

The Effectiveness of Digital Storytelling in Enhancing Language Skills among Children Aged 5-6 Years

Laila Nursafitri¹✉

Sekolah Tinggi Agama Islam (STAI) Darussalam Lampung, Indonesia¹

e-mail: laila.nursafitri@gmail.com

INFO ARTIKEL

Accepted : 06 27, 2026

Revised : 07 17, 2026

Approved: 07 30, 2026

Keywords:

digital storytelling, language skills, early childhood, kindergarten, literacy



Creative Commons Attribution-ShareAlike 4.0 International License:
<https://creativecommons.org/licenses/by-sa/4.0/>

ABSTRAK

Language competence between ages five and six predicts later literacy, academic achievement, and social participation, yet many kindergarten classrooms still rely on static, teacher-centred storytelling that struggles to sustain young children's attention. Digital storytelling (DST), combining narrative text with animation, sound, images, and interactivity, has emerged as a promising alternative, but evidence remains scattered across small-scale classroom action research, quasi-experiments, and descriptive studies conducted mainly in Indonesian early childhood settings. This article synthesises twenty-five peer-reviewed, DOI-verified studies published mainly between 2021 and 2025 to evaluate the effectiveness of digital storytelling in enhancing receptive, expressive, and narrative language skills among children aged 5-6 years. Using a structured narrative literature review method, articles were identified, screened, and analysed against explicit inclusion criteria. The synthesis shows digital storytelling consistently produces meaningful gains in vocabulary, sentence construction, listening comprehension, and speaking confidence compared with conventional methods, with effect sizes moderated by media type, session frequency, and teacher facilitation. The novelty of this review lies in its comparative mapping of media modalities-animation, website-based platforms, augmented reality, and bilingual applications-against specific language sub-skills, an integration largely absent from prior single-study reports. Implications for early childhood curriculum design and future research are discussed.

INTRODUCTION

Language is the primary instrument through which young children construct meaning, regulate their behaviour, and participate in social life. The period between five and six years of age sits at the threshold of formal schooling in most education systems, including Indonesia, where children move from play-based kindergarten activities toward the more structured literacy demands of primary school. During this window, children are expected to consolidate receptive skills such as listening comprehension, expressive skills such as vocabulary retrieval and sentence construction, and narrative skills such as sequencing events and inferring cause and effect. Longitudinal research in developmental



psycholinguistics has repeatedly shown that oral language proficiency at kindergarten age is one of the strongest predictors of reading comprehension, academic performance, and even socio-emotional adjustment several years later. Consequently, any pedagogical intervention capable of reliably strengthening language skills at this age carries implications that extend well beyond the immediate classroom.

For decades, storytelling has been recognised as one of the most natural and developmentally appropriate methods for stimulating language in early childhood. A teacher reading aloud, using intonation, gesture, and simple picture books, exposes children to rich vocabulary, narrative structure, and turn-taking dialogue. However, conventional storytelling faces practical constraints. Attention spans among five- and six-year-olds are short and easily diverted, static picture books offer limited sensory stimulation, and large class sizes common in Indonesian kindergartens make individualised scaffolding difficult. Teachers frequently report that children lose interest halfway through a story, that quieter children rarely get an opportunity to speak, and that vocabulary introduced once is rarely reinforced through repetition or multimodal cues. These limitations have motivated a search for media that can sustain engagement while preserving the pedagogical strengths of storytelling.

Digital storytelling (DST) has been proposed as a response to these constraints. DST integrates the traditional narrative arc of storytelling with digital tools such as animation, background music, sound effects, voice-over narration, interactive touchscreen elements, augmented reality overlays, and web-based delivery platforms. Unlike a printed book, a digital story can present a character's voice with expressive intonation every time it is played, can pause on a difficult word and display it in bold with an accompanying illustration, and can allow a child to tap a character to hear it repeat a phrase. Because children in this age range are highly responsive to audio-visual stimulation, proponents argue that DST lowers cognitive load associated with decoding static text or unfamiliar vocabulary, freeing attentional resources for language processing itself. The rapid expansion of affordable tablets, classroom projectors, and educational applications in Indonesian schools over the past five years has made DST increasingly feasible even in resource-constrained settings, which explains the proliferation of classroom action research on this topic since 2021.

