



## Improving Students' Reading and Writing Literacy through Children's Digital Books Gemudaya.com for Fifth-Grade Students at Madrasah Ibtidaiyah

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### ABSTRACT

Students' reading and writing literacy in Indonesia remains low, as reflected in the 2022 PISA score of 359, far below the OECD average. This classroom action research aims to describe the implementation of Gemudaya.com children's digital books and improve the reading and writing literacy skills of fifth-grade students at Madrasah Ibtidaiyah Istana Berkah Abadi (IBA), Jambi City. The research used the Kemmis and McTaggart model conducted in two cycles. The subjects were 23 fifth-grade students. Data collection instruments included observation sheets of teacher and student activities, learning interest observation sheets, literacy tests, and interview guidelines. The results showed that the implementation of Gemudaya.com children's digital books was conducted through the following stages: preparing student Google accounts, demonstrating digital book navigation and features, 25 minutes of independent reading, heterogeneous group discussions, phased writing assignments with scaffolding worksheets, and providing rewards and reflection. Students' literacy skills improved significantly from the pre-cycle condition (27%) to 40.4% in Cycle I, and jumped to 80.1% in Cycle II. The total increase reached 53.1 percentage points. The indicators with the highest improvement were writing responses (+61.6 percentage points) and inferential ability (+56.6 percentage points). This research concludes that Gemudaya.com children's digital books are effective in improving the literacy skills of Islamic elementary school students. The implication is that teachers, schools, and policymakers can utilize curated digital children's books as a supplementary literacy medium, while ensuring device readiness, scaffolding, and sustained creative writing practice.

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## INTRODUCTION

Reading and writing literacy are fundamental skills that determine students' success in education and life. Literacy is not merely the ability to read and write letters or words; it includes the capacity to understand, interpret, evaluate, and use information from various texts to solve problems and

communicate ideas. In the context of elementary education, reading and writing literacy becomes the foundation for learning other subjects, developing critical thinking, and building lifelong learning habits. Therefore, low literacy skills at the primary level can have long-term consequences on students' academic achievement and future participation in society.

Data from the Programme for International Student Assessment (PISA) 2022 show that Indonesia's reading literacy score reached 359 points, a decrease of 12 points compared to PISA 2018, which was at 371 points. Although Indonesia's ranking increased by 5–6 positions because many countries experienced more drastic declines due to the pandemic, this achievement is still far below the OECD average of 476 points. This fact indicates that Indonesian students' literacy skills still require significant strengthening, especially at the primary education level. The gap is not only about reading ability but also about higher-order comprehension, such as inferring implicit information, evaluating text content, and expressing ideas in writing.

The School Literacy Movement (Gerakan Literasi Sekolah/GLS) mandated through Minister of Education and Culture Regulation No. 23 of 2015 emphasizes the importance of building a reading and writing culture through systematic and sustainable activities. The indicators of literacy success in GLS include the ability to understand texts, respond to reading, and express ideas in writing. Schools are expected to create a rich literacy environment by providing quality and varied reading materials. In this context, children's digital books emerge as an alternative learning media that can bridge students' reading habits with information technology developments.

Theoretically, reading literacy can be defined as the ability to understand, use, evaluate, reflect on, and engage with texts in order to achieve goals, develop knowledge, and participate in society. Reading literacy is often categorized into several levels: literal comprehension, inferential comprehension, critical comprehension, and creative comprehension. Literal comprehension refers to understanding explicitly stated information. Inferential comprehension requires students to draw conclusions from implicit information. Critical comprehension involves evaluating, comparing, and connecting text content with prior knowledge or real-life contexts. Creative comprehension relates to producing new ideas or responses based on the text. In this research, reading indicators include literal comprehension, inferential ability, critical/connection, and the use of digital features.

Reading and writing literacy skills are fundamental skills that are very important in education. Data from the Programme for International Student Assessment (PISA) 2022 shows that Indonesia's reading literacy score reached

359 points, a decrease of 12 points compared to PISA 2018 which was at 371 points. Although Indonesia's ranking increased by 5-6 positions because many countries experienced more drastic declines due to the pandemic, this achievement is still far below the OECD average of 476 points. This fact indicates that Indonesian students' literacy skills still require significant strengthening, especially at the primary education level.

