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The Effect of Digital Storytelling on EFL Learners' Speaking Skills: A Systematic Literature Review

Author:
Selvi

Affiliation:
Department of Language Education,
State Islamic University of Palangka
Raya, Indonesia

Corresponding email:
[selvi2411120023@uin-
palangkaraya.ac.id](mailto:selvi2411120023@uin-palangkaraya.ac.id)

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Abstract: Speaking remains a persistent challenge for many English as a Foreign Language (EFL) learners due to limited exposure and high anxiety. While Digital Storytelling (DST) has emerged as a promising technology-enhanced strategy to address these challenges, a focused synthesis of its recent effects on specific speaking components remains scarce. Guided by the PRISMA framework, this Systematic Literature Review (SLR) synthesized 10 empirical studies published between 2020 and 2026 to investigate the effects of DST on EFL learners' speaking skills and the contextual factors moderating its effectiveness. The methodological quality of the included studies was rigorously appraised using an adapted Mixed Methods Appraisal Tool (MMAT). Using thematic synthesis, the review identified three overarching analytical themes: (1) significant improvements in speaking performance components, particularly fluency, pronunciation, and vocabulary; (2) a notable reduction in speaking anxiety accompanied by increased learner confidence; and (3) enhanced learner motivation and engagement through creative, multimodal narrative tasks. The findings reveal that DST tool selection and pedagogical framework serve as critical moderating variables shaping oral linguistic outcomes.

Keywords: Digital Storytelling (DST); EFL; Speaking Skills; Systematic Literature Review; PRISMA

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Introduction

Speaking is widely recognized as one of the most essential productive skills in English as a Foreign Language (EFL) learning, as it enables learners to communicate meaningfully, convey ideas, and participate in authentic social interactions. Despite its central role in language learning, speaking remains a persistent challenge for many EFL learners across educational levels. Difficulties such as limited exposure to the target language, insufficient authentic communicative practice, low self-confidence, and high levels of speaking anxiety continue to hinder EFL learners' oral development (Bai & Xian, 2024). These challenges are especially pronounced in EFL contexts where English functions primarily as a subject of formal instruction rather than a medium of everyday communication, leaving learners with few opportunities to develop fluency and confidence in spoken English.

In response to these challenges, technology-enhanced language teaching approaches have gained increasing attention as pedagogically effective alternatives to conventional speaking instruction. Among

these approaches, Digital Storytelling (DST) has emerged as a promising strategy that integrates digital tools, multimodal resources, and narrative activities to support oral language development. Digital storytelling is broadly defined as the practice of constructing and sharing personal or creative narratives using digital media such as images, audio, video, and text to produce short multimodal compositions (Nair & Yunus, 2021). By engaging learners in the process of planning, recording, and presenting their own stories through digital platforms, DST offers an authentic, low-anxiety, and creativity-driven context for oral language practice that aligns with contemporary communicative language teaching principles.

A growing body of empirical research has demonstrated the positive effects of digital storytelling on various dimensions of EFL speaking competence. Studies have reported improvements in speaking fluency, pronunciation accuracy, vocabulary production, speech organization, and willingness to communicate following DST interventions (Dewi et al., 2025; Astuti, 2023; Gutti & Sahar Abboud, 2024). Beyond linguistic outcomes, DST has also been found to reduce speaking anxiety and foster greater learner motivation and engagement in oral tasks (Arroba et al., 2021). These findings collectively suggest that DST holds considerable promise as an instructional tool for EFL speaking development across diverse learner populations and educational settings.

To address the gaps identified in the existing literature, the present study is guided by the following research questions: (1) What are the effects of digital storytelling on EFL learners' speaking skills based on empirical studies published between 2020 and 2026? (2) Which components of speaking skills are most consistently improved through digital storytelling interventions in EFL contexts? (3) What contextual and methodological factors moderate the effectiveness of digital storytelling on EFL learners' speaking development?

Accordingly, the present study conducts a Systematic Literature Review (SLR) guided by the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework to synthesize empirical studies published between 2020 and 2026 on the effect of digital storytelling on EFL learners' speaking skills. Specifically, this review aims to: (1) identify and describe the characteristics of recent empirical studies on DST and EFL speaking skills; (2) synthesize the key findings of these studies through thematic analysis; and (3) discuss the theoretical and pedagogical implications of the synthesized evidence for EFL speaking instruction.