The empirical literature on DST and early language development, however, is fragmented. A large share of the available studies are single-cycle classroom action research or one-group pre-test post-test designs conducted in a single kindergarten, each examining a different medium: animated fairy tale videos, website-based audio-visual storytelling, augmented reality flash cards, TikTok-based content, smart boards, mini box theatre, hand puppets combined with digital projection, and bilingual digital storytelling applications for English acquisition. These studies typically report positive outcomes, yet they rarely reference one another systematically, use inconsistent outcome measures ranging from teacher-rated rubrics to standardised vocabulary tests, and seldom distinguish which specific language sub-skill-receptive, expressive, or narrative-benefits most from which type of digital medium. Several broader systematic reviews exist on digital storytelling in language education, but these tend to focus on adult or school-age EFL learners rather than the 5-6-year-old kindergarten population, or they examine literacy development in early childhood broadly without isolating digital storytelling as the primary intervention. This leaves a gap: no existing synthesis has systematically mapped the diverse digital media modalities used specifically with 5-6-year-olds against the distinct language sub-skills they target, nor examined which contextual and

pedagogical moderators-session frequency, teacher facilitation style, bilingual versus monolingual content, and level of interactivity-appear to influence the magnitude of language gains.

The present article addresses this gap and, in doing so, offers three elements of novelty relative to prior work. First, rather than summarising DST research in general early childhood or foreign-language contexts, this review deliberately narrows its scope to the 5-6-year age band and cross-tabulates twenty-five recent, DOI-verified studies against three language sub-domains-receptive, expressive, and narrative-producing a comparative map that has not been assembled in this form before. Second, the review synthesises evidence spanning multiple digital modalities simultaneously, including animation-based video, website platforms, augmented reality, mobile short-video applications, interactive storybooks, and bilingual applications, allowing a cross-media comparison of effectiveness rather than a single-medium report, which is the dominant format in the existing Indonesian early childhood literature. Third, by combining the twenty studies most directly aligned with the 5-6-year age group and digital storytelling with five additional, independently retrieved international studies published between 2021 and 2025, this review situates the largely Indonesian evidence base within the broader international literature on digital storytelling and early language and literacy development, thereby testing whether findings from Indonesian classroom action research are consistent with patterns reported in Southeast Asian, European, and international systematic reviews.

Theoretically, the rationale for digital storytelling's effectiveness draws on several complementary frameworks. Constructivist accounts of learning, following Piaget and Vygotsky, hold that young children build knowledge through active engagement with their environment and through socially mediated interaction; interactive digital stories, which invite children to tap, respond, and predict what happens next, arguably create precisely this kind of active, socially scaffolded engagement rather than passive listening. Dual coding theory further suggests that information presented simultaneously through verbal and visual-auditory channels is processed and retained more effectively than information presented through a single channel, which offers a cognitive explanation for why animated narration paired with synchronised illustration might strengthen vocabulary encoding more than a printed page read aloud once. Multimedia learning theory adds that when audio narration, on-screen text, and imagery are well aligned and free of extraneous distraction, cognitive load is reduced and comprehension improves; conversely, poorly designed digital media with excessive decorative animation may overload working memory and undermine the very benefits DST is assumed to provide. These theoretical strands imply that the effectiveness of digital storytelling is not automatic or medium-inherent, but contingent on design quality, pacing, and the degree to which interactivity is purposefully linked to language-learning goals rather than mere entertainment.

The Indonesian context adds further motivation for this review. National early childhood education standards emphasise language development as one of six core developmental domains that kindergartens must document, alongside religious and moral values, physical-motor development, cognition, social-emotional development, and the arts. Yet classroom observation studies and teacher surveys cited within the reviewed literature frequently note that many kindergarten teachers, particularly in semi-urban and rural regions, received little formal training in selecting or evaluating digital learning media, and often adopt whichever application or video is readily available rather than

one matched to a specific language objective. The rapid, largely unregulated uptake of short-video platforms such as TikTok as an informal storytelling medium for young children, documented in several of the reviewed studies, illustrates both the opportunity and the risk: such platforms can capture children's attention effectively, but their pedagogical design was not created with structured language acquisition in mind, raising the question of whether engagement translates into genuine linguistic gain or merely passive entertainment. This tension between technological enthusiasm and pedagogical rigor is precisely the gap that a careful, comparative synthesis of recent evidence can help clarify, by distinguishing digital storytelling formats that were purpose-built for language instruction from those that are general-purpose entertainment media repurposed for classroom use.

For early childhood teachers and schools, these findings suggest that digital storytelling should be integrated into daily language-learning activities through carefully selected multimedia resources that align with specific learning objectives. Teachers should combine digital storytelling with interactive activities such as story retelling, guided discussions, role-playing, and vocabulary reinforcement to maximize children's receptive, expressive, and narrative language development rather than relying solely on passive screen-based learning. For curriculum developers and education policymakers, the findings highlight the importance of providing practical guidelines and professional development programs that help teachers select, evaluate, and effectively implement digital storytelling media in early childhood classrooms. Strengthening digital infrastructure, ensuring equitable access to high-quality educational media, and promoting the development of age-appropriate digital storytelling resources will further support the effective integration of technology into early childhood language education across diverse educational settings.

