



# Digital Storybooks on Young Learners' Reading Skills: A Systematic Literature Review

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## Abstract

This study investigates the effectiveness of digital storybooks in improving young learners' reading skills, addressing the persistent challenges of low reading comprehension, limited vocabulary, and poor engagement in early literacy classrooms. With children increasingly growing up in digitally rich environments, traditional print-based instruction often fails to capture their attention. By creating an urgent need for instructional approaches that align with their digital experiences while supporting essential literacy skills. A Systematic Literature Review guided by the PRISMA framework was conducted. Ten empirical studies published between 2018 and 2024 were selected based on clear inclusion and exclusion criteria. These studies were analyzed to identify how digital storybooks influence reading comprehension, vocabulary development, story sequencing, and engagement. The findings show that digital storybooks significantly enhance reading comprehension, vocabulary acquisition, and engagement. Multimodal features such as text highlighting, visual cues, and audio narration help learners process information more effectively and remain motivated. Teacher guidance and well-designed materials further improve outcomes. Overall, this study underscores that urgent need to integrate digital storybooks into early literacy instruction. It provides evidence-based guidance for educators and highlights directions for future research, including investigating long-term impacts and broader classroom applications.

**Keywords:** Digital Storybook; Reading Skills; Young Learners

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## 1. Introduction

Reading is a fundamental skill that supports young learners' language growth, academic achievement, and future learning success. Through reading, children expand their vocabulary, develop comprehension skills, and build the foundation for critical thinking. However, many children continue to experience difficulties in understanding texts, acquiring new vocabulary, and maintaining motivation during reading activities. These challenges often result in passive reading behaviors, limited comprehension, and low engagement in classroom reading tasks (Fredricks et al., 2004). To respond the demands of 21<sup>st</sup>-century education, reading instruction



must move beyond traditional approaches and provide meaningful, engaging, and interactive learning experiences that actively involve learners (Putra et al., 2021).

In the era of rapid digital transformation, literacy instruction is increasingly expected to integrate technology in pedagogically meaningful ways. Young learners today grow up in digitally rich environments and are highly familiar with multimedia content. As a result, traditional print-based materials may no longer fully capture their attention or sustain their interest. This situation creates an urgent need for instructional approaches that align with learners' digital experiences while still supporting essential reading skills. One of the digital tools widely used is the digital storybook, which presents stories using text, pictures, audio narration, and interactive features that help children understand stories more easily (Hadiana et al., 2018). This is in line with the argument that reading performance improves when children receive multimodal input that supports comprehension and motivation (Ratminingsih et al., 2020; Wiranatha & Santosa, 2024).

Many empirical studies show that digital storybooks positively affect children's reading development. Learning media that include visual elements can help improve students' attention and involvement during reading activities (Mahayanti et al., 2024). Digital storybooks have been shown to increase students' interest, confidence, and enjoyment when reading. For example, Khriemaswari et al. (2023) found that digital storybooks combined with interactive learning activities helped students become more active and confident. Similarly, Fridayanti et al. (2023) reported that digital storybooks created an enjoyable reading experience that encouraged learners to participate more during reading sessions. This aligns with Jayendra et al. (2018), who emphasized that digital-based learning materials can significantly increase motivation and comprehension among young learners.

Digital storybooks are also effective in improving vocabulary and reading comprehension. According to Al Kamil et al. (2023), features such as highlighted words, audio pronunciation, and visual support help students understand new vocabulary more easily and stay engaged during reading. Moreover, Nanditasari and Wibawa (2024) found that interactive digital storybooks improved learners' reading comprehension, particularly in following story sequences and identifying key ideas. These findings demonstrate that the combination of text, sound, and visuals helps learners process information more effectively.

Another key factor in reading development is reading engagement, which plays an important role in helping young learners stay focused and involved in reading tasks. Reading engagement includes behavioural, emotional, and cognitive engagement. Behavioural engagement refers to effort, persistence, participation, and positive conduct during reading (Fredricks et al., 2004; Guthrie, 2004; McGeown & Smith, 2024). Emotional engagement relates to feelings such as enjoyment, interest, and positive attitudes toward the story. Cognitive engagement refers to mental effort, attention, and the willingness to think deeply about the text. Several studies show that digital storybooks can support these three dimensions of engagement by making reading more interactive and meaningful.

Other studies further support the effectiveness of digital storybooks in improving literacy. Dharma et al. (2025) noted that previous digital storybook developments often focused on cultural preservation rather than directly supporting literacy needs, showing the need for reading-focused digital materials. This suggests that digital storybooks can support various



aspects of reading, including comprehension, vocabulary, motivation, and engagement, making them valuable tools for young learners. Local studies also show similar benefits. For example, Gunayasa et al. (2023) highlighted that digital and visual story resources can increase engagement when story content is relevant and appealing to children.

