

## DEVELOPING AN E-BUSY BIG BOOK BASED ON THE CIRC MODEL TO IMPROVE ELEMENTARY STUDENTS' UNDERSTANDING OF NEW VOCABULARY

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Article Info	Abstract
<b>Article History</b> Received: May 2025 Revised: August 2025 Accepted: January 2026 Published: April 2026	<i>This study aims to develop an E-Busy Big Book based on the Cooperative Integrated Reading and Composition (CIRC) model to improve the understanding of new vocabulary among second-grade elementary students. Using a Research and Development (R&amp;D) approach with the ADDIE model (Analyze, Design, Develop, Implement, and Evaluate), the study involved 6 students for a small-scale trial and 18 second-grade students for a large-scale trial selected through purposive sampling from SD Negeri Bentul and SD Negeri 1 Kebasen. Data were collected through expert validation questionnaires, pre-tests, post-tests, and teacher-student response forms. Quantitative data were analyzed descriptively to determine media feasibility and learning outcome improvements, while qualitative data captured user responses. The media achieved a feasibility score of 91%, categorized as "very feasible." Learning outcome analysis showed a significant increase in vocabulary understanding, with the average score rising from 66.10 (pre-test) to 84.80 (post-test). Students demonstrated increased motivation and engagement, while teachers noted the practicality and effectiveness of the media. The study highlights the potential of integrating CIRC-based digital Big Book media to support vocabulary learning in early-grade elementary settings and offers practical implications for improving literacy instruction in Indonesian primary schools.</i>
<b>Keywords</b> Big book; Textbook analysis; CIRC model; Cooperative reading; Vocabulary learning;	
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### INTRODUCTION

Education is the main pillar in forming quality human resources. Education is a conscious and planned effort to educate the nation and form knowledgeable and noble people (Dalimunthe & Rambe, 2024). Through education, individuals are not only equipped with knowledge and skills, but also character values that shape personality and work ethic. Education in Indonesia has gone through various processes in determining its goals (Hidayah et al., 2025). Effective education will produce individuals who are intellectually intelligent and have constructive attitudes and behaviors, which are very important for forming the next generation who can contribute to the progress of the nation (Annaurotin et al., 2025). The goal of education is to develop individual potential to become intelligent, virtuous individuals who can contribute positively to society. Quality education will produce the next generation of the nation who are able to compete globally while maintaining the nation's identity. In this context, basic education is an important foundation that must be strengthened, because this is where the formation of character and initial skills begins.

Elementary schools play a vital role in instilling basic skills such as reading, writing, arithmetic, and developing students' social and emotional abilities. Education in elementary schools aims to prepare students to continue to a higher level with adequate basic knowledge and skills. Therefore, learning at this level must be designed in such a way as to be able to meet the developmental needs of children according to their age. One important aspect of learning in elementary schools is mastery of the Indonesian language. Indonesian is not just a means of communication, but also a medium of thinking, a tool to develop students' reasoning, creativity, and social skills.

Improving critical thinking skills (Higher Order Thinking) and numeracy literacy of elementary school students is very important to face the challenges of 21st century education (Ritonga et al., 2024). Through language, students learn to understand the surrounding environment, convey ideas, and build social relationships. Therefore, learning Indonesian must pay great attention to vocabulary mastery as the foundation of language skills. According to Tarigan (2021) quoted by Sudirman et al. (2025) that language skills are divided into receptive skills (listening, reading, and viewing) and productive skills (speaking, presenting, and writing). Language skills are very important for children's social skills, because they need to understand others and communicate effectively to demonstrate their social skills (Age et al., 2025). Vocabulary knowledge is very important to increase students' language richness so that they can create effective dialogues and communicate well (Fitriana et al., 2024). Vocabulary includes a wide range and the ability to use rare words, as well as correct spelling and word formation (Allami et al., 2025).