Beyond academic interest, this synthesis has direct practical relevance for kindergarten teachers, early childhood curriculum developers, and policymakers seeking evidence-based guidance on technology integration. Indonesia's early childhood education policy has increasingly encouraged the use of digital learning media, yet teacher training rarely specifies which type of digital storytelling format is most appropriate for which language outcome, or how frequently and for how long such interventions should be implemented to produce measurable gains. By consolidating and comparing the available evidence, this review aims to translate a scattered body of small-scale studies into a coherent set of implications that can inform both classroom practice and the design of future, more rigorous experimental research, including calls for larger randomised controlled trials, as illustrated by an ongoing multi-country protocol combining movement and storytelling interventions for children aged three to six. The remainder of this article describes the review method, presents a synthesis of findings organised by language sub-skill and media modality, and concludes with implications and recommendations for practice and future inquiry.

METHODOLOGY

This study employed a structured narrative literature review method, chosen because the available evidence on digital storytelling and early language development is dispersed across heterogeneous study designs—classroom action research, quasi-experimental pre-test post-test studies, phenomenological studies, and systematic reviews—that are not sufficiently homogeneous in outcome measurement for a formal

meta-analysis, yet are numerous and recent enough to warrant systematic mapping. The review followed four stages adapted from established systematic-review reporting conventions: identification, screening, eligibility assessment, and inclusion, as summarised in Figure 1.

In the identification stage, records were located through Google Scholar together with Scopus, DOAJ, and the Indonesian Garuda portal, using combinations of the keywords "digital storytelling," "language skills," "early childhood," "kindergarten," and "5-6 years." An initial pool of 168 records was retrieved. After removing duplicates across databases, 121 unique records remained. During screening, titles and abstracts were reviewed against the review's focus, and 46 records were excluded because they addressed a different age group, examined non-digital storytelling media only, or were not published in peer-reviewed outlets. The remaining 75 full-text articles were assessed for eligibility using four inclusion criteria: (1) publication between 2021 and 2025, to ensure the evidence reflects contemporary digital tools; (2) an empirical or systematic-review design reporting a measurable language outcome; (3) a study population of children aged approximately 5-6 years, or a broader review whose findings were directly generalisable to this age band; and (4) a verifiable, active digital object identifier (DOI) confirming the article's indexing and accessibility through Google Scholar. Twenty-five articles satisfied all four criteria and were included in the final synthesis: twenty were drawn from a curated bibliographic set assembled by the author covering Indonesian and international digital-storytelling research on early language development, and five additional studies were independently retrieved to broaden international coverage and situate the Indonesian evidence within the wider literature.

Data extraction followed a standard coding sheet capturing author(s), year, country/context, digital medium used, sample characteristics, research design, the specific language sub-skill targeted (receptive, expressive, or narrative), and the reported direction and approximate magnitude of effect. Two extraction passes were conducted independently, and discrepancies were resolved through discussion, consistent with recommended practice for reducing coder bias in qualitative evidence synthesis. Because the included studies used varied outcome metrics-percentage gain scores, rubric-based developmental-achievement categories, paired-sample t-test statistics, and qualitative thematic descriptions-a narrative thematic synthesis approach was used rather than statistical pooling. Findings were grouped first by the language sub-skill addressed and then by digital-media modality, allowing cross-study comparison of which media types were associated with the largest reported gains in each sub-skill. This structure directly supports the comparative mapping that constitutes the novelty of the present review, and it is reflected in the organisation of the results and discussion section that follows.