Although many empirical studies highlight the benefits of digital storybooks, most of these studies focus on specific classroom settings, limited samples, or short-term interventions. As a result, the findings remain fragmented and context-dependent. Without a comprehensive synthesis of existing evidence, it is difficult for educators and curriculum developers to determine which digital storybook features are most effective in enhancing reading comprehension, vocabulary development, and engagement. Moreover, there is still limited systematic analysis that specifically focuses on young learners' reading skills within primary education settings. This lack of consolidated evidence creates uncertainty in selecting, designing, and implementing digital storybooks as instructional media.

Therefore, there is an urgent need for a systematic literature review that critically examines and synthesizes existing empirical findings on the effectiveness of digital storybooks in improving young learners' reading skills. By identifying consistent patterns, key features, and optimal learning conditions, this study aims to provide clearer pedagogical guidance for teachers and offer evidence-based recommendations for future research. This systematic review contributes to the field by offering a comprehensive synthesis that moves beyond individual studies and presents an integrated understanding of how digital storybooks can effectively support early reading development.

## **2. Method**

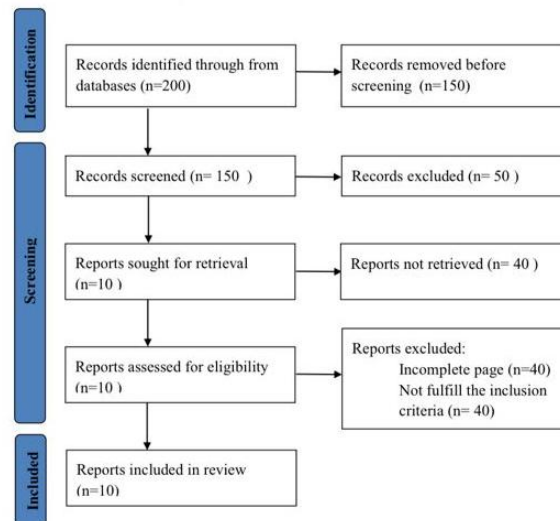
This study employed a Systematic Literature Review (SLR) to examine the effectiveness of digital storybooks in improving reading skills among young learners. The review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) guidelines (Nguyen et al., 2022), which ensure a transparent and structured process for identifying, screening, and selecting relevant studies.

### **Data Collection Technique**

The article reviewed in this study were obtained from Google Scholar as the primary database. Google Scholar was selected because it provides access to a wide range of peer-reviewed journal articles in the fields of education and literacy. The search process used the keywords: "digital storybook," "reading skills," and "young learners". The publication year was limited to 2018-2024 and only articles published in English were included.

The review process consisted of three main stages: searching the database using predetermined keywords, applying inclusion and exclusion criteria, and conducting the final selection. From the initial search, approximately 200 articles were identified. Duplicate and irrelevant articles were removed during the preliminary screening. Titles, abstract, and full text were then examined to assess their relevance to the research topic. The inclusion and exclusion criteria were then applied using Publish or Perish software to filter studies based on relevance, research focus, participant age, and publication type.

After screening titles, abstracts, and full texts, 10 studies met all inclusion criteria and were included in the final analysis. These articles form the basis of the synthesis presented in the Result and Discussion sections.



**Figure 1. The PRISMA Model**

Figure 1 illustrates the PRISMA framework showing the process of identification, screening, eligibility assessment, and selection of studies. This structured approach ensured that only research directly related to digital storybooks and young learners’ reading skills was included. The flowchart summarizes the entire process from the initial search (200 articles) to the final inclusion of 10 studies.

**Table 1. Inclusion and Exclusion Criteria**

<b>Inclusion criteria</b>	<b>Exclusion criteria</b>
Use Digital Storybooks in Reading Skills for Young Learners	Not using Digital Storybooks in Reading Skills for Young Learners
Must be about the effect of using Digital Storybooks in Reading Skills for Young Learners	Not about the effect of using Digital Storybooks in other skills of Young Learners
Published in the year of 2018-2024	Not published in the year 2018-2024
English language	Other languages
The participants were young learners at the primary or elementary school level	The participants were not young learners at the primary or elementary school level

Table 1 presents the inclusion and exclusion criteria used in selecting the studies. The inclusion criteria focused on empirical studies examining the effect of digital storybooks on young learners’ reading skills, published between 2018 until 2024, written in English, and involving participants at the primary or elementary school level. Then, the exclusion criteria eliminated studies that did not focus on reading skills, were published outside the specified



time range, were written in other languages, or did not involve young learners as participants. The application of these criteria ensured that only relevant and high-quality studies were included in the review.

