

INTEGRATING LOCAL WISDOM INTO DIGITAL STORYBOOKS: AN INNOVATIVE LITERACY APPROACH TO ENHANCING ELEMENTARY STUDENTS' READING INTEREST

Jepri Yansyah^{1*}, Bernadus Wahyudi Joko Santoso², Haryadi³

^{1,2,3}Universitas Negeri Semarang

¹jfriansyah@students.unnes.ac.id, ²wahyudifr@mail.unnes.ac.id, ³haryadihar67@mail.unnes.ac.id

Abstract

The low level of reading interest among elementary school students in the digital era has become a significant challenge in literacy development, particularly due to the dominant use of gadgets for entertainment rather than educational purposes. This study aims to analyze the effectiveness of digital storybooks based on local wisdom in improving students' reading interest. The research employed a quantitative approach using a quasi-experimental design with a one-group pretest-posttest model. The participants were fourth-grade elementary school students, and the instrument used was a reading interest questionnaire covering indicators of interest, frequency, and motivation to read. Data were analyzed using descriptive statistics and a paired sample t-test. The results revealed a significant improvement in students' reading interest after the implementation of local wisdom-based digital storybooks, as indicated by the increase in mean scores and the shift in reading interest categories from low to high. Statistically, the significance value obtained was less than 0.05, confirming that the intervention had a significant effect. This improvement is attributed to the interactive, visual, and contextual nature of the media, as well as the integration of local cultural values that make learning more meaningful. Therefore, local wisdom-based digital storybooks are recommended as an effective and relevant innovation for literacy learning in elementary schools in the digital era.

Keywords: reading interest; digital storybooks; local wisdom; literacy; elementary school

Abstrak

Rendahnya minat baca siswa sekolah dasar di era digital menjadi tantangan serius dalam pengembangan literasi, terutama karena dominasi penggunaan gawai yang lebih banyak dimanfaatkan untuk hiburan daripada kegiatan edukatif. Penelitian ini bertujuan untuk menganalisis efektivitas penggunaan buku cerita digital berbasis kearifan lokal dalam meningkatkan minat baca siswa. Penelitian menggunakan pendekatan kuantitatif dengan desain quasi-eksperimental melalui model one group pretest-posttest. Subjek penelitian adalah siswa kelas IV sekolah dasar dengan instrumen berupa angket minat baca yang mencakup indikator ketertarikan, frekuensi, dan motivasi membaca. Data dianalisis menggunakan statistik deskriptif dan uji paired sample t-test. Hasil penelitian menunjukkan adanya peningkatan signifikan pada minat baca siswa setelah penggunaan buku cerita digital berbasis kearifan lokal, ditandai dengan meningkatnya rata-rata skor serta pergeseran kategori minat baca dari rendah ke tinggi. Secara statistik, nilai signifikansi yang diperoleh lebih kecil dari 0,05, yang menunjukkan bahwa media yang digunakan memiliki pengaruh yang nyata terhadap peningkatan minat baca. Keberhasilan ini dipengaruhi oleh karakteristik media yang interaktif, visual, dan kontekstual, serta integrasi nilai budaya lokal yang membuat pembelajaran lebih bermakna. Dengan demikian, buku cerita digital berbasis kearifan lokal direkomendasikan sebagai inovasi media pembelajaran literasi yang efektif dan relevan dengan kebutuhan siswa di era digital.

Kata kunci: minat baca, buku cerita digital, kearifan lokal, literasi, sekolah dasar

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Introduction

Reading interest among elementary school students continues to represent a critical challenge in advancing educational quality, particularly amid the accelerating pace of digital transformation. Within this evolving landscape, reading literacy extends beyond the

conventional notion of text comprehension and is increasingly conceptualized as a multidimensional competence involving the ability to access, critically evaluate, and meaningfully interpret information across diverse formats, including digital environments. Despite this shift, a growing body of empirical evidence suggests that students' reading engagement declines when instructional media fail to correspond with the cognitive and socio-cultural characteristics of digital-native learners. Notably, children's interactions with information are now predominantly shaped by visual, interactive, and multimodal content, thereby rendering traditional linear and static texts less engaging and pedagogically effective. Alhamad et al. (2024) provide empirical support for this argument, demonstrating that reading engagement significantly improves when learning media incorporate visual elements, interactivity, and multimodal features. These findings underscore the need to reconceptualize literacy practices in contemporary education. Accordingly, the central challenge of literacy development in the digital era lies not solely in enhancing reading proficiency, but also in designing and implementing literacy media that are pedagogically aligned with the learning preferences and competencies of 21st-century learners.