An important literacy skill is vocabulary. Having sufficient vocabulary helps students understand the context of story problems (Steiner et al., 2025). In line with this, Yunita et al. (2024) stated that vocabulary plays an important role in mastering a language, vocabulary includes all words in a sentence and can be developed through learning materials, teaching resources, or learning media. Vocabulary is a fundamental component needed to develop language skills (Nasrullah et al., 2025). Learning Indonesian at the elementary school level has a crucial role as a basis for developing students' literacy skills that will be useful throughout their lives (Syafputri et al., 2025). Learning Indonesian is a very important subject in the world of education (Sunanti et al., 2025). Basically, there are four language skills that must be mastered by students, namely listening, speaking, reading, and writing (Dayu & Haryanto, 2019).

Vocabulary comprehension plays a crucial role in improving students' language skills, both in listening, speaking, reading, and writing. The richer the vocabulary that students have, the easier it is for them to understand reading texts and express ideas orally and in writing. However, in reality, the vocabulary mastery of lower grade students in elementary schools is still relatively low, which has an impact on their overall literacy skills. In fact, literacy skills are an important factor that determines the success of students in all subjects. According to UNESCO data, the reading interest index of the Indonesian people is only 0.001%, which means that only 1 in 1,000 Indonesians have a reading habit. According to the results of the Programme for International Student Assessment (PISA) research, the reading ability of students in Indonesia is ranked 57th out of a total of 65 countries surveyed (Marwati et al., 2025). Based on the 'World's Most Literate Nations Ranked' report in March 2016, Indonesia was ranked 60th out of 61 countries in terms of reading interest, although the supporting infrastructure for literacy in Indonesia is better than several European countries (Fadlilah et al., 2025).

The results of observations and interviews at SD Negeri Bentul and SD Negeri 1 Kebasen showed that learning to interpret new vocabulary was still carried out conventionally, using textbooks and lecture methods. The learning media used were not yet innovative, and the use of technology such as projectors was not optimal. This is in line with

the opinion that low learning outcomes are influenced by the lack of student interest, one of which is because the learning media is not appropriate (Santini Putri & Agustiana, 2023). This causes learning to be less interesting so that student motivation and involvement in learning new vocabulary decreases. The lack of innovation in the use of learning media is one of the inhibiting factors in increasing students' vocabulary understanding. Innovation is needed to increase reading interest, especially understanding, by using learning models and media so that students are more actively involved (Alfigo et al., 2024). Monotonous and non-contextual media make it difficult for students to connect learning materials with their real experiences. In fact, the use of media that is interesting, interactive, and in accordance with the characteristics of lower-grade students is very much needed to foster interest in learning and increase learning effectiveness. At this age, children have their own characteristics and follow unique stages of development. Therefore, it is very important to provide appropriate learning media that can attract their interest (Busran et al., 2025).

The development of the current digital era can be utilized to optimize learning in the Independent Curriculum. The use of digital learning media offers interesting and more flexible variations (Afifah, A'yun, et al., 2024). One alternative solution to overcome this problem is to develop interesting and easily accessible digital-based learning media, such as big books. The right learning media can increase students' learning motivation, make them happier, less bored, and make it easier to understand the material (Parnamita et al., 2025). Big Book is an interesting educational tool for children because it contains short stories equipped with colored pictures and large text (Putri & Agustina, 2023). The development of the era encourages the advancement of science and technology, especially in the field of education to support the learning process (Ekasafitri et al., 2024). 21st century learning is currently closely related to technology, so the use of technology-based media and teaching materials is needed to support the learning process, including in learning Indonesian.

The use of learning media, especially in understanding Indonesian vocabulary, can increase interest, motivation, and refresh the learning atmosphere (Yulaikah & Rosidah, 2025). Innovation in the use of digital media such as big books is an important step to enrich students' learning experiences and improve their learning outcomes. Thus, in this study, researchers developed innovative media based on technology or electronics in the form of a big book, namely the E-Busy Big Book. Books with attractive appearances, colors, and pictures can increase students' interest in reading, while big book media makes it easier to understand texts through illustrations (Ginting et al., 2025). This media adapts the concept of a conventional busy book into an interactive digital form that contains various vocabulary learning activities. By using the E-Busy Big Book, students can learn while playing, so that the process of understanding new vocabulary becomes more fun and effective. In order for the use of the E-Busy Big Book to be more optimal, in this study it was combined with the Cooperative Integrated Reading and Composition (CIRC) learning model. Each learning model helps teachers design a learning process that supports students so that learning objectives are achieved (Widiastuti et al., 2025).