Writing literacy, meanwhile, is the ability to express thoughts, ideas, experiences, and information in written form clearly and coherently. Writing literacy includes not only mechanical aspects such as spelling and grammar but also higher-order processes such as organizing ideas, summarizing, responding, and creating original texts. Writing literacy can be categorized into summary writing, response writing, and creative writing. Summary writing requires students to identify main ideas and restate them concisely. Response writing involves giving opinions, reactions, or evaluations toward a text. Creative writing, such as writing story continuations, requires imagination, narrative structure, and language creativity. These categories are relevant to elementary school students because they represent a continuum from receptive comprehension to productive expression.

Children's digital books are technology-based learning media specifically designed for elementary school students by combining text, images, audio, and interactive features so that the reading and writing process becomes more engaging and contextual. Children's digital books can be categorized into several forms: electronic books (e-books), audio digital storybooks, interactive digital books, and digital storybooks with multimedia features. E-books generally present text and images in digital format. Audio digital storybooks add narration and sound effects. Interactive digital books include clickable elements, animations, or questions that respond to student input. Digital storybooks combine narrative texts with visual and audio support to strengthen comprehension. Research shows that the use of digital media such as e-books can effectively improve students' literacy skills.

Gemudaya.com is a digital literacy platform that has been active since November 14, 2025, and provides educational digital books for elementary school students. This platform is utilized as a technology-based learning resource to support reading and writing literacy. Digital books are presented with easy access through electronic devices and are arranged according to student characteristics. The platform offers illustrated stories, simple language, and themes relevant to the elementary curriculum, such as "Humans and the Environment Are Friends." The presence of such a platform provides an opportunity for teachers to integrate digital reading materials into classroom

instruction, especially when printed books are limited or less attractive to students.

Several previous studies support the use of digital books in literacy learning. Nurhidayah and Wibowo (2025) showed that the use of digital storybooks has a positive effect on the digital literacy of elementary school students. Arifa and Herwin (2024) found that digital audio storybook media is effective in improving early reading skills. Maula and Yudiana (2024) on interactive digital books showed an improvement in literacy skills for first-grade elementary students. Nurbaiti and Rohmiyati (2023) also reported that digital storybook media can increase elementary students' reading interest. However, most of these studies focus on reading skills or digital literacy separately, and few employ classroom action research to examine the simultaneous improvement of reading and writing literacy in Islamic elementary schools using a specific digital platform such as Gemudaya.com.

Based on the results of the pre-cycle assessment conducted with the fifth-grade homeroom teacher at Madrasah Ibtidaiyah Istana Berkah Abadi (IBA), Jambi City in January 2026, data showed that the reading and writing literacy skills of fifth-grade students were still low. Out of 23 fifth-grade students, the initial literacy diagnostic test results showed that only 39.1% of students were able to answer literal questions, while the ability to infer implicit information only reached 21.7%. In the writing aspect, students' ability to restate the main ideas of the reading only reached 30.4%, and the ability to write simple responses only reached 16.7%. The average mastery of these four initial indicators was only 27%. This condition is far from the GLS expectation which targets at least 75% of students to have basic literacy skills according to their education level.

The gap between expectations and reality indicates the need for an intervention that is not only motivational but also structural and pedagogical. Conventional literacy instruction that relies only on printed textbooks and individual assignments often fails to engage students who are accustomed to visual and digital media. Fifth-grade students are at a transitional stage of cognitive development; they still need concrete visual support but are also beginning to develop abstract reasoning. Therefore, media that combine text, images, audio, and interactive elements can help them bridge literal understanding and higher-order comprehension. Furthermore, writing tasks that are separated into manageable stages and supported by scaffolding worksheets can reduce cognitive load and increase students' confidence.