Empirical evidence further indicates that elementary school students exhibit a stronger preference for digital-based media compared to conventional printed books. Digital media provide a more dynamic learning experience through the integration of text, images, animations, and audio, which more effectively capture students' attention. In contrast, traditional print materials are often perceived as less engaging due to their limited visual stimuli and lack of interactivity. Rehiara et al. (2025) found that the use of digital comic media significantly improves students' reading abilities while simultaneously fostering greater interest in reading activities. Similarly, Susanti et al. (2022) reported that web-based interactive digital books enhance students' learning motivation, active participation, and conceptual understanding of the material. These findings suggest that low reading interest among students cannot be attributed solely to internal factors; rather, it is also shaped by the limited innovation in instructional media that fail to accommodate the learning needs of digital-native learners. Consequently, there is a pressing need to develop more adaptive, interactive, and pedagogically responsive literacy media to bridge this gap.

From a theoretical perspective, the integration of digital media in learning is strongly grounded in constructivist approaches and multimodal learning theory, both of which emphasize the importance of active, contextual, and meaningful learning experiences (Febriyanto et al., 2026). Within this framework, digital media facilitate the presentation of information through multiple forms of representation, thereby enhancing both students' cognitive and affective engagement in the reading process. Interactivity, in particular, constitutes a central feature of digital media, as it enables learners not only to receive information passively but also to actively interact, explore, and construct knowledge independently. Susanti et al. (2022), demonstrate that interactive features such as quizzes, animations, and videos significantly increase students' attention and engagement. Moreover, the use of digital media supports more flexible forms of differentiated instruction, allowing learning experiences to be adapted to students' diverse needs and characteristics. In this regard, digital storybooks hold considerable potential as an innovative literacy medium that is not only visually engaging but also pedagogically effective in enhancing the overall quality of students' reading experiences.

From another perspective, the integration of local wisdom into learning represents a strategic approach to fostering contextualized and meaningful educational experiences. Local

wisdom embodies the values, norms, and cultural practices embedded within communities, thereby serving as a relevant and authentic source of learning that resonates with students' lived experiences. Context-based learning that incorporates local cultural elements has been shown to enhance the relevance of instructional materials, strengthen students' cultural identity, and facilitate deeper comprehension of reading content. Rasyid et al. (2023) demonstrate that literacy modules grounded in local wisdom are effective in improving elementary students' reading comprehension skills. Furthermore, a bibliometric analysis by Budiantoro & Dewantara (2025) reveals a growing scholarly trend toward integrating local wisdom within broader literacy frameworks, including digital, cultural, and scientific literacy. This trend is further supported by Jamaluddin et al. (2025) who report that local wisdom-based literacy makes a significant contribution to students' literacy development, particularly when synergistically combined with digital approaches. Taken together, these findings suggest that the integration of local wisdom into digital media holds substantial potential to create learning experiences that are not only engaging but also culturally meaningful and pedagogically impactful.

Despite a growing body of research examining the effectiveness of digital media and local wisdom-based learning independently, a significant research gap remains insufficiently addressed. Most studies on digital media tend to emphasize technological features and learning outcomes, with limited attention to the integration of local cultural dimensions in media design. Conversely, research on local wisdom predominantly focuses on the development of contextual teaching materials, often without fully leveraging the affordances of digital technologies. Budiantoro & Dewantara (2025) further highlight that studies on local wisdom-based literacy are largely dominated by descriptive approaches, with relatively few investigations employing experimental designs to rigorously evaluate their effectiveness, particularly within digital learning environments. This fragmentation underscores the need for a more integrative approach that combines digital innovation with culturally grounded content within a unified analytical framework. Addressing this gap, the present study aims to analyze the effectiveness of local wisdom-based digital storybooks in enhancing elementary school students' reading interest in the digital era. This study contributes both theoretically and practically by advancing the integration of digital literacy and cultural contextualization, as well as by providing an evidence-based model for the development of innovative, contextually relevant, and pedagogically responsive literacy media aligned with the demands of 21st-century learning.