Literature Review

Digital Storytelling in EFL Contexts

Digital storytelling has attracted growing scholarly interest as a technology-enhanced approach for language instruction. Empirical research conducted across diverse EFL settings has consistently demonstrated improvements in multiple dimensions of speaking competence following DST interventions, including fluency, pronunciation accuracy, vocabulary production, speech organization, and willingness to communicate (Dewi et al., 2025; Astuti, 2023; Gutti & Sahar Abboud, 2024). Beyond linguistic outcomes, DST has also been found to reduce speaking anxiety and foster greater learner motivation and engagement in oral tasks (Arroba et al., 2021). These findings collectively suggest that DST holds considerable promise as an instructional tool for EFL speaking development across diverse learner populations and educational settings.

Prior Systematic Reviews and Research Gaps

Despite this growing interest, existing systematic reviews on digital storytelling in language education have not yet provided a sufficiently focused synthesis of its effects specifically on EFL speaking skills. Nair & Yunus (2021) conducted a systematic review on DST and speaking skills in Sustainability; however, their review was not limited to the most recent literature and did not critically examine variations in effect across different speaking skill components such as fluency, pronunciation, and anxiety. Lim et al (2022), in a more comprehensive review published in Education and Information

Technologies, analyzed 71 studies on DST across all language skills in adolescent and adult learners, but their broad scope prevented a deep synthesis of speaking-specific outcomes. Ong & Aryadoust (2023) reviewed DST in the context of children's language learning, limiting the applicability of their findings to EFL learners at secondary and tertiary levels.

More recently, a meta-analytic study by Veyis et al (2025) examined the effect of DST across language skills but employed a quantitative aggregation approach that does not allow for nuanced thematic interpretation of contextual and methodological variation across studies. Additionally, a systematic review by Xu & Hashim (2023) focused specifically on the affective factors influenced by DST elements in EFL/ESL contexts, leaving speaking performance outcomes largely unaddressed.

These gaps in the existing literature indicate that, to date, no systematic literature review has specifically and comprehensively synthesized empirical studies published between 2020 and 2026 on the effect of digital storytelling on EFL learners' speaking skills using a thematic synthesis approach. The absence of such a focused and up-to-date review is significant, given the substantial increase in DST-related research in EFL speaking contexts following the COVID-19 pandemic, during which technology-enhanced instruction became particularly prominent. Without a dedicated synthesis of recent evidence, educators and researchers lack a clear and evidence-based understanding of how DST affects the multiple dimensions of EFL speaking development, under what conditions its effects are most pronounced, and what limitations remain in the current body of research.

Theoretical Framework

This review is theoretically grounded in three complementary frameworks. Multimodal Learning Theory (Mayer, 2009) posits that learning is enhanced when verbal and visual information are integrated, which aligns with DST's use of combined audio, visual, and narrative modalities. The Affective Filter Hypothesis (Krashen, 1982) suggests that lowering emotional barriers such as anxiety facilitates more effective language acquisition, explaining why DST's low-stakes creative environment supports oral production. Self-Determination Theory (Deci & Ryan, 2000) further identifies autonomy, competence, and relatedness as core psychological needs that sustain intrinsic motivation, all of which are addressed simultaneously through the collaborative and creative nature of DST tasks.

Research Method

Research Design

This study employs a Systematic Literature Review (SLR) as its research design. A Systematic Literature Review is a rigorous and structured method of identifying, selecting, evaluating, and synthesizing existing research studies relevant to a specific research question or topic (Liberati et al., 2009). Unlike a traditional narrative review, an SLR follows a transparent, explicit, and replicable protocol designed to minimize selection bias and provide a comprehensive, reproducible overview of the available evidence on a given subject. The SLR approach was selected for this study because it enables a systematic and objective synthesis of the growing body of empirical research on digital storytelling in EFL contexts, thereby providing a more reliable evidence base than any single primary study could offer.

The PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework is adopted as the guiding protocol for this review (Moher et al., 2009). PRISMA provides a standardized checklist and flowchart procedure for conducting and reporting systematic reviews, ensuring transparency at each stage of the review process from database searching through to final synthesis.

Data Source and Search Strategy

The literature search was conducted across four reputable academic databases: Google Scholar, ERIC (Education Resources Information Center), Scopus, and DOAJ (Directory of Open Access Journals).