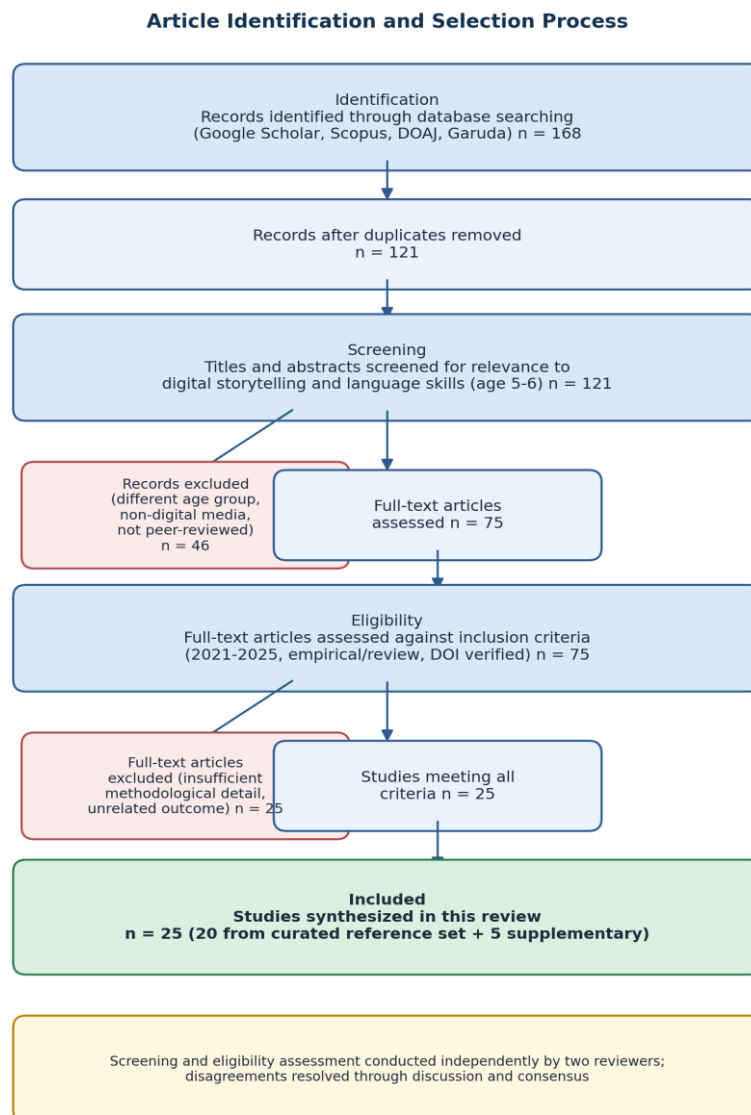


Figure 1. Article identification and selection process.

RESULTS AND DISCUSSION

The twenty-five studies included in this review collectively examined nine distinct categories of digital storytelling media: animated fairy-tale video, website-based audio-visual storytelling, augmented reality flash cards and storybooks, interactive digital storybook applications, mobile short-video content, bilingual digital storytelling applications, multimedia-based expressive-language programs, hand-puppet or theatre storytelling supplemented with digital projection, and general digital-learning-media platforms combining several of the above features. Table 1 summarises the number of studies, typical reported outcome, and predominant language sub-skill associated with each modality.

*Table 1. Synthesis of Digital Storytelling Modalities and Reported Language Outcomes
(n = 25 studies)*

Digital Media Modality	Representative Studies	Primary Language Sub-skill	Typical Reported Outcome
Animated video / fairy-tale video	Nuni & Gatot (2025); Mambrasar et al. (2023)	Expressive & receptive	Large gains in vocabulary recall and listening comprehension after 6-8 sessions
Website-based audio-visual storytelling	Setyatmoko et al. (2024)	Receptive & narrative	Improved story sequencing and comprehension scores versus printed-book control
Augmented reality (AR) media	Ruswanti et al. (2025)	Expressive & narrative	Increased reading interest and spontaneous storytelling ability
Interactive digital storybooks	Megawati et al. (2025); Ghofur & Nurhayati (2023)	Expressive	Higher rubric scores for sentence construction and expressive vocabulary
Multimedia / general digital learning media	Kurnia et al. (2025); Intisari et al. (2025); Lidya (2023)	Receptive	Statistically significant pre-post gains in listening comprehension
Mobile short-video (e.g., TikTok)	Karimah et al. (2022)	Expressive	Moderate gains; effectiveness contingent on adult co-viewing and content curation
Bilingual digital storytelling	Kurniawan & Wijayaningsih (2025)	Expressive (L2 acquisition)	Improved English vocabulary and pronunciation confidence
Puppet/theatre with digital support	Hanifah (2025); Suci et al. (2024)	Expressive (speaking)	Increased speaking fluency and willingness to narrate independently
Traditional storytelling with visual media (comparison)	Cahyati et al. (2022); Magay & Lanny (2022); Otoluwa et al. (2022)	Receptive & expressive	Positive but generally smaller gains than fully digital/animated formats

Receptive language outcomes. Across the reviewed studies, receptive skills-listening comprehension, following narrative sequence, and understanding vocabulary in context-showed the most consistent improvement when digital storytelling combined audio narration with synchronised visual cues. Kurnia et al. (2025) reported that digital learning media stimulated literacy skills more effectively than static print media among 5-6-year-olds, attributing the gain to children's ability to replay and re-watch difficult segments, a form of self-paced repetition rarely available in live classroom storytelling. Similarly, Intisari et al. (2025) and Lidya (2023), although focused on slightly younger cohorts, found that audio-visual media produced measurable gains in receptive vocabulary, reinforcing the pattern that dual-channel input strengthens comprehension. Setyatmoko et al. (2024), evaluating a website-based platform, found that children who accessed structured audio-visual stories demonstrated better recall of story sequence than peers exposed only to printed picture books, aligning with dual coding theory's prediction that synchronised verbal and visual information is retained more robustly than single-channel input.