Research Methods

This study employed a quantitative approach using a quasi-experimental design with a One-Group Pretest–Posttest Design to examine changes in students' reading interest before and after the implementation of a local wisdom-based digital storybook intervention. In this design, a single group of participants completed a pretest prior to the intervention and a posttest after the intervention. Although this design is widely used in educational settings where random assignment and control groups are difficult to implement, it provides evidence of changes associated with the intervention rather than definitive causal effects because potential influences such as testing effects, maturation, and classroom-related factors cannot be fully controlled (Han et al. 2022). Therefore, the findings should be interpreted as indicating changes observed following the intervention within the study context rather than establishing causal relationships.

The participants were 34 fourth-grade students enrolled at SDIT Insan Rabbani during the 2024/2025 academic year. A purposive sampling technique was employed because the selected class met the predetermined research criteria, namely: (1) students were officially enrolled in Grade IV, (2) all participants attended the complete intervention sessions, and (3) students completed both the pretest and posttest questionnaires. The sample consisted of one

intact classroom selected in collaboration with the school to facilitate the implementation of the intervention under regular instructional conditions.

Data were collected using a structured reading-interest questionnaire based on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The questionnaire was developed from established theoretical frameworks of reading interest and measured three dimensions: reading interest, reading frequency, and reading motivation. Prior to data collection, the instrument underwent content validation through expert judgment to evaluate the relevance, clarity, and representativeness of each item. Instrument reliability was subsequently examined using internal consistency analysis to ensure that the questionnaire produced dependable measurements. The use of valid and reliable instruments is essential for obtaining trustworthy quantitative data (Reinita & Rusdyani 2024).

Data were collected using a structured reading-interest questionnaire based on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The questionnaire was developed from established theoretical frameworks of reading interest and measured three dimensions: reading interest, reading frequency, and reading motivation. Prior to data collection, the instrument underwent content validation through expert judgment to evaluate the relevance, clarity, and representativeness of each item. Instrument reliability was subsequently examined using internal consistency analysis to ensure that the questionnaire produced dependable measurements. The use of valid and reliable instruments is essential for obtaining trustworthy quantitative data (Reinita & Rusdyani, 2024).

The intervention consisted of two structured instructional sessions using a local wisdom-based digital storybook entitled *The Legend of Mount Ciremai*. During each session, students read the digital storybook individually and participated in teacher-guided literacy activities, including story exploration, interactive discussion, and reflection on the cultural values presented in the story. The intervention was designed to introduce students to an engaging digital reading experience while integrating local cultural content into literacy learning. Because the intervention was conducted over a relatively short period, the findings primarily reflect students' short-term responses following the implementation.

The research procedure consisted of three stages. First, participants completed a pretest questionnaire to establish baseline data on their reading interest. Second, students participated in the digital storybook intervention during two consecutive instructional sessions. Finally, participants completed the same questionnaire as a posttest to examine changes in their reading interest following the intervention.

The collected data were analyzed using both descriptive and inferential statistics. Descriptive statistics were used to summarize the distribution and mean scores of students' reading interest before and after the intervention. The Shapiro–Wilk test was conducted to examine the normality assumption. Since the data satisfied the assumption of normality, differences between pretest and posttest scores were analyzed using a paired-sample t-test at a significance level of $\alpha = 0.05$. This statistical procedure is appropriate for comparing repeated measurements obtained from the same participants (Rezeki & Fitriani, 2026; Wardani dkk., 2025). Given the absence of a comparison group, the statistical analysis was intended to determine whether significant differences were observed between the two measurement occasions rather than to establish definitive causal effects of the intervention.

Result and Discussion

Based on the data analysis of 34 fourth-grade students at SDIT Insan Rabbani, the baseline condition of students' reading interest prior to the intervention implemented through the use of

a local legend-based digital storybook on Mount Ciremai revealed considerable variability. Of the total respondents, 21 students (62%) were categorized as having a high level of reading interest, while the remaining 13 students (38%) were classified as having low reading interest. These findings indicate a heterogeneous distribution of reading interest levels among students before the intervention was administered. This variation suggests that, although a majority of students demonstrated relatively high reading interest, a substantial proportion still exhibited low engagement, thereby highlighting the need for targeted instructional interventions to enhance students' overall reading motivation and participation.

