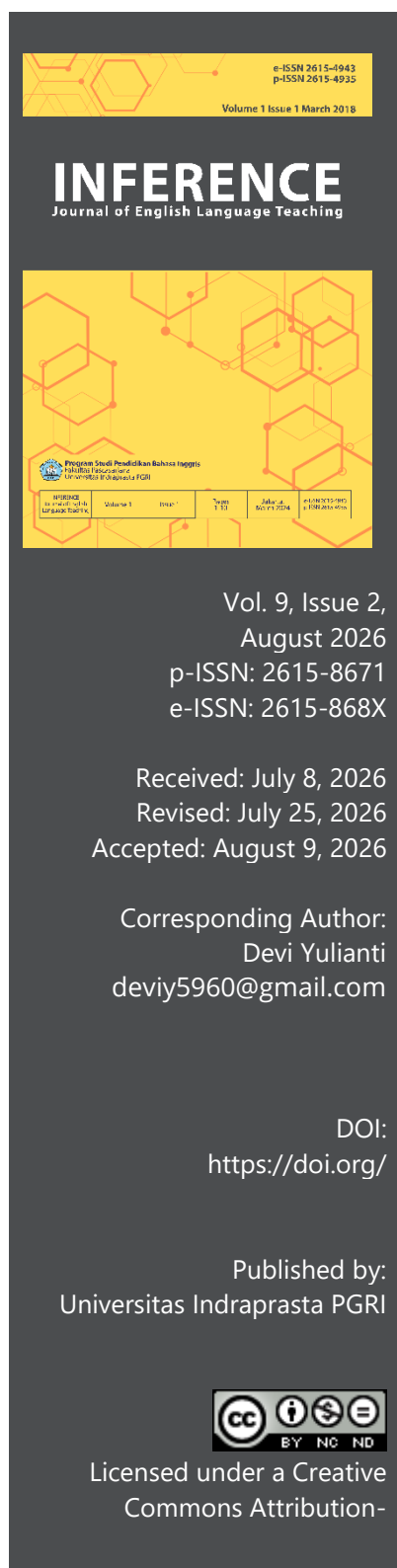




RESEARCH ARTICLE

THE EFFECT OF USING DIGITAL PICTURE STORYBOOKS FROM THE LET'S READ ASIA PLATFORM ON THE READING COMPREHENSION SKILLS OF FIFTH-GRADE STUDENTS AT SDN 1 PASIRHALANG

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Abstract: This study aimed to determine the effect of using digital picture storybooks from the Let's Read Asia platform on the reading comprehension skills of fifth-grade students at SDN 1 Pasirhalang. Employing a one-group pretest-posttest pre-experimental design based on Richard Mayer's Multimedia Learning Theory, the research involved 37 students selected through purposive sampling. Data were collected via pre-test and post-test (20 multiple-choice questions) and analyzed using paired sample t-test with IBM SPSS Statistics 27.0. Results showed a significant improvement: the mean pre-test score increased from 65.68 to 78.11 in the post-test (gain of 12.43 points), with an N-Gain of 0.48 (medium improvement). The t-value was 12.932 ($p = 0.001 < 0.05$), rejecting the null hypothesis. Digital picture storybooks, with their multimedia elements (text, images, audio), effectively enhanced comprehension of story elements like characters, plot, and moral values. Recommendations include regular integration by teachers with vocabulary support and student practice via the app.

Keywords: Digital picture storybooks; Let's Read Asia; Reading comprehension; Elementary education; Multimedia learning.

PENGARUH PENGGUNAAN BUKU CERITA BERGAMBAR DIGITAL DARI PLATFORM LET'S READ ASIA TERHADAP KEMAMPUAN PEMAHAMAN MEMBACA SISWA KELAS V DI SDN 1 PASIRHALANG

The effect of using digital picture storybooks from the Let's Read Asia platform on the reading comprehension skills of fifth-grade students at SDN 1 Pasirhalang