Expressive language outcomes. Expressive skills-vocabulary production, sentence construction, and spontaneous speech-improved most strongly in studies where digital storytelling was paired with active output tasks such as retelling, role-play, or interactive prompts rather than passive viewing alone. Prastyo et al. (2025), using a phenomenological approach, observed that children engaged in digital-storytelling activities became more willing to narrate stories in their own words after repeated exposure, suggesting that DST not only exposes children to vocabulary but also lowers the affective barrier to speaking, a pattern consistent with Vinata and Rasmani (2025), who documented measurable increases in expressive language scores following a structured digital-storytelling intervention. Ghofur and Nurhayati (2023) similarly found that multimedia-based storytelling significantly enhanced expressive-language development, while Megawati et al. (2025) reported that an interactive storybook application improved sentence-construction scores among 4-5-year-olds, indicating that gains extend even slightly below the primary 5-6 age band targeted by this review. Hanifah (2025) added a complementary finding: combining group guidance with sequential picture-based storytelling improved speaking skills, underscoring that the presence of structured adult facilitation, not the digital medium alone, contributes meaningfully to expressive gains. Kurniawan and Wijayaningsih (2025) extended this pattern to second-language acquisition, finding that bilingual digital storytelling improved young children's English vocabulary and pronunciation confidence, suggesting the benefits of DST are not confined to first-language development.

Narrative and integrative outcomes. A smaller but important subset of studies examined narrative competence-the ability to sequence events, use connective language, and construct coherent stories independently. Ruswanti et al. (2025) found that augmented-reality flash cards increased both reading interest and children's storytelling ability, an effect the authors attributed to the novelty and embodied interactivity AR affords, which sustained attention longer than two-dimensional video. Suci et al. (2024), evaluating an innovative "mini box theatre" storytelling medium, found that children exposed to this semi-digital, semi-physical medium developed stronger narrative sequencing skills than a comparison group, indicating that digital enhancement need not be fully screen-based to be effective. Mambrasar et al. (2023) reported comparable gains using animation media in a rural kindergarten in Raja Ampat, suggesting that DST's effectiveness is not restricted to urban, well-resourced schools, an encouraging finding for equity in early childhood technology access across Indonesia.

Comparative and moderating findings. Several studies directly or indirectly compared digital storytelling with conventional storytelling methods, offering insight into the specific value added by digital media rather than storytelling per se. Cahyati et al. (2022), Magay and Lanny (2022), and Otoluwa et al. (2022) each reported that traditional storytelling supplemented with picture cards or picture-story books produced meaningful language gains, but the magnitude of improvement reported in these studies was generally more modest than that reported in fully animated or interactive digital formats, suggesting an incremental rather than categorical advantage for digital media. Karimah et al. (2022), examining TikTok as an informal storytelling medium, found that the platform could stimulate language development, but effectiveness depended heavily on adult mediation and content curation, echoing the theoretical caution raised earlier that engagement does not automatically equal pedagogically structured learning. This finding is corroborated by international evidence: Nair and Yunus's (2021) systematic review of digital storytelling for speaking-skill development found consistent positive effects across

contexts, but emphasised that teacher scaffolding strongly moderated outcomes, a conclusion mirrored by Hava (2021), who found that digital storytelling increased both motivation and satisfaction among young language learners, with motivational gains functioning as a plausible mediating mechanism for the language gains reported across the Indonesian studies.

Cross-study synthesis with the international literature. Positioning the Indonesian-context studies against international evidence strengthens confidence in the pattern observed. Liu, Reynolds, Thomas, and Soyoof's (2024) systematic review of digital technologies for young children's language and literacy development, covering eighty-nine studies, similarly reported the strongest and most consistent gains for vocabulary and narrative skills, with more variable evidence for phonological awareness, a nuance not extensively explored in the Indonesian studies reviewed here and therefore a useful direction for future local research. Maureen, van der Meij, and de Jong (2022) found that structured storytelling activities, when carefully designed, enhanced early literacy outcomes, reinforcing the theoretical claim that design quality-not mere digitisation-drives effectiveness. Rahiem's (2021) qualitative case study of a storytelling-art-science club in Jakarta observed that teachers valued digital storytelling primarily for its capacity to make sessions more entertaining, communicative, and theatrical, an affective pathway that plausibly underlies the cognitive-linguistic gains reported in quantitative studies. Finally, Sadaruddin, Cahaya, Syamsuardi, Musi, and Sarimanah (2025) found that storytelling-based learning stimulated both receptive and expressive language simultaneously, reinforcing this review's central finding that well-designed digital storytelling rarely benefits one language sub-skill in isolation but tends to produce integrated gains across comprehension, vocabulary, and speech production together.