Table 1. Pre-Intervention Distribution of Students' Reading Interest Levels

Pre-Intervention			
Score Interval	Frequency (n)	Percentage (%)	Category
83 – 132	21	62	High
33 – 82	13	38	Low
Total	34	100	

As presented in Table 1, the distribution of students' reading interest prior to the intervention indicates a relatively uneven pattern. A total of 21 students (62%) were classified in the high reading interest category, whereas 13 students (38%) fell into the low category. Although the majority of students demonstrated a high level of reading interest, the proportion of students in the low category remains substantial. This finding highlights the presence of disparities in students' reading engagement at baseline and suggests the need for targeted instructional strategies to address these gaps. Such baseline variation provides a critical foundation for evaluating the effectiveness of the intervention, as it allows for a clearer interpretation of changes in students' reading interest following the implementation of the digital storybook.

These findings indicate that, prior to the intervention, students' reading interest was present but not evenly distributed, with a considerable proportion still classified within the low category. From a descriptive statistical perspective, this condition reflects a suboptimal baseline for fostering a strong literacy culture within the classroom. This uneven distribution suggests that existing reading practices have not yet fully supported consistent student engagement, thereby underscoring the need for targeted and innovative instructional strategies to enhance reading interest across all student groups.

This condition is consistent with recent studies indicating that elementary students' reading interest in the digital era is strongly influenced by the quality of instructional media employed. Monotonous, minimally visual, and decontextualized materials often fail to sustain children's attention and engagement. In contrast, media that provide multimodal, interactive, and contextually relevant reading experiences are more effective in fostering sustained reading engagement. Research on children's engagement with e-books and printed texts further suggests that the effectiveness of learning media is not determined solely by its digital format, but more critically by how the content is designed and how the reading context is structured. Therefore, the pedagogical value of digital media lies not merely in its technological features, but in its capacity to meaningfully integrate design, interactivity, and contextual relevance to support students' reading experiences.

Following the implementation of the intervention through the use of a local wisdom-based digital storybook on the legend of Mount Ciremai, a substantial improvement in students' reading interest was observed. Based on the posttest results, 33 students (97%) were categorized as having a high level of reading interest, while only 1 student (3%) remained in the low category. This marked shift indicates a significant increase in students' reading engagement after the intervention. Compared to the pre-intervention condition, the distribution of reading interest

became considerably more homogeneous, with the vast majority of students demonstrating high levels of engagement. This finding suggests that the integration of interactive, multimodal, and culturally relevant digital media can effectively enhance students' reading interest in a meaningful way.

Table 2. Post-Intervention Distribution of Students' Reading Interest Levels

Post-Intervention			
Score Interval	Frequency (n)	Percentage (%)	Category
68 – 108	33	97	High
27 – 67	1	3	Low
Total	34	100	

As presented in Table 2, the distribution of students' reading interest following the intervention demonstrates a pronounced shift toward the high category. A total of 33 students (97%) were classified as having high reading interest, while only 1 student (3%) remained in the low category. This distribution reflects a substantial improvement compared to the pre-intervention condition, indicating that the majority of students experienced increased engagement in reading activities. The near-universal concentration of students in the high category suggests that the intervention was highly effective in enhancing reading interest. Such findings reinforce the potential of local wisdom-based digital storybooks as an engaging and pedagogically effective medium for fostering students' reading motivation and participation.

These findings indicate that the implemented media did not merely affect a limited subset of students, but rather shifted the overall distribution of reading interest almost entirely toward the high category. This pattern reflects a substantial and widespread impact of the intervention across participants. From a practical perspective, this transformation suggests that digital storybooks function not merely as supplementary learning tools, but as effective instructional media capable of stimulating students' reading interest, enhancing motivation, and fostering more consistent reading habits. Such evidence highlights the pedagogical significance of well-designed digital media in promoting meaningful engagement and supports their integration as a central component in literacy instruction within elementary education.