### Data Analysis

The selected studies were analyzed using qualitative content analysis. Each article was carefully read and examined to identify recurring themes and patterns related to the effectiveness of digital storybooks in improving young learners' reading skills. The extracted findings were categorized into several themes, including reading comprehension improvement, vocabulary development, story sequencing skills, and reading engagement. The results were synthesized narratively by identifying similarities and differences across the reviewed studies

### 3. Findings

The review identified ten empirical studies examining the use of digital storybooks to support reading development among young learners. These studies involved children from early childhood to upper-primary level (approximately ages 5-12) and were conducted using various research designs, including experimental, quasi-experimental, qualitative, and mixed-methods approaches. Despite differences in research contexts and methods, the studies reported relatively consistent outcomes regarding the positive role of digital storybooks in supporting young learners' reading development.

The most dominant finding across the reviewed studies was the improvement in reading comprehension. Six out of ten studies reported significant gains in learners' ability to understand story content, identify main ideas, recall key events, and follow narrative structures. This indicates that digital storybooks are particularly effective in supporting learners' comprehension processes. Vocabulary development was identified as another important outcome. Four studies highlighted improvements in vocabulary acquisition, supported by features such as word highlighting, audio narration, and contextual visual support. These multimodal elements helped learners connect written words with pronunciation and meaning, facilitating deeper understanding and retention.

In addition to cognitive improvements, increased reading engagement emerged as a consistent finding. Several studies reported improvements in behavioral engagement (active participation and sustained attention), emotional engagement (interest and enjoyment), and cognitive engagement (focused processing of text). The interactive and visually rich features of digital storybooks played a crucial role in maintaining learners' motivation during reading activities. Overall, the synthesis of these findings strongly supports the objective of this review, which is to examine the effectiveness of digital storybooks in enhancing young learners' reading skills. The evidence suggests that digital storybooks are particularly powerful in improving reading comprehension while simultaneously fostering vocabulary development and learner engagement. Table 2 presents the detailed characteristics and findings of the included studies.

Table 2. The Overview of Related Studies

No	Authors	Participants/ Location	Method	Findings
1.	(Khriemaswari et al., 2023a)	Young learners (elementary level), Indonesia	Quantitative	Digital storybooks combined with task-based activities increased



2.	(Fridayanti et al., 2023)	Young learners (elementary level), Indonesia	(elementary level)	Classroom Action Research	students' confidence, participation, and readiness to read. Digital storybooks created a more enjoyable reading environment and increased students' motivation and interest in reading.
3.	(Aryani et al., 2024)	Young learners (elementary level), Indonesia	(elementary level)	Research and Development (R&D)	The developed digital storybook supported early literacy by facilitating students' understanding of story content and vocabulary through multimodal features.
4.	(Yundari et al., 2025)	Young learners (primary level), Indonesia	(primary level)	Mixed Method	Interactive features such as narration and animation enhanced motivation, emotional engagement, and active participation.
5.	(Al Kamil et al., 2023)	Young learners (elementary level), Indonesia	(elementary level)	Experimental	Vocabulary highlights, audio support, and visuals helped students learn new words and increased reading comprehension and engagement.
6.	(Naresti et al., 2024)	Young learners (elementary level), Indonesia	(elementary level)	Quantitative	Digital storybooks improved behavioural and cognitive engagement, helping students focus and understand story events more effectively.
7.	(Nanditasari & Wibawa, 2024)	Young learners (elementary level), Indonesia	(elementary level)	Experimental	Interactive digital storybooks improved young learners' reading comprehension, particularly in understanding story sequences and key ideas.
8.	(Riza et al., 2024)	Young learners (elementary level), Indonesia	(elementary level)	Research and Development (R&D)	The developed e-storybook supported vocabulary learning and facilitated reading-related activities through interactive and visual presentation.
9.	(Hadiana et al., 2018)	Young learners (elementary level), Indonesia	(elementary level)	Experimental	Audio narration, images, and animations in digital storybooks helped children follow the



10.	(Asih et al., 2024)	Young learners (elementary level), Indonesia	Research and Development (R&D)	storyline and improved basic comprehension skills. The e-storybook was validated as an appropriate supplementary reading material that supported students' reading engagement and comprehension.
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Table 2 summarizes the characteristics of the selected studies, including participants, research method, and main findings. The majority of the studies reported positive effect of digital storybooks on young learners' reading skills. Reading comprehension was the most frequently improved aspects, followed by vocabulary development and reading engagement. These consistent finding across different research designs indicate that digital storybooks effectively support both cognitive and motivational aspects of reading. So, the evidence aligns with the objective of this review, demonstrating that digital storybooks contribute significantly to enhancing young learners' reading development.