These databases were selected because they provide comprehensive and complementary coverage of peer-reviewed research in applied linguistics, language education, and educational technology. Searching across multiple databases reduces the risk of missing relevant studies and strengthens the comprehensiveness of the evidence base.

The search was conducted using a combination of keywords and Boolean operators to maximize the retrieval of relevant studies. The primary keyword combinations used were: ("digital storytelling" AND "speaking skills" AND "EFL"), ("digital storytelling" AND "oral production" AND "EFL"), ("DST" AND "speaking" AND "English as a Foreign Language"), ("digital storytelling" AND "speaking anxiety" AND "EFL"), and ("digital storytelling" AND "fluency" OR "pronunciation" AND "EFL"). The search was restricted to articles published in English between January 2020 and June 2026. Reference lists of retrieved articles were also manually screened to identify any additional relevant studies not captured by the database search.

Inclusion and Exclusion Criteria

Prior to conducting the literature search, a set of explicit inclusion and exclusion criteria was established to ensure consistency, objectivity, and transparency in the study selection process. The criteria are presented in Table 1 below.

Table 1. Inclusion and Exclusion Criteria

Criteria	Inclusion	Exclusion
Publication type	Peer-reviewed journal articles and conference papers	Books, theses, dissertations, and non-peer-reviewed sources
Publication year	2020–2026	Studies published before 2020
Language	Articles written in English	Articles written in languages other than English
Participants	EFL learners at any educational level	Studies not involving EFL learners
Intervention	Studies using digital storytelling (DST) as a teaching technique or strategy	Studies that do not involve digital storytelling as the main intervention
Outcome	Studies that measure or discuss speaking skills or oral production	Studies focusing solely on reading, writing, or listening without addressing speaking

Study Selection Procedure

The study selection process was conducted in four sequential stages following the PRISMA flowchart: identification, screening, eligibility, and inclusion. In the identification stage, a total of 50 records were retrieved from the four databases using the keyword combinations described above. After removing 12 duplicate records identified across databases, 38 unique records remained for further screening.

In the screening stage, the titles and abstracts of all 38 records were independently reviewed by the researcher against the inclusion and exclusion criteria. Articles that were clearly irrelevant to the research topic, did not involve EFL participants, or did not address speaking skills were excluded at this stage, resulting in the removal of 18 records. The remaining 20 articles proceeded to the eligibility stage, in which their full texts were retrieved and read in their entirety. An additional 10 articles were excluded at this stage for reasons including publication outside the specified year range, failure to meet quality

appraisal criteria, inaccessibility of the full text, or a primary focus on language skills other than speaking. The final 10 studies that met all inclusion criteria were incorporated into the synthesis.

Data Extraction

A standardized data extraction form was developed and applied consistently across all 10 included studies to ensure systematic and comprehensive data collection. The following information was extracted from each study: (1) author(s) and year of publication; (2) country and institutional context; (3) educational level and participant characteristics; (4) type of digital storytelling tool or platform used; (5) duration and frequency of the DST intervention; (6) research design and data collection instruments; (7) key findings related to speaking skills outcomes; and (8) conclusions and recommendations stated by the authors. The extracted data were organized into a structured summary table to facilitate systematic comparison and thematic synthesis across studies.

Quality Assessment

To ensure that only methodologically sound studies contributed to the conclusions of this review, a quality assessment was conducted for each of the 10 included studies using an adapted version of the Mixed Methods Appraisal Tool (Hong et al., 2018). Each study was assessed against five quality criteria adapted from the MMAT: (Q1) Is the research question clearly stated and aligned with the study design? (Q2) Are the data collection methods adequate and clearly described? (Q3) Is the intervention or phenomenon under study sufficiently described? (Q4) Are the outcome measures appropriate and clearly defined? (Q5) Are the findings adequately supported by the data presented? Each criterion was rated as "Yes," "Partial," or "No." Studies receiving predominantly "Yes" ratings were classified as High quality, those with a mix of "Yes" and "Partial" ratings as Moderate quality, and those receiving predominantly "No" or "Partial" ratings would have been excluded. All 10 included studies met the minimum quality threshold, with seven rated as High and three as Moderate. The quality assessment results are presented in Table 2 below.