Cooperative Integrated Reading and Composition (CIRC) is a learning approach that combines reading and writing activities in a collaborative group atmosphere. (Hasriyanti, 2025). The CIRC model emphasizes collaboration between students in reading, understanding, and processing information from reading texts. Reading ability is very important in education because it is the foundation for all other types of learning (Soro & Awe, 2021). Reading comprehension is the process of understanding the information contained in the reading (Mulyani et al., 2024). Metacognitive reading strategies, such as monitoring and regulating the reading process, are essential for improving reading comprehension and achievement. However, their effectiveness can vary depending on the educational context and student group, which requires adaptive teaching methods (Ghimire &

Mokhtari, 2025). Effective reading is not only fast, but also understanding the content of the reading. Reading comprehension is the process of understanding information in the text (Yulianingrum et al., 2024). The purpose of reading comprehension is to obtain various information from written texts. Teachers need to design interesting reading programs for reading habits (Setyowati et al., 2024). Thus, the existence of innovative learning media is very much needed. With this approach, students not only learn individually, but also interact in small groups to share understanding, discuss, and write together, so that learning becomes more active and collaborative.

The development of E-Busy Big Book in this study also integrates local wisdom values through the selection of simple procedural text material, namely "How to Make Kebasen Brown Sugar". Big book media is developed by highlighting local wisdom in an interesting way, creating a fun reading experience for students (Afifah, Purwati, et al., 2024). The selection of this media is based on the results of the analysis of needs and the relevance of reading materials. Indonesian language learning at every level of education focuses on text, with procedural text as the basis for teaching all aspects of language (Razak, 2025). Procedural text is included in the category of factual texts (Kirana et al., 2024). Procedural text contains clear steps to carry out an activity. Students need to master it in order to be able to write a sequence of activities correctly and easily understood (Nasocha & Winanto, 2024). Factors from students include lack of interest in writing procedural texts and lack of internal motivation (Annisa et al., 2024). Therefore, appropriate media is needed, by linking learning to the local context, students can more easily understand the material because it is directly related to their environment and daily life. This local wisdom-based approach also supports the preservation of regional culture through education. Students can learn the importance of preserving local wisdom while improving their reading skills (Afifah et al., 2025).

Based on the description, this study aims to develop E-Busy Big Book media for procedural texts based on the Cooperative Integrated Reading and Composition (CIRC) model as an effort to improve the vocabulary understanding of lower-grade students. CIRC as a learning model that integrates reading and writing skills (Azhari et al., 2025). It is hoped that the development of this media can provide a positive contribution in creating more innovative, interactive, and meaningful Indonesian language learning, while improving student learning outcomes in understanding new vocabulary. Several studies that have been conducted previously have revealed that the application of big book media can significantly improve students' reading skills. Other studies have also revealed that big book media can make it easier for students to learn so that it can improve student learning outcomes. By adopting more interactive and enjoyable methods, such as the picture and picture model, it is hoped that students can more easily understand and remember the material presented (Rainelda et al., 2024).

Based on several research results, it can be said that big book media can significantly improve the reading and vocabulary comprehension skills of lower grade students. However, in previous studies, there has been no study that specifically discusses the application of big book media as a solution to improve the understanding of new vocabulary in grade II elementary school students. So this study focuses on this study with the aim of determining the effect of big book media on poetry reading skills in grade II elementary school students. Based on this, the purpose of this study is to develop E-Busy Big Book media as an effort to improve the understanding of new vocabulary in grade II elementary school students with a combination of implementing the Cooperative Integrated Reading and Composition (CIRC) learning model.

Although various studies have explored the use of Big Book media to improve early reading skills, there is still limited research that integrates digital Big Book platforms with the Cooperative Integrated Reading and Composition (CIRC) model specifically for enhancing

vocabulary understanding among lower-grade elementary students. Previous studies have primarily focused on conventional Big Books or reading comprehension without emphasizing vocabulary development in procedural texts. Therefore, this study fills this gap by developing an interactive E-Busy Big Book tailored to the learning needs of second-grade elementary students, offering a more engaging and structured approach to vocabulary instruction.

