik yang mensintesis penelitian tentang DST dan platform Storybird, dengan fokus pada pembelajaran multimodal dan pengembangan keterampilan menulis. Studi-studi relevan dianalisis menggunakan analisis adaptasi tematik Braun dan Clarke untuk mengidentifikasi pola, manfaat, dan kelemahan penelitian. Temuan tinjauan ini menunjukkan bahwa DST meningkatkan keterlibatan, pemrosesan kognitif, dan komunikasi multimodal, sementara Storybird memfasilitasi organisasi naratif, pengembangan ide, dan ekspresi kreatif. Keduanya meningkatkan motivasi, mengurangi kecemasan menulis, dan memfasilitasi literasi multimodal. Namun, sebagian besar studi menekankan hasil belajar, sementara mekanisme kognitif dan prosedural yang mendasari pembelajaran multimodal dan menulis masih kurang diteliti. Studi ini menekankan pentingnya penelitian kualitatif dan berorientasi proses untuk memahami bagaimana peserta didik mengintegrasikan berbagai mode, mengembangkan keterampilan kreatif, dan mengoptimalkan potensi Teknologi Cerita Digital (DST) dalam pendidikan berbasis teknologi.

**Kata kunci:** Digital storytelling, Storybird, multimodal, menulis, pendidikan

### ABSTRACT

Digital technology has changed the way we teach by facilitating interactive and multimodal learning. Digital storytelling (DST) is one new way of doing this. DST combines text, images, audio, and video with a story so that students can learn, create, and interact with content in a meaningful way. This study is a thematic narrative literature review that synthesizes research on DST and the Storybird platform, focusing on multimodal learning and writing skill development. Relevant studies were analyzed using Braun and Clarke's thematic adaptation analysis to identify patterns, benefits, and weaknesses in the research. The findings of this review indicate that DST enhances engagement, cognitive processing, and multimodal communication, while Storybird facilitates narrative organization, idea development, and creative expression. Both increase motivation, reduce writing anxiety, and facilitate multimodal literacy. However, most studies emphasize learning outcomes, while the cognitive and procedural mechanisms underlying multimodal learning and writing remain understudied. This study emphasizes the importance of qualitative and process-oriented research to understand how learners integrate various modes, develop creative skills, and optimize the potential of Digital Storytelling Technology (DST) in technology-based education.

**Keywords:** Digital storytelling, DST, Storybird, multimodal learning, writing development, narrative, educational technology, creative learning

## **INTRODUCTION**

Digital technologies have come a long way in a short amount of time, and they have had a big effect on how people learn. They have made learning more interactive and fun. Digital storytelling (DST) is one of these new teaching methods that uses stories along with multimedia elements like pictures, music, video, and text (Lambert, 2013; Robin, 2008). DST allows students to make sense of things by using different ways of showing them, which makes multimodal learning possible. This method combines spoken, written, and visual information, which makes it easier to understand, remember, and stay interested than learning from text alone. (Cariño et al., 2024; Yang & Wu, 2012). DST offers a flexible way for students to be creative, organize complicated ideas, and take part in interactive learning processes by using both story and digital media.

Multimodal learning via DST underscores the interplay between narrative frameworks and various semiotic resources, facilitating the creation of meaning that transcends traditional reading and writing practices. Several studies highlight that DST encourages learners to actively engage with content by combining textual, visual, and auditory modes, thereby enhancing comprehension and promoting higher-order cognitive skills such as critical thinking and synthesis (Hwang et al., 2009; Sadik, 2008). Furthermore, the multimodal nature of DST can cater to different learning preferences and styles, providing learners with alternative ways to engage with the material and express their ideas. Additional studies demonstrate that DST enhances motivation and prolonged engagement by promoting creative engagement with content rather than passive consumption. (Adara et al., 2022; Robin, 2016).

Storybird is an art-inspired and user-friendly DST platform that makes it easy to make stories that are full of pictures. There are pictures, cover art, titles, page layouts, and tale summaries on the site that help you find your way. (Aminah & Syahputra, 2023; Biggs, 2013). Storybird helps people improve their writing skills by helping them come up with ideas, organize their stories, and be more creative. Even beginners can use it to write stories that make sense and are interesting (Castillo-Cuesta et al., 2021; Purwandari et al.,

2019). Research shows that this platform makes students more motivated and less anxious about traditional writing exercises by providing a supportive and interactive space that encourages experimentation and continuous growth (Ariyani et al., 2024; Chiang, 2020).