The observed improvement is consistent with recent empirical studies on digital books, digital storytelling, and local wisdom based storybooks. For instance, Yundari et al. (2025) demonstrated that picture story e-books are effective in enhancing elementary students' reading interest and promoting autonomous learning. Similarly, Gita et al. (2025) reported that the use of digital storytelling applications significantly improves both reading interest and learning motivation compared to traditional instructional methods. In addition, Mariamah et al. (2022) found that local wisdom-based storybooks in flipbook format not only enhance students' reading skills but also create a more engaging and enjoyable learning experience. Taken together, these findings reinforce the argument that the effectiveness of digital reading media lies not solely in their technological format, but in their ability to integrate interactivity, narrative engagement, and contextual relevance. This combination appears to play a crucial role in fostering deeper student engagement and sustaining reading interest in elementary education contexts.

When directly compared, the results reveal a notable increase in the average level of students' reading interest, rising from 69% in the pre-intervention phase to 80% in the post-intervention phase, representing an 11-percentage-point gain. In addition, the categorical distribution shifted markedly. The proportion of students classified in the high reading interest category increased substantially from 62% to 97%, while the proportion in the low category decreased sharply from 38% to only 3%. This pronounced shift in both central tendency and

distribution provides strong empirical evidence that the intervention had a meaningful and widespread impact on students' reading interest. Rather than reflecting incremental improvement, these findings indicate a substantial transformation in students' engagement with reading.

Table 3. Pre- and Post-Intervention Comparison of Students' Reading Interest Levels

Variable	Mean (%)
Pre-Intervention Reading Interest	69%
Post-Intervention Reading Interest	80%

As presented in Table 3, the mean percentage of fourth-grade students' reading interest at SDIT Insan Rabbani prior to the implementation of the digital storybook *The Legend of Mount Ciremai* was 69%. Following the intervention, the mean percentage increased to 80%. These findings indicate a positive change in students' reading interest after the use of the digital storybook. The improvement suggests that the intervention contributed to enhancing students' engagement with reading activities. Furthermore, the comparison of pre- and post-intervention reading interest is illustrated in the following figure to provide a clearer visual representation of the observed changes.

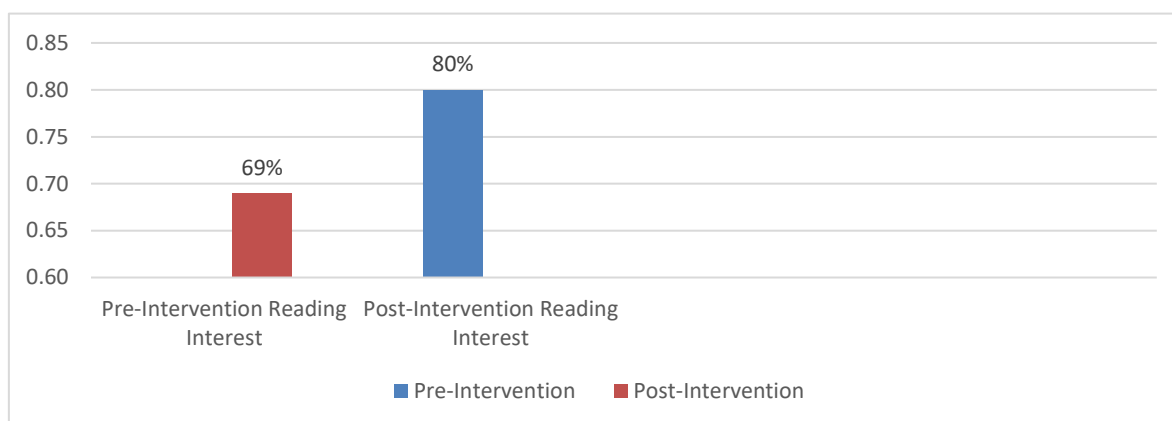


Figure 1. Comparison of Students' Reading Interest Before and After the Use of the Digital Storybook

As illustrated in Figure 1, there is a clear difference in students' reading interest before and after the implementation of the digital storybook *The Legend of Mount Ciremai*. The mean percentage of reading interest increased from 69% in the pre-intervention phase to 80% in the post-intervention phase. This visual comparison reinforces the numerical findings by demonstrating a noticeable upward trend in students' reading interest following the intervention. The increase suggests that the use of digital storybooks contributed positively to enhancing students' engagement in reading activities.