Based on the identified gap, this study is guided by the following research questions:

1. How is the CIRC-based E-Busy Big Book developed to support vocabulary learning for second-grade elementary students?
2. How feasible is the developed E-Busy Big Book according to media experts, material experts, and teachers?
3. How effective is the CIRC-based E-Busy Big Book in improving second-grade students' understanding of new vocabulary?

## **RESEARCH METHOD**

### **Research Design**

This study employed a Research and Development (R&D) design using the ADDIE model, which consists of five stages: Analyze, Design, Develop, Implement, and Evaluate. The ADDIE model was chosen because it provides a systematic and iterative structure suitable for developing digital learning media that require expert validation and classroom-based trials. In this research, qualitative descriptive techniques were used to support the needs analysis, observations, teacher interviews, and the interpretation of user responses, while quantitative descriptive analysis was implemented to examine expert validation scores and students' pre-test and post-test results. This combined approach enabled the researchers to evaluate both the feasibility and the effectiveness of the developed E-Busy Big Book.

### **Research Participants**

The participants in this study were second-grade elementary students and teachers from two public elementary schools, SD Negeri Bentul and SD Negeri 1 Kebasen, Central Java, Indonesia. A total of six students participated in the small-scale trial, while 18 students participated in the large-scale trial. The participants were selected using purposive sampling based on teacher recommendations, students' identified needs related to vocabulary learning, and the classroom's readiness for integrating digital media. The students ranged from 7 to 8 years old and were in the early stages of literacy development in Indonesian language learning. Ethical approval was granted by the school principals and classroom teachers. Parental consent was obtained for all student participants, and anonymity as well as confidentiality were maintained throughout the research process.

### **Instruments**

Several instruments were used to collect data, including expert validation sheets, observation checklists, interview guides, student response questionnaires, and pre-test and post-test assessments. The expert validation sheets assessed aspects such as content accuracy, relevance to learning objectives, visual and technical design, and language clarity. The observation checklist documented student engagement, interaction patterns, task completion, and behavioral responses when using the E-Busy Big Book in class. The teacher interview guide consisted of open-ended questions designed to explore instructional needs and perceptions of the media, including questions such as: "what challenges do students usually experience when learning new vocabulary?"; "How does the E-Busy Big Book support or simplify your teaching process?" The student response questionnaire assessed usability, clarity, attractiveness, and the perceived usefulness of the media. Meanwhile, the pre-test and post-test instruments were constructed to measure students' understanding of vocabulary before and after using the developed media.

## Data Analysis

Data analysis was conducted using both qualitative and quantitative approaches. Qualitative data from interviews and observations were analyzed using thematic analysis. This process involved three steps: (1) initial coding, where relevant statements related to engagement, usability, and learning challenges were identified; (2) categorization, where the codes were grouped into broader themes such as motivation, instructional support, and user experience; and (3) interpretation, where emerging patterns were analyzed to evaluate the strengths and limitations of the media. To ensure credibility, the coding and thematic results were cross-checked by multiple researchers. Quantitative data from expert validation, pre-test, and post-test were analyzed using descriptive statistics. Mean scores and percentage feasibility were calculated to determine media quality. Improvements in student learning outcomes were measured by comparing pre-test and post-test scores to identify vocabulary comprehension gains after using the E-Busy Big Book. This mixed analysis enabled a comprehensive evaluation of the media's feasibility and effectiveness.

## RESEARCH FINDINGS AND DISCUSSION

### Research Findings

This study aims to develop the E-Busy Big Book media. The research and development steps that have been adjusted to the ADDIE development research are (a) Analyze, (b) Design, (c) Develop, (d) Implement, (e) Evaluate. The results of each step are presented as follows.