Storybird's use of several modes and visuals fits with modern ideas about digital literacy that stress the importance of combining reading, writing, and storytelling skills. Storybird helps users make coherent stories by mixing visual prompts with organized storytelling elements. This encourages creativity and critical thinking (Ariyani et al., 2024; Hapsari et al., 2016). The platform's interactive capabilities also make it easier for learners to get involved by letting them explore and change tale parts. This gives them chances to try out different content, structure, and expression. In this way, Storybird shows how technology can help with multimodal writing development, which goes beyond traditional story exercises for DST.

Recent research in the Indonesian EFL environment has shown how important reflective practice and meaning-making are for helping teachers become more aware of their teaching and grow professionally. Nur et al. (2026) have shown that reflective exercises facilitate pre-service English teachers in critically analyzing their teaching experiences, formulating pedagogical identities, and enhancing their pedagogical comprehension. These findings indicate that learning efficacy cannot be comprehensively assessed merely through observable outputs; it is necessary to also examine the introspective and cognitive processes that underpin learning activities.

Even if these benefits have been shown to be real, most of the research on digital storytelling (DST) and Storybird focuses on measurable learning outcomes, including engagement, writing performance, and creativity. Previous study has also focused on how teachers' affective and reflective experiences shape their professional identity and understanding of how to teach, in addition to cognitive and technical factors.

Research on the foreign teaching experiences of preservice teachers indicates that

emotions and organized reflection are essential for meaning-making and professional development (Rachmawati Nur et al., 2025). There hasn't been as much research on the cognitive and procedural processes that help learners make sense of multimodal surroundings. Specifically, there hasn't been much research on how students choose, arrange, and combine visual, textual, and auditory modes while they are writing, or how platform-specific features like visual prompts, narrative frames, and layout constraints affect how students organize their stories and make meaning. Nur et al. (2026) point out that process-oriented perspectives, especially those that focus on reflection, meaning-making, and identity formation, have not been studied enough in technology-supported learning settings.

This narrative thematic review tries to go beyond outcome-oriented findings and bring together the available literature through a process-oriented lens by focusing on two connected themes: multimodal learning through DST and Storybird for writing skill development. This synthesis aims to elucidate the pedagogical and cognitive functions of digital storytelling platforms and to pinpoint underexplored domains necessitating more qualitative and design-oriented research in EFL writing situations.

## **METHODOLOGY**

This study employs a narrative thematic literature review to integrate and analyze current research on digital storytelling (DST) and Storybird as a DST platform, emphasizing their contributions to multimodal learning and writing development. A narrative review approach was selected as it facilitates interpretive and contextual analysis, hence enabling the detection of recurring patterns, contrasts, and research deficiencies. This evaluation utilized theme analysis derived from the Braun and Clarke framework to improve transparency and analytical rigor.

Relevant studies were identified through searches of academic databases and scholarly sources using a combination of keywords such as "digital storytelling," "DST," "Storybird," "multimodal learning," "writing development," "digital literacy," "technology-enhanced learning,"

and "interactive learning tools." We also included related terms like "multimedia learning," "multiliteracies," and "creative writing" to make sure we covered everything. The search concentrated on peer-reviewed journal papers, conference proceedings, and reputable scholarly publications that examined DST and Storybird within educational or learning frameworks, particularly emphasizing their pedagogical potential for multimodal engagement and the enhancement of writing skills.

The literature examined consists of around 20 peer-reviewed articles published from 2013 to 2024, indicating the increasing integration of digital storytelling and Storybird in technology-enhanced learning. The chosen studies encompass a variety of EFL educational settings, including primary, secondary, and university levels. We included articles that were relevant to digital storytelling, multimodal learning, and writing development, but we left out studies that didn't have much to do with teaching. This method puts more emphasis on thematic depth than on complete coverage, which is in line with the interpretive nature of narrative reviews.

The chosen studies underwent analysis by thematic analysis, derived from Braun and Clarke, encompassing the following steps: literature introduction, initial coding, topic identification, theme evaluation, theme definition and designation, and final synthesis. During coding, we looked for patterns that kept coming up, like (a) how people think about and benefit from DST, (b) Storybird's features and functions, and (c) the results of multimodal learning and writing development. The codes were repeatedly improved until they became higher-level categories, and then they were put together into themes that best showed the consistent and relevant patterns in the literature.