The argument of this research is that children's digital books on Gemudaya.com can improve reading and writing literacy because they provide

multimodal input, authentic and attractive reading materials, and opportunities for repeated practice. The hypothesis of this classroom action research is: if Gemudaya.com children's digital books are implemented with appropriate planning, demonstration, independent reading, heterogeneous group discussion, phased writing tasks, scaffolding worksheets, and rewards, then the reading and writing literacy skills of fifth-grade students at MI IBA Jambi City will improve. The success indicator is an increase in average literacy mastery from the pre-cycle 27% to at least 75% by the end of Cycle II.

Based on this background, this research aims to: (1) describe the implementation of Gemudaya.com children's digital books in Indonesian Language learning with the theme "Humans and the Environment Are Friends" in fifth grade at Madrasah Ibtidaiyah IBA, Jambi City, and (2) improve the reading and writing literacy skills of fifth-grade students at Madrasah Ibtidaiyah IBA, Jambi City through the implementation of Gemudaya.com children's digital books. The findings are expected to contribute theoretically to the literature on digital literacy media and practically to teachers, schools, and policymakers in designing literacy programs at the elementary level.

## **RESEARCH METHOD**

This research examined the reading and writing literacy skills of 23 fifth-grade students at Madrasah Ibtidaiyah Istana Berkah Abadi (IBA), Jambi City. Reading literacy included literal and inferential comprehension, connecting texts with prior knowledge, and using digital-book features, while writing literacy involved summarizing, responding to texts, and continuing stories. The research addressed students' low literacy mastery, indicated by a pre-cycle average of 27%, through the implementation of Gemudaya.com children's digital books. It was conducted during Indonesian Language lessons on the theme "Humans and the Environment Are Friends" in the even semester of the 2025/2026 academic year, involving pre-cycle assessment, Cycle I, reflection, Cycle II, and final assessment. The research was conducted collaboratively by the researcher, fifth-grade teacher, principal, and students, with institutional and technical support from IBA.

This study employed qualitative Classroom Action Research with descriptive quantitative analysis, using the Kemmis and McTaggart model of planning, action, observation, and reflection. The participants consisted of 23 students, including 10 males and 13 females, who completed literacy tests and participated in observations of learning activity and interest. The teacher and principal served as key informants, while selected students representing high, medium, and low literacy levels were interviewed. Data were collected through

diagnostic and literacy tests, observations, interviews, field notes, and documentation. Qualitative data were analyzed using the Miles, Huberman, and Saldaña model through data reduction, data display, and conclusion drawing or verification, while quantitative data were used to describe changes in students' literacy achievement across the research cycles.

## **RESULT AND DISCUSSION**

### **Cycle I Results**

In the planning stage, researchers and the teacher prepared a Teaching Module that integrated Gemudaya.com children's digital books, prepared research instruments, and created Google accounts for the 23 students. An interim target of 60% of students achieving literacy mastery was set. The implementation of the Cycle I action took place over two meetings. The teacher demonstrated how to log in to Gemudaya.com, guided students in reading the digital book "Samudra dan Sampah Plastik," and assigned them to write a summary and a response.

Observation results for Cycle I showed that teacher activity reached 80% (high category). Student activity reached 53.9% (moderate category), with the highest indicator being the ability to independently navigate digital pages (73.9%) and the lowest being the utilization of visual features (34.8%). Student learning interest reached 48.7% (low category).

The Cycle I literacy test results showed an average mastery of 40.4% (low category). Details per indicator: literal comprehension 60.9%, inferential 39.1%, critical/connection 34.8%, writing summaries 47.8%, writing responses 30.4%, and writing story continuations 26.1%. Reflection on Cycle I identified several weaknesses: suboptimal use of audio features, low student learning interest, too short a reading time allocation (15 minutes), the combined writing tasks burdening students, a lack of structured group discussions, and technical device constraints.

### **Cycle II Results**

Based on the reflection from Cycle I, improvements were made in Cycle II: adding reading time to 25 minutes, separating writing tasks per meeting, forming heterogeneous groups, providing scaffolding worksheets, demonstrating visual features, and giving star sticker rewards.

The Cycle II action was implemented over three meetings. The first meeting focused on writing summaries, the second on writing responses, and the third on writing story continuations. Observation results for Cycle II showed that teacher activity reached 100% (very high category). Student activity increased to 82.6% (high category), with details: navigating digital

pages 91.3%, utilizing visual features 78.3%, responding to interactive elements 73.9%, enthusiasm for completing writing tasks 87%, and using digital books as references 82.6%. Student learning interest increased to 78.3% (high category).