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Abstrak: Penelitian ini bertujuan untuk mengetahui pengaruh penggunaan buku cerita bergambar digital dari platform Let's Read Asia terhadap kemampuan pemahaman membaca siswa kelas lima di SDN 1 Pasirhalang. Penelitian ini menggunakan desain pra-eksperimental one-group pretest-posttest berdasarkan Teori Pembelajaran Multimedia Richard Mayer, penelitian melibatkan 37 siswa yang dipilih melalui purposive sampling. Data dikumpulkan melalui pre-test dan post-test (20 soal pilihan ganda) dan dianalisis menggunakan paired sample t-test dengan IBM SPSS Statistics 27.0. Hasil penelitian menunjukkan pengaruh signifikan yang dibuktikan oleh skor rata-rata pre-test naik dari 65,68 menjadi 78,11 pada post-test (kenaikan 12,43 poin), dengan N-Gain 0,48 (kategori sedang). Nilai t sebesar 12,932 ($p = 0,001 < 0,05$), menolak hipotesis nol. [Buku cerita bergambar digital dengan elemen multimedia (teks, gambar, audio) efektif meningkatkan pemahaman elemen cerita seperti tokoh, alur, dan nilai moral. Rekomendasi mencakup integrasi rutin oleh guru disertai dukungan kosakata dan praktik siswa melalui aplikasi.

Kata Kunci: Buku cerita bergambar digital; Let's Read Asia; Pemahaman membaca; Pendidikan dasar; Pembelajaran multimedia.

INTRODUCTION

Education in the digital era faces complex challenges and vast opportunities, particularly in the wake of the COVID-19 pandemic that has fundamentally accelerated the transformation of learning processes toward technology integration. In Indonesia, the quality of students' reading literacy continues to be a major concern. International large-scale assessments such as PISA 2022 and PIRLS 2021 consistently place Indonesian students' reading performance below the global average. This condition is especially evident among elementary school students who often experience difficulties in understanding narrative texts. The low interest in reading combined with the dominance of conventional teaching methods that tend to be monotonous has further weakened students' reading comprehension skills. In fact, reading comprehension is a fundamental competency that serves as the foundation for academic success across all subjects and lifelong learning.

This study is grounded in Richard Mayer's Multimedia Learning Theory (2009). Mayer posits that meaningful learning occurs when information is presented simultaneously through visual and auditory channels, which helps reduce cognitive load and promotes active knowledge construction. The combination of text, illustrations, and narration in digital picture storybooks aligns with Mayer's principles of multimedia learning, enabling students to build coherent mental representations of stories more effectively.

Several previous studies have explored the use of digital media to improve reading comprehension. Nurhidayah and Wibowo (2025) conducted a quantitative study on digital storybooks in elementary schools and reported a significant increase in students' digital literacy and reading motivation. Similarly, Takacs et al. (2015) in their meta-analysis found that multimedia and interactive features in digital storybooks positively affected story comprehension and vocabulary acquisition in young learners. In the Indonesian context, Alpiyah et al. (2021) showed that the use of technology-based learning materials improved reading comprehension among students in coastal areas. More recently, Zaidi et al. (2022) demonstrated the effectiveness of digital dual-language storybooks in enhancing reading engagement in immersion programs. These studies generally employed quasi-experimental or pre-experimental designs and reported moderate to high improvements in reading skills.



However, several gaps remain in the existing literature. Most previous studies were conducted in urban settings or developed countries, with limited attention to rural elementary schools in Indonesia. Many studies used general digital storybooks that do not incorporate local Asian cultural content. Additionally, few studies have specifically examined the Let's Read Asia platform, which offers free, culturally relevant materials. The integration of multimedia elements (text, images, and audio) in rural Indonesian contexts also lacks empirical evidence.

This study aims to fill these gaps by investigating the effectiveness of digital picture storybooks from the Let's Read Asia platform on the reading comprehension skills of fifth-grade students at SDN 1 Pasirhalang, a rural public elementary school. The current research is important because it provides context-specific evidence for schools with limited resources and contributes to the development of culturally relevant digital learning tools in Indonesian elementary education. By addressing these gaps, this study is expected to offer practical insights for teachers in implementing more engaging reading instruction in the digital age. This research focuses on fifth-grade students using a one-group pretest-posttest pre-experimental design over five sessions. Therefore, the findings should be interpreted with caution regarding broader generalization. Therefore, this study seeks to answer the following problem "Does the use of digital picture storybooks from the Let's Read Asia platform have a significant effect on the reading comprehension skills of fifth-grade students at SDN 1 Pasirhalang?".