The Results and Discussion section shows two primary ideas that came out of this process: (1) Multimodal Learning through Digital Storytelling and (2) Storybird for Writing Development. This review is narrative in character, but the systematic thematic approach makes sure that the interpretation is clear and that dependable thematic patterns in the literature can be found.

## RESULTS & DISCUSSION

This chapter provides a thematic synthesis of prior research on digital storytelling (DST) and Storybird as a DST platform. The analysis is structured around two main themes: (1) Multimodal Learning through Digital Storytelling and (2) Storybird for Writing Development. Each subject combines published findings, critical analysis and points out gaps in the research.

### 1. Multimodal Learning through Digital Storytelling

Digital storytelling (DST) is a widely acknowledged multimodal pedagogical method that amalgamates narrative frameworks with text, audio, graphics, and video (Robin, 2008; Yuliani & Hartanto, 2021). Multiple studies highlight that DST is not merely the creation of digital products but a pedagogical process of meaning-making, where learners actively construct narratives using multiple semiotic modes (Cariño et al., 2024; Robin, 2016; Sadik, 2008) they emphasize that this multimodal nature allows learners to engage simultaneously with visual, auditory, and textual information, strengthening comprehension, memory retention, and cognitive engagement.

Studies repeatedly demonstrate that DST enhances learner engagement and motivation owing to its interactive and contextualized characteristics. Hwang et al. (2009) discovered that DST fosters relevant learning settings that promote active engagement, whereas Yang & Wu (2012) noted enhancements in academic achievement, critical thinking, and learner motivation. These results indicate that DST facilitates both cognitive and affective learning outcomes beyond traditional teaching approaches. Furthermore, DST is consistent with constructivist ideas, which assert that learners actively build knowledge through experience and interaction (Cariño et al., 2024; Ramalia, 2023).

DST has also been linked to the growth of multimodal communication skills, which let students share their thoughts through the use of text, images, and sound (Adara et al., 2022). Yuliani & Hartanto (2021) also say that DST helps students become more digitally literate by teaching them how to use and combine different types of media. Beyond cognitive and digital skills, DST

contributes to creative thinking and moral reasoning, particularly when narratives carry contextually meaningful or value-based content (Cariño et al., 2024; Nurchurifiani et al., 2024).

There is a lot of evidence that DST works, yet there are still gaps in the research. Most studies focus on learner outcomes such as engagement, literacy, and motivation (Ferdiansyah, 2018; Yuliani & Hartanto, 2021), while the underlying mechanisms of multimodal learning are less explored. In particular, not many studies look into how combining semiotic modes helps in understanding and making meaning. According to Cariño et al. (2024), DST skills are getting better, but we don't know much about the cognitive and pedagogical processes that help learners combine different types of representation. This suggests a necessity for research that investigates the practical functioning of DST's multimodal affordances, rather than solely as a quantified result.

These findings indicate that DST offers a comprehensive multimodal framework that fosters engagement, cognitive processing, and creativity. DST facilitates enhanced meaning-making and knowledge retention by integrating various information channels, in contrast to unidimensional techniques. At the same time, the focus on outcomes over procedures points to a new field of study: looking into how students combine visual, written, and spoken information in DST settings in both cognitive and creative ways.

### 2. Storybird for Writing Development

Storybird, an art-inspired Web 2.0 platform, facilitates digital story creation by allowing users to create narratives based on selected illustrations, with structured guidance through cover art, titles, pages, and synopses (Biggs, 2013; Koroğlu, 2023). This framework supports learners in organizing ideas, developing narrative coherence, and expressing creativity (Aminah & Syahputra, 2023; Purwandari et al., 2019).

Studies have shown time and time again that Storybird makes people more interested in writing and less anxious about it. Chiang (2020) said that students liked writing in Storybird more than they liked writing in typical text-only assignments. Ulfiantari & Aprialiaswati (2023)

also said that being able to share stories with more people makes people more motivated and leads to better writing. Storybird's interactive and collaborative features also make it easier for students to interact and give each other feedback, which helps them stay interested in writing stories (Ariyani et al., 2024; Castillo-Cuesta et al., 2021).