#### 4. Discussion

Digital storybooks are digital-based learning media that present stories through the integration of written text with visual and multimedia elements such as illustrations, animations, and audio (Al Kamil et al., 2023; Hadiana et al., 2018). In the context of young learners, digital storybooks are designed not only to deliver reading content but also to support reading development by creating engaging and meaningful learning experiences. Compared to conventional printed text, digital storybooks offer multimodal input that can help young learners understand texts more easily and maintain their attention during reading activities. Therefore, digital storybooks have been widely used as alternative reading media to support the environment of young learners' reading skills.

Based on the review studies, digital storybooks were found to have a positive effect on young learners' reading skills, including reading comprehension, vocabulary development, and reading engagement (Aryani et al., 2024; Hadiana et al., 2018; Nanditasari & Wibawa, 2024; Yundari et al., 2025) . The interactive and multimodal nature of digital storybooks enables learners to process textual information through multiple channels, which supports better understanding of story content and increases active participation in reading activities, such as following storylines, responding to questions, and completing reading-related tasks (Naresti et al., 2024; Yulianawati et al., 2022).

However, the effectiveness of digital storybooks in improving young learners' reading skills is strongly influenced by the features embedded in the digital storybooks and the learning conditions under which they are implemented. Findings from the review studies indicate that multimedia features such as audio narration, word highlighting, visuals, and interactive



elements play an important role in supporting comprehension, vocabulary development, and reading engagement (Al Kamil et al., 2023) (Aryani et al., 2024; Nanditasari & Wibawa, 2024; Riza et al., 2024). Audio narration helps learners hear correct pronunciation and intonation, while word highlighting helps them connect spoken words with written text (Al Kamil et al., 2023). Visual elements, such as illustrations and animations, provide contextual cues that help learners understand story content and infer the meaning of unfamiliar vocabulary. Several studies indicate that visual support strengthens reading comprehension by clarifying story events and reinforcing textual information (Aryani et al., 2024; Nanditasari & Wibawa, 2024).

In addition, interactive features encourage learners to revisit parts of the text, repeat narration, and focus on key ideas, leading to deeper processing of reading material. This is supported by Riza et al. (2024) who found that interactive e-storybooks facilitate vocabulary exposure and reading-related activities through visually engaging content. Overall, these features function as instructional supports that enhance young learners' reading development rather than merely increasing surface-level engagement. At the same time, appropriate learning conditions also play a crucial role in determining the effectiveness of digital storybooks. One important condition is the quality of digital storybook design. Digital storybooks with clear narration, age-appropriate language, and meaningful visual support are more effective in facilitating reading comprehension than those with excessive or distracting features (Aryani et al., 2024; Asih et al., 2024). Furthermore, teacher guidance is another critical condition that enhances the effectiveness of digital storybooks. The reviewed studies indicate that reading outcomes improve when teachers provide scaffolding through pre-reading activities, guided interaction during reading, and post-reading discussions (Fridayanti et al., 2023; Khrismaswari et al., 2025). Such instructional support helps learners focus on key reading skills, such as identifying main ideas and understanding vocabulary in context. Overall, the findings of this systematic literature review indicate that digital storybooks are effective in improving young learners' reading skills when meaningful digital features are supported by appropriate learning conditions. The integration of well-designed digital storybooks into structured literacy instruction, rather than their use as standalone materials, maximizes their potential as effective reading media for young learners.

## **5. Conclusion and Suggestion**

This systematic literature review concludes that digital storybooks are an effective and valuable medium for improving the reading skills of young learners. The reviewed studies consistently report positive impacts on reading comprehension, vocabulary development, and understanding of narrative structure. By integrating multimodal features such as audio narration, word highlighting, visuals, and interactive elements, digital storybooks help young learners process textual information more easily and reduce difficulties related to decoding.

Moreover, the findings indicate that the effectiveness of digital storybooks depends on both the quality of their design and the way they are implemented in instructional settings. When supported by structured learning activities and appropriate teacher guidance, digital



storybooks demonstrate strong potential to enrich early literacy instruction and serve as an effective complement to traditional printed storybooks in supporting young learners' reading development.

Based on the findings of this review, teachers are encouraged to integrate digital storybooks into early reading instruction with purposeful pedagogical guidance to maximize their benefits. The use of digital storybooks should be accompanied by structured activities, such as pre-reading preparation and post-reading discussion to support comprehension and engagement. Future research is recommended to conduct empirical studies with longer intervention periods and more diverse learners' populations to further examine the long-term effects of digital storybooks on young learners' reading skills.

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