### Analyze Stage

The analysis phase consisted of needs analysis, curriculum analysis, and an analysis of student characteristics. The needs analysis showed that lower-grade students experienced persistent difficulties in understanding new vocabulary due to the limited availability of engaging and interactive media. Teachers also reported that vocabulary instruction relied heavily on lecture-based explanations and printed textbooks, with little use of innovative or technology-assisted resources. As one teacher stated *“Students often rely on repeated explanations because the learning media are not attractive enough to capture their attention.”* (Teacher Interview, 2025)

Curriculum analysis conducted on the Merdeka Curriculum at SD Negeri 1 Kebasen revealed specific learning outcomes related to understanding procedural texts. This material was selected because it aligns with the developmental characteristics of young learners and is essential for strengthening foundational literacy skills. As emphasized in national literacy frameworks, early-grade students need media that foster basic literacy as part of 21st-century life skills (Nafsiyah & Rosidah, 2025). Student characteristics further indicated that learners at this age have short attention spans, require strong visual cues, and benefit from contextualized examples. These findings confirmed the need for interactive and visually rich technology-based media such as the E-Busy Big Book to support meaningful vocabulary acquisition.

### Design Stage

The design phase translated the analysis results into a structured blueprint for media development. This included selecting vocabulary items aligned with the Merdeka Curriculum, designing storylines integrated with contextual vocabulary, and arranging content layouts that emphasized large illustrations, color-coded keywords, and simplified sentence structures. Cooperative learning tasks were embedded following the principles of the Cooperative Integrated Reading and Composition (CIRC) model pair reading, group discussion, word categorization, and vocabulary application exercises. To increase clarity, Table 1 presents the design components.

Table 1. Summary of Design Components

Component	Description
Vocabulary Selection	Based on procedural text learning outcomes
Storyline	Contextual, age-appropriate, visually supported
Layout	Large images, simple texts, color-coded words
CIRC Integration	Pair reading, word grouping, group tasks
User Interface	Digital buttons, page navigation, audio support

This design is consistent with prior research highlighting the effectiveness of multimodal design and cooperative learning in enhancing vocabulary comprehension among young children.

**Develop Stage**

In the development stage, the blueprint was transformed into the digital E-Busy Big Book. This process involved creating illustrations, inserting vocabulary highlights, and embedding interactive features. The media was then reviewed by experts in media design, language, and instructional content.

Table 2. Expert Validation Results

Validator	Aspect Evaluated	Score (%)	Category
Media Expert	Layout, visuals, navigation	90%	Very Feasible
Material Expert	Content accuracy, relevance, coherence	92%	Very Feasible
Language Expert	Clarity, readability, linguistic suitability	89%	Feasible

The average score of 90.3% indicated that the media was ready for classroom use with minor refinements. The experts particularly highlighted the clarity of the illustrations and their alignment with vocabulary targets, supporting findings from previous studies showing that digital Big Books are effective due to their strong visual scaffolding. Based on input and suggestions from the media and material expert team, the final product of the E-Busy Big Book media is presented in Figure 1.



Figure 1. Big Book E-Busy Media Products

**Implementation Stage**

The media was implemented through small-scale and large-scale trials. Observations showed a noticeable increase in student engagement, motivation, and collaborative participation during CIRC-based activities. The results of the small group trial showed that students were enthusiastic and happy to use the E-Busy Big Book. The application of the CIRC model is intended to increase students' learning motivation so that they can learn effectively and efficiently, thus having an impact on the achievement of learning outcomes and learning objectives (Ulfa et al., 2025). With this learning model, students can demonstrate critical thinking skills and convey opinions or answers that are agreed upon to make joint decisions (Yanuarta et al., 2024).

Table 3. Observation Summary

Indicator	Small-Scale Trial	Large-Scale Trial
Engagement	High	Very High
Participation	Moderate	High
Understanding of Vocabulary	Improved	Strongly improved
Media Navigation	Adequate	Fluent

Students responded positively to the interactive features, which helped sustain attention and improve comprehension. As one student stated *“I can understand the meaning because the pictures are big and the story is fun,”* (Student, 8 years old). The cooperative structure of CIRC also enabled students to support one another, consistent with prior research emphasizing the role of social interaction in vocabulary development.

### Evaluate Stage (Evaluation)

The evaluation stage measured the effectiveness of the media through pre-test and post-test assessments of vocabulary comprehension.