This change indicates that the use of the digital storybook *The Legend of Mount Ciremai* not only increased the mean score of students' reading interest but also improved its overall distribution. In other words, the intervention produced a more balanced enhancement across students rather than benefiting only those who initially demonstrated high levels of reading interest. This pattern suggests that the impact of the intervention was broadly distributed, reflecting its effectiveness in reaching diverse learner profiles. Such an outcome is particularly important in elementary education, as it indicates the potential of digital storybooks to reduce disparities in reading engagement and promote more inclusive literacy development.

From an inferential perspective, the data further confirm a statistically significant difference between the pre- and post-intervention conditions. The results of the Shapiro–Wilk normality test indicated that both the pretest data ($p = 0.079$) and posttest data ($p = 0.530$) were

normally distributed, satisfying the assumption of normality. Given that this assumption was met, a paired sample t-test was conducted to examine the effect of the intervention. The analysis revealed a significance value of $p < 0.001$, indicating that the null hypothesis (H_0) was rejected and the alternative hypothesis (H_1) was accepted. These findings demonstrate that the use of local wisdom-based digital storybooks has a statistically significant effect on improving the reading interest of fourth-grade students at SDIT Insan Rabbani.

One of the primary reasons for the observed increase in students' reading interest lies in the ability of digital storybooks to provide a more engaging reading experience compared to conventional media. Digital formats enable the integration of text, images, colors, and interactive elements, thereby transforming reading into a more dynamic and less monotonous activity. As a result, students are less likely to perceive reading as a rigid or unappealing task. A systematic review by Clinton-Lisell et al. (2024) indicates that while e-books and printed books do not consistently differ across all forms of engagement, certain types of digital formats particularly those that are well-designed or include narration can enhance children's visual attention. This suggests that the effectiveness of digital media is not inherently determined by its "digital" nature, but rather by the quality of its instructional design. In this context, elements such as visual appeal, interactivity, and narrative structure play a crucial role in fostering students' reading interest and sustaining their engagement.

This perspective is highly consistent with the findings of the present study. The digital storybook *The Legend of Mount Ciremai* does not merely transfer text into a digital format; rather, it delivers a more vivid and relatable narrative experience that resonates with students' everyday contexts. In the context of elementary education, such media are particularly important, as learners at this developmental stage tend to respond more effectively to concrete visual stimuli and story-based representations. This aligns with Aisyah & Wibowo (2025), who emphasize that digital storytelling applications integrating text, images, audio, and video can significantly enhance students' reading interest and learning motivation. These findings further reinforce the argument that interactivity and multimodality are key mechanisms in stimulating reading engagement. By combining multiple modes of representation, digital storybooks create richer cognitive and affective learning experiences, thereby increasing students' interest in reading.

Beyond its digital features, the primary strength of this study lies in the integration of local wisdom into the narrative content. *The Legend of Mount Ciremai* functions not merely as reading material, but as a cultural representation that resonates closely with students' lived experiences. When reading materials are aligned with students' social and cultural contexts, the reading process becomes more meaningful, as learners are able to connect new information with their prior knowledge. This aligns with the principles of meaningful learning theory, which emphasize that the integration of new content with existing cognitive structures facilitates deeper understanding and strengthens learning motivation. In this regard, culturally relevant narratives serve not only as content delivery tools but also as pedagogical mechanisms that enhance comprehension, engagement, and the overall quality of the learning experience.

These findings are supported by prior studies emphasizing the effectiveness of local wisdom-based storybooks in elementary education. Rejeki et al. (2022) demonstrated that a Bali local wisdom based flipbook significantly improves fifth-grade students' reading skills. The study highlights that embedding cultural values into digital media enhances learning attractiveness, facilitates comprehension, and increases contextual relevance for learners. Similarly, Zakiah et al. (2025) found that a Sundanese culture based storybook grounded in local

wisdom is a feasible and effective instructional medium, as it strengthens cultural literacy while supporting contextually meaningful learning. Taken together, these studies reinforce the argument that local wisdom should not be viewed merely as a decorative element in instructional media. Instead, it serves as a critical source of meaning that enriches students' reading experiences, deepens comprehension, and strengthens their connection to the learning material.