The main objective of this study is to determine the effect of using digital picture storybooks from the Let's Read Asia platform on the reading comprehension skills of fifth-grade students at SDN 1 Pasirhalang.

RESEARCH METHOD

This study employed a quantitative approach with a one-group pre-test and post-test pre-experimental design. The study was conducted at SDN 1 Pasirhalang, Sukabumi, in May 2026. The study population consisted of 119 fifth-grade students. The sample comprised 37 students from Class 5C, selected through purposive sampling because that class had never used the Let's Read Asia platform. The research instrument consisted of an objective test comprising 20 multiple-choice items. The instrument had been tested for validity (all items were valid) and reliability (Cronbach's Alpha = 0.854). Data collection was conducted through a pre-test, a treatment phase consisting of five sessions using digital picture books, and a post-test. The data were analyzed using descriptive statistics, N-Gain, a normality test (Shapiro-Wilk), and a paired-sample t-test using IBM SPSS Statistics 27.

RESULTS AND DISCUSSION

This study successfully documented a significant improvement in the reading comprehension skills of fifth-grade students at SDN 1 Pasirhalang following an intervention using digital picture books from the Let's Read Asia platform. Overall, the results of the data analysis indicate positive changes in terms of average scores, the distribution of score categories, and the effectiveness of the intervention.

Table 1.
Frequency Distribution

No	Frequency Distribution	Pre-test	Post-test
1	Highest Score	95	100
2	Lowest Score	35	45
3	Average	65.68	78.11
4	Median	65	80
5	Modus	55	90
6	Standard Deviation	17.49	15.25

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As presented in Table 1, the average pretest score of the 37 students was 65.68, which falls into the “Fair” category. After participating in five learning sessions using digital picture storybooks, the average posttest score increased to 78.11. This represents a mean gain of 12.43 points. The N-Gain value of 0.48 indicates a moderate improvement in students’ reading comprehension skills. Although the increase is not categorized as high, it remains meaningful considering the short intervention period.

The highest score rose from 95 to 100, while the lowest score improved from 35 to 45. The standard deviation also decreased from 17.49 to 15.25, suggesting that the students’ scores became more consistent after the treatment. This indicates that digital picture storybooks not only improved the average achievement but also helped reduce the achievement gap among students.

Before conducting the paired-sample t-test, the researcher first tested the normality of the data distribution to ensure that the statistical test used was appropriate. The Shapiro-Wilk normality test was applied because the sample size in this study was relatively small ($N = 37$).

Tabel 2.

Normality Test

Variable	Statistic	df	Sig.	Decision
Pre-test	0.952	37	0.113	Normally distributed
Post-test	0.951	37	0.107	Normally distributed

The data obtained in this study were first tested for normality using the Shapiro-Wilk test. The pretest data showed a significance value of 0.113, and the posttest data showed a significance value of 0.107. Because both values exceed the 0.05 threshold, it can be concluded that the data from both tests are normally distributed. This normal distribution allows the researcher to use the parametric paired-sample t-test with confidence. The fulfillment of the normality assumption strengthens the validity of the research findings regarding the effectiveness of digital picture storybooks.

To test the research hypothesis regarding the effect of using digital picture books from the Let’s Read Asia platform, a paired-sample t-test was conducted. The results of the statistical analysis are presented in the following table.

Table 3.

Paired Sample T-test

Data Pair	Mean	t-value	df	Sig. (2-tailed)
Post-test – Pre-test	12.432	12.932	36	<0.001

Based on Table 3, Statistical analysis using the paired-sample t-test further confirmed the significance of this improvement. The test produced a t-value of 12.932 with a significance level (p) of 0.001, which is smaller than 0.05. Therefore, the null hypothesis (H_0) which stated there was no significant difference between pretest and posttest scores was rejected. In other words, the use of digital picture storybooks from the Let’s Read Asia platform had a statistically significant positive effect on students’ reading comprehension.