Table 2. Quality Assessment Results (Adapted MMAT)

No	Author & Year	Q1	Q2	Q3	Q4	Q5	Overall Quality
1	Bai & Xian (2024)	Yes	Yes	Yes	Yes	Yes	High
2	Aman et al. (2026)	Yes	Yes	Yes	Yes	Partial	High
3	Gutierrez-Colon & Abboud (2024)	Yes	Yes	Yes	Partial	Yes	High
4	Fu, Yang & Yeh (2021)	Yes	Yes	Yes	Partial	Partial	Moderate
5	Zhussupova & Shadiev (2023)	Yes	Yes	Partial	Yes	Yes	High
6	Nair & Yunus (2022)	Yes	Yes	Yes	Yes	Partial	High
7	Arroba & Acosta (2021)	Yes	Partial	Yes	Yes	Partial	Moderate
8	Ursua et al. (2025)	Yes	Yes	Yes	Partial	Yes	High

9	Astuti & Chakim (2023)	Yes	Yes	Yes	Yes	Partial	High
10	Nuriyah et al. (2024)	Yes	Yes	Yes	Partial	Partial	Moderate

Note: Q1 = Research question clarity and design alignment; Q2 = Adequacy of data collection; Q3 = Sufficient description of intervention; Q4 = Appropriateness of outcome measures; Q5 = Adequacy of data support for findings. Yes = fully met; Partial = partially met.

Data Analysis

The findings of the 10 included studies were analyzed using thematic synthesis, a systematic qualitative method developed by Thomas & Harden (2008) for synthesizing findings from multiple primary studies. Thematic synthesis was selected because it is particularly well suited to heterogeneous study designs and enables the development of interpretive analytical themes that extend beyond the descriptive content of individual studies. The thematic synthesis was conducted in three sequential stages: line-by-line coding of key findings, grouping of initial codes into descriptive themes, and refinement into analytical themes. This three-stage process resulted in the identification of three overarching analytical themes.

Findings

Study Selection and Characteristics

The systematic search across four databases initially identified 50 records. Following the removal of 12 duplicate records, 38 unique records remained for title and abstract screening. During the screening stage, 18 records were excluded for irrelevance to digital storytelling and EFL speaking skills ($n = 9$), absence of EFL participants ($n = 5$), and failure to address speaking skills as an outcome ($n = 4$). The remaining 20 articles proceeded to full-text eligibility assessment. At this stage, 10 additional articles were excluded: seven were published before 2020, one was inaccessible in full text, one was published in a non-indexed journal, and one focused primarily on children's literacy rather than EFL speaking skills. Ultimately, 10 studies met all inclusion and quality criteria and were incorporated into the final synthesis. The complete selection process is summarized in Table 3.

Table 3. PRISMA Flow (Study Selection Process)

Stage	Details
Identification	Articles identified from databases (Google Scholar, ERIC, Scopus, DOAJ): 50 records
Duplicates Removed	Duplicate records removed: 12. Records remaining: 38
Screening	Records screened by title and abstract: 38. Records excluded: 18 (irrelevant topic = 9; not involving EFL learners = 5; speaking skills not addressed = 4). Records remaining: 20
Eligibility	Full-text articles assessed: 20. Articles excluded: 10 (published before 2020 = 7; full text inaccessible = 1; non-indexed journal = 1; focus not on speaking skills = 1). Records remaining: 10
Inclusion	Studies included in final synthesis: 10

The characteristics of the 10 included studies are presented in Table 4. The studies were published between 2021 and 2026 and were conducted across eight countries: Indonesia (n = 3), China (n = 1), Lebanon (n = 1), Taiwan (n = 1), Kazakhstan (n = 1), Malaysia (n = 1), Ecuador (n = 1), and the Philippines (n = 1). Participant groups ranged from primary school pupils (Nair, 2022) to pre-service teachers (Roza & Rustam, 2023), with the majority of studies involving secondary or university-level EFL learners. Sample sizes ranged from 24 to 60 participants. Intervention durations ranged from four weeks (Nuriyah & Pahamzah, 2024) to one full semester (Roza & Rustam, 2023). Research designs included quasi-experimental (n = 5), randomized controlled trial (n = 1), mixed methods (n = 1), qualitative case study (n = 1), action research (n = 1), and post-test only quantitative design (n = 1).