Storybird promotes the cultivation of creative and multimodal literacy, in addition to structure and engagement. Visual stimuli help pupils come up with new and original ways to express their ideas and think beyond verbal limits (Castillo-Cuesta et al., 2021; Hapsari et al., 2016). Ariyani et al. (2024) emphasize that Storybird fosters independence, collaboration, and active engagement, while Arianti (2018) observes that facilitators can proficiently oversee and direct work management. These features show that Storybird is not merely a writing tool but also a place where people may create in many different ways.

While many people say that Storybird's visual suggestions are helpful, other studies show that pre-selected drawings can make it harder for kids to tell their own stories, especially when they use visuals to change the story instead of coming up with their own ideas. This underscores the necessity to analyze how Storybird's design facilitates and limits creative and cognitive processes in writing.

However, the literature on Storybird largely emphasizes learning outcomes such as writing performance, motivation, and creativity. Only a few studies have looked at how its structural characteristics and prompts help cognitive and narrative processes, like coming up with new ideas, organizing a story, and combining different types of media. To explain how Storybird helps with writing development, it's important to understand these dynamics, not only claim better results.

Overall, Storybird is a structured, easy-to-use, and interactive space that helps people write coherent stories and learn in many different ways. Its mix of pictures and words encourages creativity and helps people learn in a way that makes sense. However, the focus on outcomes rather than processes suggests the need for further research into how learners cognitively integrate Storybird's

features, how they organize narratives, and how the platform influences creative thinking and knowledge construction in digital storytelling.

## CONCLUSION

This narrative thematic literature study integrates findings from prior research on digital storytelling (DST) and Storybird. The examination centers on two primary themes: (1) multimodal learning via DST and (2) Storybird as a tool for writing growth. The synthesis indicates that DST is broadly acknowledged as an effective teaching method that promotes multimodal engagement, meaning-making, and the integration of many semiotic modalities, including text, visuals, and audio (Cariño et al., 2024; Robin, 2008; Yuliani & Hartanto, 2021). DST helps students build knowledge by having them create stories digitally, which helps them develop their cognitive, creative, and expressive talents.

This evaluation enhances the domain of EFL (English as a Foreign Language) and technology-assisted learning in three distinct manners. First, it combines what is already known about digital storytelling and Storybird from a process-oriented, multimodal point of view, which is different from the usual outcome-focused debate. Second, it emphasizes the educational and cognitive benefits of visual storytelling platforms in facilitating narrative production and writing advancement. Third, it finds important gaps that can help future qualitative and design-based research on how students use different semiotic modes when they write.

As a specialized DST platform, Storybird has always been praised for its artsy, easy-to-use atmosphere that encourages writing and creative expression. Studies show that Storybird facilitates idea generation, narrative organization, and multimodal integration, while increasing motivation and engagement in writing tasks (Aminah & Syahputra, 2023; Ariyani et al., 2024; Biggs, 2013; Purwandari et al., 2019). Its hierarchical design, visual prompts, and interactive elements help learners write stories that make sense and are creative. This suggests that Storybird is not merely a tool for writing practice but also a way to improve multimodal literacy.

Despite these clear benefits, this review also identified a significant gap in the literature. Many research concentrates on outcomes like engagement, writing performance, and creativity, but few have investigated the fundamental mechanisms by which DST and Storybird facilitate multimodal learning and writing growth. In particular, the methods by which learners combine different modes, put their ideas in order, and use the platform's helpful features are still not well understood. To properly grasp how DST and Storybird help with deeper cognitive and creative development, we need to fill this gap.

Future study ought to employ process-oriented and qualitative methodologies, such as case studies, design-based inquiry, or multimodal analysis, to examine the interactions of learners with the DST platform and the ways in which Storybird elements facilitate the writing process. Such studies could elucidate multimodal learning mechanisms, the interaction between visual and textual modalities, and the enhancement of narrative and creative skills via digital storytelling (Jaelani, A., Lustyantje, N., & Murtadho, F., 2025).

This review offers a thorough examination of prevailing themes and research deficiencies about DST and Storybird, despite its narrative breadth and contextual variety. The results help us understand better how digital storytelling can be used in teaching and learning, and they point to areas where more research is needed in the field of technology-enhanced learning.

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