The increase in reading interest observed in this study can also be explained by the enhancement of students' intrinsic motivation. Reading interest extends beyond mere willingness to read; it encompasses enjoyment, the desire to re-engage with texts, and the motivation to further explore reading content. The findings indicate that these dimensions became more prominent following the implementation of the digital storybook. Students demonstrated greater enthusiasm, a stronger inclination to complete the story, and increased curiosity toward the content. This pattern suggests that the digital storybook successfully transformed reading from an obligatory academic task into a more enjoyable and self-driven activity. From a motivational perspective, such a shift reflects the activation of intrinsic motivation, which plays a critical role in sustaining long-term engagement in reading.

From a theoretical perspective, these findings are consistent with prior research on digital storytelling. Sarigöz & Yildirim (2024) reported that digital storytelling has a positive effect on students' reading comprehension and attitudes toward reading. Similarly, Mayorga et al. (2022) concluded that digital storytelling enhances reading comprehension by fostering deeper cognitive engagement through narrative-rich digital environments. In this context, digital storytelling enables students not only to read text, but also to simultaneously process visual, auditory, and narrative elements, which facilitates more active involvement in the reading process. This multimodal engagement allows learners to immerse themselves more fully in the story, thereby strengthening both comprehension and interest. In the present study, this effect is reflected in the observed increase in students' reading interest following the intervention, suggesting that cognitively engaging and narratively rich digital media can effectively promote active reading behaviors.

One of the most salient findings of this study is the substantial shift in the distribution of students' reading interest levels. Prior to the intervention, 13 students were classified in the low reading interest category. Following the intervention, this number decreased sharply to only one student. This distributional change is particularly significant, as it indicates that the impact of the intervention was not limited to a specific subgroup of students, but was instead broadly experienced across the cohort. In other words, the digital storybook intervention demonstrated a relatively even effect, benefiting not only students who initially exhibited high reading interest but also those in the lower category. From a pedagogical perspective, this finding suggests that local wisdom-based digital storybooks have the capacity to reach learners with diverse characteristics and effectively support their progression toward higher levels of reading interest. Such outcomes highlight the potential of culturally relevant and well-designed digital media to promote more equitable learning experiences in elementary education.

These findings are consistent with Yundari et al. (2025), who reported that picture story e-books significantly enhance elementary students' reading interest through more engaging and learner-centered approaches. Their study further emphasizes that well-designed digital media can support autonomous learning, enabling students not only to develop greater interest in reading but also to become more self-directed in their learning processes. This perspective aligns closely with the results of the present study, where the improvement in reading interest is not only reflected in statistical gains but also in a pronounced shift in category distribution. Such a

transformation indicates that the intervention fostered meaningful changes in students' reading behaviors, extending beyond surface-level improvements to more substantive and sustained engagement.

The findings of this study suggest that the implementation of the local wisdom-based digital storybook *The Legend of Mount Ciremai* was associated with positive changes in fourth-grade students' reading interest. Following the intervention, students demonstrated higher reading-interest scores and a greater proportion of students were classified in the high reading-interest category. Given the one-group pretest-posttest design, these findings should be interpreted as evidence of positive changes observed following the intervention rather than definitive causal effects. Nevertheless, the results indicate that integrating digital learning media with culturally relevant content may provide a meaningful approach to supporting literacy learning in elementary schools.

One possible explanation for the observed improvement can be understood through motivation theory, which proposes that students are more likely to engage in learning activities when instructional materials are perceived as enjoyable, relevant, and meaningful. The digital storybook combined attractive visual elements, interactive features, and a familiar cultural narrative, creating a learning experience that was more engaging than conventional reading materials. Rather than perceiving reading as a compulsory classroom activity, students were encouraged to participate because the story was both enjoyable and closely connected to their everyday experiences. This finding supports the view that intrinsic motivation plays an important role in promoting students' sustained engagement with reading activities.

The findings may also be interpreted from the perspective of constructivist learning theory, which emphasizes that learners actively construct new knowledge by connecting new information with their existing experiences. The use of *The Legend of Mount Ciremai*, a story rooted in local wisdom, enabled students to relate the reading material to their own cultural background. Such contextual connections may have facilitated more meaningful learning experiences, strengthened comprehension, and increased students' willingness to engage with reading activities. In this sense, local wisdom functioned not merely as cultural content but as a pedagogical resource that supported students' active knowledge construction.