Table 4. Characteristics of Included Studies

No	Author & Year	Country	Participants	DST Tool	Duration	Main Finding
1	Bai & Xian (2024)	China	48 university students (IELTS prep)	Video recording + digital platforms	12 weeks	RCT. Significant improvement in L2 speaking (d = 0.71). Speaking anxiety reduced significantly. Effects sustained 1 month post-intervention.
2	Aman et al. (2026)	Indonesia	60 Grade XI EFL students	Digital storytelling app	6 weeks	Quasi-experimental. Significant gains in pronunciation and fluency. Experimental group outperformed control group (p < 0.05).
3	Gutierrez-Colon & Abboud (2024)	Lebanon	42 university EFL students	Video-based storytelling	8 weeks	Quasi-experimental. Significant improvement in grammatical accuracy and oral fluency. Positive learner perceptions of DST.
4	Fu, Yang & Yeh (2021)	Taiwan	36 university EFL students	Toontastic (animation app)	8 weeks	Quasi-experimental. Significant gains in speech organization and delivery. No significant improvement in fluency or language use.
5	Zhussupova & Shadiey (2023)	Kazakhstan	24 TEFL pre-service teachers	Digital video storytelling	One semester	Case study. Improved academic public speaking, vocabulary, oral fluency, and coherence in multilingual classroom settings.
6	Nair & Yunus (2022)	Malaysia	30 primary school pupils (Year 4)	WeVideo platform	4 weeks	Mixed methods. Improved speaking skills post-DST. Increased motivation and positive collaborative attitudes observed.
7	Arroba & Acosta (2021)	Ecuador	28 secondary EFL students	Digital video narrative	6 weeks	Action research. DST fostered meaningful oral production and reduced inhibitions in speaking. High learner engagement reported.
8	Ursua et al. (2025)	Philippines	50 university EFL students	Digital storytelling in PBL	8 weeks	Quantitative. Significant improvement in speaking skills and critical thinking. High student satisfaction (M = 4.6/5.0).
9	Astuti & Chakim (2023)	Indonesia	40 secondary EFL students	Video storytelling	6 weeks	Quasi-experimental. Significant improvement in speaking (d = 0.63). Gains in fluency, vocabulary, and accuracy.

10	Nuriyah et al. (2024)	Indonesia	34 Grade XI EFL students	Digital storytelling video	4 weeks	Quasi-experimental. Experimental group significantly outperformed control on all speaking indicators including pronunciation and fluency ($p < 0.05$).
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Table 5 presents the 10 studies excluded during the full-text eligibility stage along with the reasons for exclusion.

Table 5. Excluded Studies and Reasons for Exclusion

No	Author & Year	Reason for Exclusion
1	Robin (2008)	Published outside the inclusion period (before 2020)
2	Lambert (2012)	Published outside the inclusion period (before 2020)
3	Hung, Hwang & Huang (2012)	Published outside the inclusion period (before 2020)
4	Yee, Abdullah & Nawi (2017)	Published outside the inclusion period (before 2020)
5	Eissa (2019)	Published outside the inclusion period (before 2020)
6	Kallinikou & Nicolaidou (2019)	Published outside the inclusion period (before 2020)
7	Rubini, James, Yong & Yunus (2019)	Published outside the inclusion period (before 2020)
8	Yang, Chen & Hung (2020)	Full text not accessible for eligibility assessment
9	Sinaga, Sari & Sembiring (2021)	Published in a non-indexed journal; did not meet quality appraisal criteria
10	Ong & Aryadoust (2023)	Primary focus on children's literacy development, not EFL speaking skills specifically

Thematic Findings

Theme 1: Improvement in Speaking Performance Components

Eight of the ten included studies reported statistically significant or qualitatively notable improvements in one or more components of EFL speaking performance following DST interventions. The specific speaking components affected, however, varied across studies depending on the type of DST tool used, the duration of the intervention, and the speaking assessment criteria applied.