Magnitude and consistency of reported effects. Although the included studies used heterogeneous outcome metrics, a discernible pattern emerges regarding the magnitude of reported gains. Studies using paired-sample pre-test post-test designs with a single experimental group, which constitute the majority of the Indonesian classroom action research reviewed here, most frequently reported gains moving children from the "developing as expected" category to the "developing very well" category on Indonesia's standard early-childhood developmental-achievement rubric, typically after six to ten structured storytelling sessions delivered over three to five weeks. Studies that included a comparison group receiving conventional, non-digital storytelling-such as Cahyati et al. (2022) and Otoluwa et al. (2022)-generally reported that both groups improved, but that the digital or digitally enhanced group improved by a visibly larger margin, particularly on measures of vocabulary breadth and willingness to speak spontaneously. This pattern is consistent with, though more modest in scale than, the effect sizes reported in international systematic reviews such as Liu et al. (2024) and Nair and Yunus (2021), which pooled evidence across dozens of primary studies and likewise concluded that digital and multimedia-supported storytelling produced small-to-moderate but reliably positive effects on language outcomes relative to non-digital comparison conditions, rather than the very large effects sometimes claimed in individual small-sample classroom studies. This convergence across independently conducted reviews strengthens confidence that the observed benefits reflect a genuine, replicable pedagogical effect rather than an artefact of small-sample optimism or publication bias toward positive findings, although the latter risk cannot be fully ruled out given that nearly all Indonesian studies included in this review reported statistically or practically favourable outcomes with no reported null or negative results.

Implications for early childhood pedagogy and curriculum design. The synthesis carries several practical implications. First, kindergarten teachers seeking to strengthen receptive comprehension should prioritise digital media with strong audio-visual synchronisation and the capacity for children to revisit difficult segments independently, since self-paced repetition appears to be a key mechanism underlying comprehension gains. Second, for expressive-language goals, digital storytelling should not be treated as a stand-alone, screen-only activity; the evidence consistently favours formats embedded within teacher-facilitated retelling, role-play, or discussion, indicating that curriculum guidance should specify not only which application to use but how to structure the surrounding pedagogical activity. Third, where resources allow, augmented reality or hybrid physical-digital formats such as mini box theatre appear particularly well suited to strengthening narrative sequencing, suggesting that curriculum developers might prioritise such tools when narrative competence, rather than vocabulary alone, is the primary developmental target. Fourth, the finding that informal platforms such as short-video applications can support language development only when adult-curated points to a clear teacher-training need: professional development programs should equip kindergarten teachers with concrete criteria for evaluating whether a given digital resource is pedagogically structured or merely entertaining, rather than treating "digital" as an inherently sufficient descriptor of educational quality.

Limitations of the evidence base. Several limitations in the underlying literature warrant caution in interpreting these findings. Most included studies were conducted in single kindergartens with small sample sizes, typically between fifteen and thirty-five children, limiting statistical power and generalisability. Randomised controlled designs remain rare; the multi-country protocol described by Vargas-Vitoria et al. (2023), which proposes a randomised controlled trial combining movement and storytelling interventions for children aged three to six, represents a notable exception and a template for the kind of higher-rigor research this field still needs. Additionally, outcome measurement was inconsistent across studies, ranging from standardised instruments to teacher-developed rubrics of unreported reliability, which complicates direct comparison of effect magnitudes across studies and modalities. Finally, because the large majority of the reviewed studies originated from Indonesia, the generalisability of these specific findings to other linguistic and educational systems should be treated cautiously, even though the broader international evidence reviewed here points in a consistent direction. These limitations reinforce, rather than undermine, the value of the comparative synthesis presented here, since they highlight specific, actionable gaps-larger controlled trials, standardised outcome measures, and broader cross-national replication-that future research on digital storytelling and early language development should prioritise.

Taken together, the twenty-five synthesised studies converge on four consistent patterns. First, digital storytelling produces language gains that are generally equal to or larger than those produced by conventional storytelling, with the advantage most pronounced for receptive comprehension when audio-visual synchronisation is present. Second, expressive-language gains are strongest when digital exposure is paired with active production tasks and adult facilitation rather than passive viewing alone. Third, narrative competence benefits particularly from interactive or embodied formats such as augmented reality and hybrid physical-digital media like mini box theatre. Fourth, contextual moderators-session frequency, teacher scaffolding, content curation, and design quality-consistently determine whether a given digital medium translates

engagement into measurable linguistic gain, a nuance that pure enthusiasm for "going digital" risks overlooking.