The Cycle II literacy test results showed an average mastery of 80.1% (high category). Details per indicator: literal comprehension 91.3%, inferential 78.3%, critical/connection 73.9%, use of digital features 87.0%, writing summaries 82.6%, writing responses 78.3%, and writing story continuations 69.6%

| Indicator                   | Cycle I | Cycle II |
|-----------------------------|---------|----------|
| Literal Comprehension       | 60,9%   | 91,3%    |
| Inferential                 | 39,1%   | 78,3%    |
| Critical/Connection         | 34,8%   | 73,9%    |
| Writing Summaries           | 47,8%   | 82,6%    |
| Writing Responses           | 30,4%   | 78,3%    |
| Writing Story Continuations | 26,1%   | 69,6%    |
| <b>Average</b>              | 40,4%   | 80,1%    |

This research demonstrates that the implementation of Gemudaya.com children's digital books can significantly improve students' reading and writing literacy skills. The average mastery increased from 27% (pre-cycle) to 40.4% (Cycle I), and then jumped to 80.1% (Cycle II). The total increase reached 53.1 points. The greatest increases occurred in the indicators of writing responses (+61.6 points) and inferential ability (+56.6 points). This shows that digital books with visual features help students not only understand text literally but also develop higher-order thinking skills such as inferring implicit information and expressing ideas in writing.

This success is supported by several key factors. First, the utilization of visual features in the digital books helps slow readers understand the reading content. Second, the provision of scaffolding worksheets helps students write summaries and responses in a structured manner. Third, heterogeneous group discussions before writing improve students' understanding and self-confidence. Fourth, separating writing tasks per meeting reduces students' cognitive load.

These findings align with research by Nurhidayah and Wibowo (2025), which showed that the use of digital storybooks has a positive effect on the digital literacy of elementary school students. Research by Arifa and Herwin (2024) also found that digital audio storybook media is effective in improving early reading skills. Similarly, research by Maula and Yudiana (2024) on interactive digital books showed an improvement in literacy skills for first-grade elementary students. The increase in teacher activity from 80% (Cycle I)

to 100% (Cycle II) indicates that improvements in planning and implementation were successfully applied. The increase in student activity from 53.9% to 82.6% indicates that students became increasingly engaged in literacy learning.

Nevertheless, the indicator for writing story continuations (creative writing) only reached 69.6% (moderate category). This suggests that writing creativity requires more time to develop compared to reading comprehension skills. To reach the very high category ( $\geq 85\%$ ), more frequent and sustained creative writing practice is needed.

## **CONCLUSION**

The most important finding was that Gemudaya.com children's digital books improved students' reading and writing literacy. Average mastery increased from 27.0% in the pre-cycle to 40.4% in Cycle I and 80.1% in Cycle II, exceeding the 75% success criterion. The greatest gains occurred in written responses (+61.6 points) and inferential comprehension (+56.6 points). Teacher activity reached 100%, while student activity increased from 53.9% to 82.6%, indicating effective and engaging implementation. However, story continuation writing reached only 69.6%, suggesting that creative writing requires longer and more intensive practice. Conceptually, the study integrates reading and writing through digital children's books and combines multimodal learning, cognitive load, sociocultural, and dual coding theories. Methodologically, the Kemmis and McTaggart cycle demonstrates how planning, action, observation, and reflection can improve digital-book instruction.

This research was limited by its small sample of 23 students from one class, short duration of five meetings, limited devices, unstable internet access, absence of a control group, possible subjectivity in writing assessment, and focus on only one learning theme. Therefore, the findings cannot be generalized widely or attributed solely to the intervention. Future research should involve larger and more diverse samples, longer implementation periods, control or comparison groups, improved technical facilities, and more objective assessment procedures. Further studies should also focus specifically on creative writing, compare different digital-book formats and platforms, and examine the long-term effects of digital books on students' literacy habits, motivation, and learning outcomes.

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