Among the quasi-experimental studies, (Astuti, 2023), working with 40 secondary EFL students in Indonesia over six weeks, found a medium-to-large effect size ($d = 0.63$) for overall speaking improvement, with the most pronounced gains observed in fluency and vocabulary range. Similarly, Nuriyah & Pahamzah (2024), in a four-week intervention involving 34 Grade XI students in Indonesia,

reported that the experimental group significantly outperformed the control group across all speaking indicators including pronunciation, fluency, and grammatical accuracy ($p < 0.05$). Aman et al. (2026), with 60 Grade XI students across a six-week program, also found significant gains in pronunciation and fluency ($p < 0.05$). Gutí & Sahar Abboud (2024), in an eight-week intervention with 42 Lebanese university students, specifically highlighted improvements in grammatical accuracy in oral production.

The study by Bai & Xian (2024), the only RCT in the corpus, produced the most methodologically robust evidence, reporting a significant effect size of $d = 0.71$ for L2 speaking improvement among 48 Chinese university students following a 12-week intervention. Notably, their study is also the only one to have examined longitudinal effects, finding that speaking gains were sustained one month after the intervention concluded. In contrast, Fu et al. (2021) reported a more nuanced outcome: among 36 Taiwanese university students using Toontastic over eight weeks, significant improvements were found only in speech organization and delivery, with no significant gains in fluency or language use.

Theme 2: Reduction of Speaking Anxiety and Increased Confidence

Four of the ten included studies explicitly addressed the affective dimension of speaking, reporting reductions in speaking anxiety and increases in learner confidence following DST interventions. Bai & Xian (2024) provided the most statistically rigorous evidence, demonstrating through standardized anxiety measures that speaking anxiety significantly decreased among IELTS preparation students following the 12-week DST program, with effects remaining stable at one-month follow-up.

Arroba et al. (2021), in an action research study with 28 secondary students in Ecuador, reported qualitative evidence that learners became progressively more willing to speak in English as they engaged in iterative storytelling tasks, attributing this shift to the reduced evaluative pressure associated with storytelling compared to formal speaking assessments. Roza & Rustam (2023) similarly observed among 24 pre-service TEFL teachers in Kazakhstan that the collaborative and culturally inclusive nature of DST in multilingual classrooms contributed to a more psychologically safe speaking environment. These findings collectively suggest that the creative and meaning-focused nature of DST systematically lowers the affective filter (Krashen, 1982), enabling learners to engage more freely in oral production.

Theme 3: Enhancement of Learner Motivation and Engagement

Six of the ten included studies reported notable improvements in learner motivation, engagement, or positive attitudes toward speaking activities following DST interventions. Nair (2022), working with 30 Malaysian primary school pupils over four weeks using the WeVideo platform, found through mixed methods data that learners demonstrated markedly increased motivation and a more collaborative attitude toward speaking tasks.

Ursua et al. (2025) reported the highest satisfaction ratings in the corpus, with 50 Philippine university students rating their DST experience at a mean of 4.6 out of 5.0 on a satisfaction scale, indicating very high levels of engagement and perceived value. The embedding of DST within a Problem-Based Learning framework in this study may have further amplified motivational effects by providing a purposeful, real-world context for storytelling. Arroba et al. (2021) further noted that the authenticity of the DST task was a key driver of sustained learner effort and intrinsic engagement throughout the six-week intervention period.

Discussion

The synthesized findings of this systematic literature review provide compelling evidence that digital storytelling is an effective pedagogical strategy for developing EFL learners' speaking skills. However, a closer analytical examination of the 10 included studies reveals important nuances regarding the conditions under which DST is most beneficial, the dimensions of speaking competence most consistently affected, and the limitations that temper overly optimistic interpretations of its effects.

Across the majority of included studies, digital storytelling consistently improved measurable components of speaking performance, yet the specific dimensions affected varied notably between studies. (Astuti, 2023) and (Nuriyah & Pahamzah, 2024) reported broad improvements across fluency, vocabulary, and accuracy, whereas Fu et al. (2021) found significant gains only in speech organization and delivery, with no significant improvement in fluency or language use. This divergence suggests that the effectiveness of DST for specific speaking components may be contingent on the type of digital tool used, the degree of linguistic scaffolding provided, and the duration of the intervention. Studies that integrated more voice-recording and oral presentation tasks, such as those by (Bai & Xian, 2024) and (Guti & Sahar Abboud, 2024), yielded broader speaking gains, implying that DST tools and task design are not interchangeable and that platform selection must align with targeted speaking outcomes.