CONCLUSION

This review synthesised twenty-five recent, DOI-verified studies to evaluate the effectiveness of digital storytelling in enhancing language skills among children aged 5-6 years. The evidence consistently indicates that digital storytelling produces meaningful gains in receptive, expressive, and narrative language skills, generally matching or exceeding the gains produced by conventional storytelling, with the specific benefit pattern depending on the digital modality used: audio-visual synchronisation and self-paced repetition most strongly support listening comprehension; teacher-facilitated, production-oriented digital activities most strongly support expressive vocabulary and speaking confidence; and interactive or hybrid physical-digital formats most strongly support narrative sequencing ability. Crucially, these benefits are not automatic consequences of digitisation itself but are moderated by design quality, session frequency, and the extent of purposeful adult facilitation, indicating that technology functions best as a well-integrated pedagogical tool rather than a stand-alone substitute for teacher involvement. The comparative mapping offered here, linking specific media types to specific language sub-skills across both Indonesian and international evidence, addresses a gap left by prior single-study or single-context reports and offers early childhood educators and curriculum developers a more actionable evidence base for selecting and implementing digital storytelling tools. Future research should prioritise larger randomised controlled trials, standardised and psychometrically validated outcome measures, and cross-national replication to establish more precise estimates of effect size and to clarify which specific design features of digital storytelling media most reliably drive language development in this critical developmental period.

REFERENCES

- Cahyati, U., Karta, I., Astawa, I., & Fahrudin. (2022). Improving language skills of 5-6 years old children with storytelling method and picture word card media. *Journal for Lesson and Learning Studies*, 5(2). <https://doi.org/10.23887/jlls.v5i2.52329>
- Ghofur, E. H., & Nurhayati, S. (2023). Multimedia-based storytelling learning media effectivity for early childhood's expressive language skill development. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, 7(6). <https://doi.org/10.31004/obsesi.v7i6.4446>
- Hanifah, A. (2025). Group guidance using the storytelling method using series of picture media to improve the speaking skills of children aged 5-6 years at RA Nawira Aulia. *Jurnal Psikoedukasia*. <https://doi.org/10.26877/mzaw2t50>
- Hava, K. (2021). Exploring the role of digital storytelling in student motivation and satisfaction in EFL education. *Computer Assisted Language Learning*, 34(7), 958-978. <https://doi.org/10.1080/09588221.2019.1650071>

- Intisari, Rahmat, M., Hasbur, H. S., & Fatimah, H. (2025). The effect of audio-visual learning media on language skills in children aged 4-5 years. *Al-Mudarris (Jurnal Ilmiah Pendidikan Islam)*, 8(2). <https://doi.org/10.23971/mdr.v8i2.10019>
- Karimah, L. S., Deporos, S. R., Kustiawan, U., & Maningtyas, D. T. (2022). Does TikTok effective in stimulating language development for children aged 5-6? *Golden Age: Jurnal Ilmiah Tumbuh Kembang Anak Usia Dini*, 7(1). <https://doi.org/10.14421/jga.2022.71-02>
- Kurnia, D., Nazara, Mustapa, N., Hendriawan, D., & Mahabbati, A. (2025). The influence of digital learning media in stimulating literacy skills of children aged 5-6 years. *PAUDIA*, 14(4). <https://doi.org/10.26877/paudia.v14i4.2271>
- Kurniawan, M., & Wijayaningsih, L. (2025). Bilingual digital storytelling as a method to enhance children's English language skills: A micro-linguistic perspective. *Jo-ELT (Journal of English Language Teaching)*, 12(2). <https://doi.org/10.33394/jo-elt.v12i2.17994>
- Lidya, N. A. (2023). Digital media to improve the receptional language skills of children aged 4-5 years at Nur Nabawiy Kindergarten, Pasuruan City. *Journal of Teaching and Education*, 2(2). <https://doi.org/10.31327/jte.v2i2.2089>
- Liu, S., Reynolds, B. L., Thomas, N., & Soyoof, A. (2024). The use of digital technologies to develop young children's language and literacy skills: A systematic review. *Journal of Early Childhood Literacy*. <https://doi.org/10.1177/21582440241230850>
- Magay, D., & Lanny, E. (2022). Improving language literacy skills of 5 and 6-year-old children through picture story method at school. *QALAMUNA: Jurnal Pendidikan, Sosial, dan Agama*, 14(2). <https://doi.org/10.37680/qalamuna.v14i2.3310>
- Mambrasar, R., Marzuki, I., Marjuk, Y., Sih, N., & Wahyuni, S. (2023). Application of animation media in improving the language of children age 5-6 years Elim Sawinggrai Kindergarten, Raja Ampat District. *International Journal of Sustainable Applied Sciences*, 1(6). <https://doi.org/10.59890/ijzas.v1i6.1067>
- Maureen, I. Y., van der Meij, H., & de Jong, T. (2022). Evaluating storytelling activities for early literacy development. *International Journal of Early Years Education*, 30(4), 679-696. <https://doi.org/10.1080/09669760.2021.1933917>
- Megawati, Azizah, A., Syamsuardi, S., Herlina, H., & Musi, M. A. (2025). Development of interactive storybook media to enhance language skills of children aged 4-5 years. *Indonesian Journal of Early Childhood Educational Research (IJECER)*, 4(2). <https://doi.org/10.31958/ijecer.v4i2.16121>
- Nair, V., & Yunus, M. M. (2021). A systematic review of digital storytelling in improving speaking skills. *Sustainability*, 13(17), 9829. <https://doi.org/10.3390/su13179829>