Table 4. Vocabulary Test Results

Test	Mean Score
Pre-test	66.10
Post-test	84.80

The gain of 18.7 points indicates substantial improvement in students' vocabulary mastery after using the E-Busy Big Book. Students performed better in identifying word meanings, interpreting visual cues, and using vocabulary in context. These results are in line with previous studies demonstrating that digital literacy tools significantly improve vocabulary learning outcomes in early-grade.

### Discussion

The discussion of this study integrates the findings from the development and implementation of the E-Busy Big Book with the research questions, theoretical foundations, and previous empirical studies. The results from the Analyze–Design–Development stages provide a clear answer to Research Question 1, demonstrating that the CIRC-based E-Busy Big Book can be systematically developed through the ADDIE model to meet both curricular demands and learner characteristics. The selection of procedural texts, the integration of large visual illustrations, and cooperative learning activities are consistent with multimodal literacy frameworks and the developmental needs of lower-grade learners. The uniqueness of the big book lies in the presentation of images, colors, and content that attracts the attention of readers (Safira & Wiranti, 2025). Learning vocabulary indirectly also means learning grammar, where the use of vocabulary involves the process of recognizing, spelling, reading, translating, and understanding the meaning of words (Jauhara & Iskhak, 2025).

The expert validation results address Research Question 2 by confirming the media's feasibility. The high feasibility scores align with prior studies showing that digital Big Books are effective due to their strong visual scaffolding and user-friendly interfaces (Kurniawan & Dewi, 2022). This study not only confirms those findings but also expands them by incorporating the CIRC model, demonstrating that cooperative structures can strengthen the pedagogical quality of digital literacy media. Learning models are considered very important to support the success of the teaching and learning process, especially in the process of improving reading and writing skills in elementary schools (Servinta et al., 2025). Increasing the use of the Cooperative Integrated Reading and Composition (CIRC) model in the development of this media provides reinforcement for collaborative activities in learning. The CIRC model teaches reading and writing in elementary school classes by working in groups to understand reading (Amalia et al., 2024). In line with the statement that CIRC is a learning approach that combines reading and writing collaboratively in class (Mijaya et al., 2024). CIRC is effective in improving student literacy through small group collaboration, better than other collaborative approaches (Diana et al., 2025). This model encourages students to be more active and confident in interpreting new vocabulary found in procedural texts.

Findings from the implementation and evaluation stages provide a comprehensive answer to Research Question 3. The substantial improvement in vocabulary comprehension,

supported by enhanced engagement and student collaboration, is consistent with earlier research stating that visual-verbal integration and cooperative learning increase lexical retention (Slavin, 1995; Nation, 2020). Unlike previous studies that primarily examined digital Big Books for reading comprehension, this study contributes new insights by demonstrating their effectiveness specifically for vocabulary development in early-grade learners. The cognitive aspect is closely related to the level of individual intelligence, which is seen through their interests, especially in ideas and learning processes (Rosida & Khotimah, 2025). Children's cognitive and academic development can be influenced by various aspects of their environment, during middle childhood, a child's social world develops significantly (Park et al., 2025).

The results also reinforce the issues highlighted in the introduction: learners' difficulty in understanding vocabulary, the lack of appealing media, and the need for collaborative learning opportunities. The positive student responses and improved test scores indicate that the E-Busy Big Book successfully addresses these challenges. At the same time, the findings suggest that teacher readiness and digital support systems remain crucial components for maximizing the use of technology enhanced literacy media echoing previous recommendations from literacy and educational technology research. The results of the study revealed that the E-Busy Big Book procedural text was effectively implemented. Procedural text is a type of text that explains the steps in making or doing something, with an arrangement in the form of stages and the use of command or imperative sentences (Sihombing et al., 2024). From the implementation trial, both on a small and large scale, students showed high enthusiasm when using the E-Busy Big Book media. Many students who are usually passive in learning become more active and dare to participate. Big Book can help children develop early reading skills. This media is interesting and fun, so children are more motivated to learn with the presence of interesting pictures (Usroh et al., 2025). This is in line with the theory that interesting learning media can significantly increase students' attention and learning motivation. In addition, CIRC helps students improve their reading comprehension while developing their ability to rewrite the contents of the reading that has been read (Harahap & Hardi, 2025).