A comparison between the pre-test and post-test results is shown in the table above. Only 2 students scored in the “Very Good” category, 13 students were in the “Good” category, 8 students were in the “Fair” category, 13 students were in the “Poor” category, and 1 student was in the “Very Poor” category on the pre-test.

After the implementation of the digital picture book, the post-test results showed an increase in the “Very Good” category to 16%, “Good” category to 24%, in the “Fair” category to 32%, “Poor” category 22% in the “Very Poor” category to 5%. This indicates that there was an improvement in students’ reading comprehension skills after they participated in the learning process. The following graphic below can be used to further illustrate it:

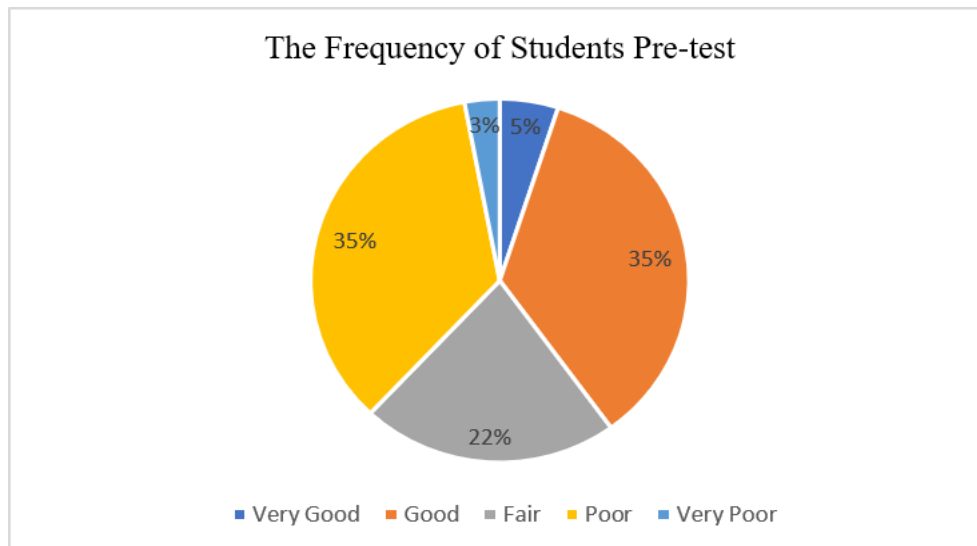


Figure 1. Graph of Students' Percentages in Pre-test

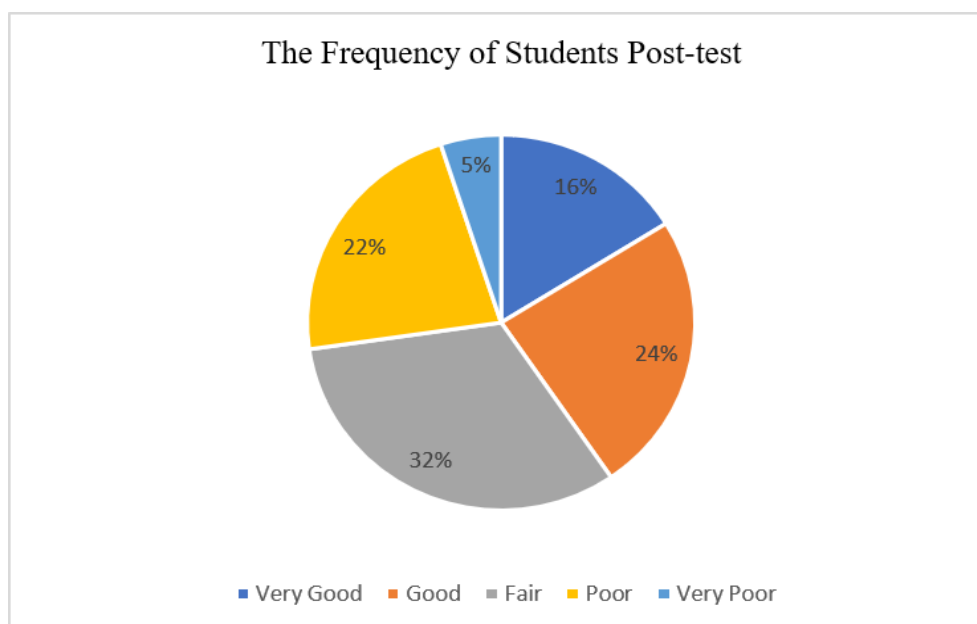


Figure 2.
Graph of Students' Percentages in Post-test

The results of the study show that the use of digital picture books from the Let’s Read Asia platform significantly improved the reading comprehension skills of fifth-grade students at SDN 1 Pasirhalang. An increase in the average score of 12.43 points and an N-Gain value of 0.48 indicate