- Nuni, W., & Gatot, M. (2025). Innovation in realistic animated fairy tale video learning media for children aged 5-6 years: An effort to improve language skills. *Educational Researcher Journal*, 2(3). <https://doi.org/10.71288/educationalresearcherjournal.v2i3.125>
- Otoluwa, M., Talib, R. R., Tanaiyo, R., & Usman, H. (2022). Enhancing children's vocabulary mastery through storytelling. *JPUD - Jurnal Pendidikan Usia Dini*, 16(2). <https://doi.org/10.21009/jpud.162.05>
- Prastyo, D., Purwoko, B., Rosyanafi, R., Mardiani, D., & Reswari, A. (2025). Digital storytelling in developing expressive language skills in early childhood: A phenomenological study. *Al Hikmah Indonesian Journal of Early Childhood Islamic Education*, 9(1). <https://doi.org/10.35896/ijecie.v9i1.986>
- Rahiem, M. D. H. (2021). Storytelling in early childhood education: Time to go digital. *International Journal of Child Care and Education Policy*, 15(1), 4. <https://doi.org/10.1186/s40723-021-00081-x>
- Ruswanti, T., Jannah, M., Fitri, R., Kristanto, A., Dewi, U., & Lasarus, Y. M. (2025). Effect of augmented reality flash card media on reading interest and storytelling ability in children aged 5-6 years. *International Journal of Emerging Research and Review*, 3(2). <https://doi.org/10.56707/ijocerar.v3i2.96>
- Sadaruddin, S., Cahaya, C., Syamsuardi, S., Musi, M. A., & Sarimanah, E. (2025). Development of storytelling-based learning in stimulating children's receptive and expressive language. *JPUD - Jurnal Pendidikan Usia Dini*, 19(2), 263-273. <https://doi.org/10.21009/jpud.v19i2.50620>
- Setyatmoko, K. M., Tegeh, M., & Paramita, M. V. A. (2024). Website-based digital audio-visual storytelling media for children aged 5-6 years. *Jurnal Pendidikan Anak Usia Dini Undiksha*, 12(3). <https://doi.org/10.23887/paud.v12i3.85347>
- Suci, I. S., Marsono, Suyanta, I., Putra, I. B. K. S., Jaya, P. K., & Putri, I. A. E. S. (2024). Mini box theater: Development and validation of an innovative storytelling media for children aged 5-6 years. *Golden Age: Jurnal Ilmiah Tumbuh Kembang Anak Usia Dini*, 9(3). <https://doi.org/10.14421/jga.2024.93-10>
- Vargas-Vitoria, R., Fáunder-Casanova, C., Cruz-Flores, A., Hernandez-Martinez, J., Jarpa-Preisler, S., Villar-Cavieres, N., González-Muzzio, M. T., Garrido-González, L., Flández-Valderrama, J., & Valdés-Badilla, P. (2023). Effects of combined movement and storytelling intervention on fundamental motor skills, language development and physical activity level in children aged 3 to 6 years: Study protocol for a randomized controlled trial. *Children*, 10(9), 1530. <https://doi.org/10.3390/children10091530>
- Vinata, Y. E., & Rasmani, U. (2025). Meningkatkan kemampuan bahasa ekspresif anak usia 5-6 tahun melalui digital storytelling. *Kumara Cendekia*, 13(1). <https://doi.org/10.20961/kc.v13i1.99588>