From the perspective of digital literacy theory, the findings suggest that the effectiveness of digital storybooks should not be attributed solely to their digital format. Rather, their educational value depends on the quality of instructional design, including the integration of text, illustrations, narration, and interactive elements that support meaningful learning. This interpretation is consistent with Clinton-Lisell dkk (2024), who argue that children's engagement with digital books is influenced more by instructional design than by the digital medium itself. Therefore, the positive changes observed in this study may reflect the combined contribution of multimodal design and culturally relevant content rather than technology alone.

The results are also consistent with the principles of contextual learning theory, which emphasizes that learning becomes more meaningful when instructional content is closely related to learners' social and cultural environments. The incorporation of local wisdom into the digital storybook provided students with familiar contexts that allowed them to connect new information with prior knowledge. This contextual relevance may have enhanced students' interest in reading by making the learning experience more authentic, meaningful, and personally relevant.

The present findings are generally consistent with previous studies reporting positive effects of digital storytelling and local wisdom-based learning on students' literacy development.

However, the contribution of this study extends beyond confirming these earlier findings. While previous research has often examined digital storytelling and local wisdom as separate instructional approaches, this study demonstrates how their integration within a single literacy medium may support reading interest through complementary mechanisms, including multimodal engagement, contextual relevance, and intrinsic motivation. These findings therefore contribute to the growing literature on culturally responsive digital literacy by providing empirical evidence from an elementary school context.

From a practical perspective, the findings suggest that local wisdom-based digital storybooks may serve as a valuable literacy resource for elementary schools. Teachers may integrate such media into literacy instruction to create more engaging reading experiences while simultaneously introducing students to local cultural values. Likewise, instructional media developers should consider balancing technological innovation with pedagogical quality and cultural relevance, as effective digital learning media depend not only on interactive features but also on meaningful and contextually appropriate content.

Several limitations should be considered when interpreting these findings. First, the study employed a one-group pretest-posttest design without a comparison group; therefore, improvements in students' reading interest cannot be attributed exclusively to the intervention because other factors, such as testing effects, maturation, or classroom experiences, may also have influenced the outcomes. Second, the study involved a relatively small sample from a single elementary school, limiting the generalizability of the findings. Third, the intervention was conducted over only two instructional sessions; consequently, the results primarily reflect short-term changes in reading interest. Future research is encouraged to employ more rigorous experimental designs, involve larger and more diverse samples, and examine the long-term implementation of local wisdom-based digital storybooks across different educational settings.

Conclusion

This study found that the implementation of a local wisdom-based digital storybook was associated with improvements in fourth-grade students' reading interest. Following the intervention, students demonstrated higher reading-interest scores and a greater proportion of students were classified in the high reading-interest category than before the intervention. The paired-sample *t*-test also indicated a statistically significant difference between the pretest and posttest results. Given the one-group pretest-posttest design, these findings should be interpreted as evidence of positive changes observed following the intervention rather than definitive causal effects.

From a theoretical perspective, this study contributes to literacy education by providing empirical support for the integration of digital learning media with culturally relevant content. The findings suggest that combining multimodal digital storybooks with local wisdom may enhance students' engagement with reading by creating learning experiences that are more meaningful and contextually relevant. This study also extends the growing body of research on digital literacy by demonstrating the potential value of culturally responsive digital media in supporting students' reading motivation within elementary education.

From a practical perspective, the findings suggest that local wisdom-based digital storybooks may serve as a promising literacy resource for elementary schools. Teachers may incorporate such media into literacy instruction to provide more engaging reading experiences while simultaneously introducing students to local cultural values. Schools and curriculum developers may also consider integrating culturally contextualized digital storybooks into literacy programs to support both reading engagement and cultural literacy in the digital era.

Several limitations should be acknowledged. The study involved a relatively small sample from a single elementary school and employed a one-group pretest-posttest design without a comparison group. Consequently, the findings should be generalized with caution. Future research is encouraged to employ more rigorous experimental designs, such as randomized or controlled quasi-experimental studies, involve larger and more diverse participant groups, examine the long-term effects of digital storybooks on reading interest, and investigate their implementation across different educational settings and grade levels. Such studies would provide stronger evidence regarding the effectiveness and broader applicability of culturally responsive digital literacy interventions.

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