Teachers can use this media both in direct face-to-face learning and in technology-assisted learning sessions. This is in line with the opinion of Manurung et al. (2025) that the development of technology not only functions as a means of communication and interaction, but can also be used as a learning medium or a means for self-expression. The CIRC that is implemented involves small groups with different characters to train students' understanding in reading, finding main ideas, providing written responses, and summarizing readings. (Lestari & Fajrin, 2024). All of these factors contribute to creating a conducive and meaningful learning atmosphere for lower grade students. Although the results of the study showed high effectiveness, there is still room for further development. The use of digital-based media such as E-Busy Big Book is also in line with the spirit of the Merdeka Curriculum which encourages more student-centered, flexible, and literacy-based learning. Literacy is a collection of skills that support the development of individuals in living their lives (Prahestu & Purwati, 2024). Literacy is important for understanding various things, namely the ability to access, understand, and use information through reading, listening, writing, and speaking (Hayatun et al., 2024). Through this media, students not only improve their cognitive abilities, but also form a positive attitude towards learning languages.

In addition to improving vocabulary literacy, the E-Busy Big Book media also builds students' critical thinking skills. Creative thinking is a cognitive process that includes the main competencies of generating diverse ideas, generating original ideas, and evaluating and improving ideas (Paz-Baruch et al., 2025). In line with the sentence that one of the functions of education is to foster creativity (Sunhaji et al., 2025). Through the activities of reading,

understanding, and rearranging procedural texts, students are trained to organize information, understand logical steps, and distinguish between main ideas and supporting ideas. The CIRC learning model was chosen because it is effective and innovative and is able to have a positive impact on students' ability to solve problems (Murtalib et al., 2025). In line with this opinion, Chandra et al. (2025) stated that this model invites students to work together and have active discussions, so that their understanding of the material is deeper. The discussion supports the conclusion that integrating multimodal digital media with cooperative learning is a pedagogically sound strategy for improving vocabulary mastery in elementary school students. This study also contributes to the broader literature by offering empirical evidence for the combined use of digital Big Books and the CIRC model, thus enriching existing scholarship on early literacy instruction.

## **CONCLUSION**

This study concludes that the E-Busy Big Book based on the CIRC model is feasible and effective in enhancing second-grade students' understanding of new vocabulary, as evidenced by high expert validation scores, increased student engagement, and significant improvement in post-test results. The integration of visually rich digital features and cooperative learning activities supports students' comprehension by providing contextualized vocabulary exposure. These findings emphasize the importance of incorporating interactive media into early-grade literacy instruction and highlight the need for schools to strengthen teacher capacity in designing and implementing digital learning resources. Practical recommendations include encouraging curriculum developers to promote multimodal literacy materials, providing teacher training on digital media integration, and adopting digital Big Books as part of regular vocabulary instruction. This study is limited by its small sample size and implementation within two schools. Future research should involve larger and more diverse groups of students, explore long-term vocabulary retention, or apply digital Big Book models to other literacy skills. Continued refinement and scaling of such media will further support the improvement of literacy learning in primary education.

## **FUNDING**

This study did not receive funding from any external source. All stages of the research, including collecting data, analyzing the results, and writing the report, were completed using the researchers' own resources. Even without outside financial support, the study was carried out successfully by using available tools and practical methods.

## **INFORMED CONSENT STATEMENTS**

Participation in this study was fully voluntary. Before taking part, participants were informed about the purpose of the study, the procedures involved, and the possible risks and benefits. They were also told that their identities would remain confidential and that the information they shared would be used only for research purposes. In addition, participants had the right to withdraw from the study at any time without any penalty. By agreeing to participate, they gave their informed consent under these conditions.

## **DATA AVAILABILITY STATEMENTS**

The data used in this study are not publicly available because participant privacy and confidentiality must be protected. This decision was made to follow ethical research standards and data protection requirements. However, researchers who need the data for validation or further analysis may submit a request. Any request will be reviewed individually, and data may only be shared after receiving approval from the appropriate institutional ethics review board to ensure that the intended use is consistent with ethical guidelines and participant consent.

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