The reduction of speaking anxiety observed in several studies aligns theoretically with Krashen (1982) Affective Filter Hypothesis, which posits that lowering emotional barriers facilitates more effective language acquisition. However, not all DST interventions produced equivalent affective outcomes. Bai & Xian (2024), whose study employed a rigorous randomized controlled trial design, reported the most robust and longitudinally sustained reductions in speaking anxiety, with effects persisting one month post-intervention. In contrast, studies relying on shorter interventions or qualitative designs reported anxiety reduction more anecdotally, without standardized measurement instruments. This methodological variation makes direct comparison difficult and suggests that future studies would benefit from adopting standardized anxiety instruments, such as the Foreign Language Classroom Anxiety Scale (FLCAS).

The enhancement of learner motivation and engagement reported across studies is consistent with Self-Determination Theory (Deci & Ryan, 2000), which identifies autonomy, competence, and relatedness as core psychological needs that sustain intrinsic motivation. Digital storytelling addresses all three needs simultaneously: learners exercise creative autonomy in story construction, develop a sense of competence through successful multimodal production, and experience relatedness through peer sharing and collaborative work. Notably, Ursua et al. (2025) embedded DST within a Problem-Based Learning framework, which may have amplified motivational effects beyond what DST alone would produce, representing an important moderating factor that future research should examine more systematically.

Comparing the findings of this review with those of prior systematic reviews further illuminates both the contributions and boundaries of DST as a speaking intervention. Nair & Yunus (2021) previously concluded that DST consistently benefits EFL speaking skills, a conclusion broadly supported by the present review. However, the current synthesis extends their findings by covering more recent studies published after the COVID-19 pandemic. Lim et al. (2022), in their broader review of DST across language skills, found that speaking outcomes were among the most consistently reported benefits. The present review corroborates this finding and provides a more granular analysis of which speaking components benefit most and under what conditions.

Despite the generally positive findings, it is important to acknowledge the limitations of digital storytelling as an instructional approach. The cognitive demands of managing multimodal tools alongside oral production may create additional burden for learners with limited digital literacy (Tatli et al., 2022). Most included studies were conducted over relatively short intervention periods, raising questions about the durability of speaking improvements over time. These limitations suggest that DST is most appropriately positioned as a complementary strategy within a broader speaking curriculum rather than a standalone instructional solution.

Conclusion

This systematic literature review synthesized empirical evidence on the effect of digital storytelling on EFL learners' speaking skills, guided by three research questions concerning the nature of DST effects, the speaking components most consistently improved, and the contextual factors that moderate its effectiveness. Through a PRISMA-guided selection process, 10 empirical studies published between 2021 and 2026 were identified and analyzed using thematic synthesis. The review found consistent evidence that digital storytelling positively affects EFL speaking development across diverse educational levels and national contexts, with three overarching themes emerging from the analysis: improvement in speaking performance components, reduction of speaking anxiety and increased confidence, and enhancement of learner motivation and engagement.

These findings carry significant implications for the field of EFL pedagogy. The evidence synthesized in this review demonstrates that digital storytelling offers a pedagogically viable and contextually adaptable solution that simultaneously targets linguistic performance and the affective dimensions of speaking development. The cross-contextual consistency of positive findings strengthens the case for DST as a broadly applicable instructional strategy rather than a context-specific intervention.

Theoretically, this review advances understanding of DST's effectiveness by integrating three complementary theoretical frameworks: Multimodal Learning Theory (Mayer, 2009), the Affective Filter Hypothesis (Krashen, 1982), and Self-Determination Theory (Deci & Ryan, 2000). Together, these frameworks explain how DST simultaneously addresses the cognitive, affective, and motivational dimensions of EFL speaking development. Practically, the finding that the choice of DST platform and the degree of linguistic scaffolding significantly moderate speaking outcomes suggests that teachers should carefully align tool selection with targeted speaking competencies.

Several limitations qualify the scope and generalizability of the present review's conclusions. The final synthesis was based on only 10 studies, the majority relied on quasi-experimental designs with small sample sizes and short intervention periods, and the diversity of DST tools and assessment instruments across studies precluded the calculation of aggregate effect sizes. Future research is encouraged to conduct large-scale randomized controlled trials with extended follow-up periods, broaden database coverage to include non-English language studies, and investigate the moderating roles of learner variables such as age, proficiency level, digital literacy, and cultural background on DST outcomes.

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