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that the intervention was quite effective. A paired-sample t-test, which yielded a t-value of 12.932 with a significance level of 0.001 ($p < 0.05$), reinforces the evidence that the difference between the pre-test and post-test scores was not due to chance. Changes in the distribution of score categories indicate that digital media successfully helped students better understand story elements such as characters, plot, and moral messages.

This improvement aligns strongly with Richard Mayer's Multimedia Learning Theory (2009). Mayer argues that humans possess two separate information processing channels, the visual channel and the auditory channel. When instructional materials present information through both channels simultaneously and in a well-integrated manner, learners can process the material more efficiently. This process reduces extraneous cognitive load, minimizes the risk of cognitive overload, and encourages deeper cognitive processing such as selecting, organizing, and integrating new information with prior knowledge. In the context of this study, the digital picture storybooks from the Let's Read Asia platform effectively applied these principles. The combination of written text and colorful illustrations engaged the visual channel, while the audio narration supported the auditory channel. As a result, students were able to construct a more coherent and meaningful mental representation of the stories, which led to a better understanding of essential narrative elements such as characters, plot development, setting, and moral values.

The findings of this study are consistent with and supported by several previous empirical studies. Nurhidayah and Wibowo (2025) conducted a quantitative study in elementary schools and reported that the use of digital storybooks significantly improved students' digital literacy, reading motivation, and overall comprehension. Similarly, Takacs et al. (2015) performed a comprehensive meta-analysis involving 43 studies and concluded that multimedia and interactive features in digital storybooks have a moderate to large positive effect on children's story comprehension, vocabulary acquisition, and engagement. In the Indonesian context, Alpiyah et al. (2021) also found that technology enhanced reading materials helped improve reading comprehension among students in coastal areas. These previous studies, together with the current research, strengthen the empirical foundation of Mayer's Multimedia Learning Theory in real educational practice.

However, this study makes a unique contribution because it was conducted in a rural elementary school setting using a free, culturally relevant platform (Let's Read Asia) based on local Asian content. Unlike many previous studies that focused on commercial or general platforms, this research demonstrates that affordable and contextually appropriate digital resources can be effectively implemented even in schools with limited resources. The advantage of digital media over traditional printed books clearly lies in the simultaneous support of visual and auditory elements, which provides richer scaffolding for young learners' comprehension.

Nevertheless, this study has several limitations, including the use of a pre-experimental design without a control group and a relatively short intervention period of only five sessions. Therefore, the results should be interpreted with caution. In practical terms, these findings suggest that elementary school teachers, particularly English teachers, should more actively utilize the Let's Read Asia platform as an innovative and engaging learning tool. Further research is recommended using a quasi-experimental design with a larger sample size and long-term measurements to strengthen the validity and generalizability of the findings.

CONCLUSIONS

Based on the results of data analysis, statistical processing, and the discussion conducted, it can be concluded that the use of digital picture books from the Let's Read Asia platform has a significant positive effect on the reading comprehension skills of fifth-grade students at SDN 1 Pasirhalang. This pre-experimental study, employing a one-group pretest-posttest design, successfully

demonstrated a significant increase in students' average scores from 65.68 on the pretest to 78.11 on the posttest, with an average gain of 12.43 points. An N-Gain value of 0.48—which falls into the moderate category—further strengthens the evidence that the five-session intervention made a meaningful contribution to improving students' ability to understand story elements, such as characters, setting, plot, and moral messages, as well as their ability to relate stories to everyday life. This indicates that digital picture books can boost students' motivation to learn while also addressing the boredom that often arises in conventional learning.

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