



Innovating Reading Instruction: Interactive Multimedia Rooted in Jambi Local Wisdom to Enhance Elementary Students' Reading Comprehension

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ABSTRACT

Keywords:

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The impetus for this research stems from the limited availability of website based interactive multimedia that integrates Jambi local wisdom, reading comprehension exercises and teacher-managed content features within elementary reading instruction. Although digital media and local wisdom-based resources have been developed in prior studies, few have explicitly connected local cultural texts with interactive inferential and evaluative reading activities tailored for fifth-grade students. This study aims to develop and examine the feasibility and effectiveness of interactive multimedia grounded in Jambi local wisdom to enhance the reading comprehension of elementary school students. The research employed a Research and Development (R&D) approach utilizing the ADDIE model (*Analysis, Design, Development, Implementation and Evaluation*). The product was developed as a website featuring Jambi-localized reading texts, visual, audio support, interactive quizzes and a teacher content-management feature. The subjects comprised 15 fifth-grade students at SDN 93/I Lopak Aur. Data were collected through observations, interviews, expert validation sheets and reading comprehension pretests and posttests, then analyzed using expert validation percentages, paired sample t-tests and N-gain analysis. Expert validation demonstrated high feasibility, with scores of 97% from media experts, 91% from material experts and 89% from language experts. Students' mean reading comprehension score increased from 74.00 on the pretest to 88.67 on the posttest. The paired sample t-test confirmed a statistically significant difference ($p < 0.001$) and the N-gain score of 0.5777 fell into the moderate category, indicating the multimedia's effectiveness. This study contributes both scientific and practical novelty by offering a culturally responsive, website-based multimedia model that strengthens reading comprehension while empowering teachers to adapt local texts and quizzes to their students' specific cultural contexts and learning needs.

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INTRODUCTION

Reading comprehension is a fundamental asset for students as they navigate the learning process. Students with strong reading comprehension skills do not merely recognize words and sentences; they learn to grasp both explicit and implicit meanings, draw conclusions, evaluate content and connect new information with their prior knowledge (Frans et al., 2023). From a constructivist perspective, comprehension is actively constructed through the interaction between students and their learning environment, rooted in meaningful experiences (Piaget,

1972; Vygotsky, 1978). Therefore, reading instruction must be designed contextually and supported by media capable of actively engaging students in the meaning making process. However, the reading literacy skills of Indonesian students remain alarmingly low. PISA 2022 data indicate that Indonesia ranked 68th out of 81 countries, with a reading score of 359 points, far below the OECD average of 476 points (OECD, 2023).

Despite the critical role of reading comprehension in learning, observations and interviews revealed that fifth grade students at SDN 93/I Lopak Aur continue to struggle with inferential comprehension, evaluation and appreciation. Learning outcomes demonstrate that students' inferential comprehension specifically, the ability to draw conclusions from implicit information remains weak. Reading instruction is still dominated by printed textbooks and activities limited to reading and answering questions focused on explicit information. Reading materials also tend to be generic and rarely incorporate local stories or cultural content that closely relate to students' lives. Students should be given opportunities to discover concepts through experiences that are familiar to their environment, making learning more meaningful (Yolanda et al., 2024).

Students' low reading comprehension skills can be influenced by multiple factors. These factors stem not only from internal aspects, such as reading interest and learning motivation, but also from external factors, including the family environment, social context and instructional support at school (Syarif et al., 2024). Furthermore, Windiasari (2021) identified that students' reading comprehension difficulties are influenced by their limited ability to identify main ideas, determine character traits and draw conclusions from texts all of which are key components of reading comprehension competence. The ability to comprehend texts is crucial for students because, through this skill, they can identify the main ideas of a passage, read content carefully, summarize information, draw conclusions and grasp the author's intended message (Fajriani, 2026).

The situation in the school revealed that technological facilities such as computers, projectors and smart TVs were adequate. However, these facilities had not been optimally utilized to support reading comprehension instruction. Their use remained limited to serving as tools for one way information delivery by the teacher. Learning media should function not merely as teaching aids but as bridges that bring knowledge closer to students. They must create spaces for interaction between students and the learning material, enabling active engagement, sharpening critical thinking and fostering creativity (Eliyanti et al., 2024). This condition underscores the importance of developing interactive learning media that can help bridge the gap between basic reading skills and deeper reading comprehension. The development of learning media is expected to support students' learning success, as appropriate media can help students understand material more concretely through the presentation of information in message form (Ansari & Sujarwo, 2022).

Interactive learning media encompass both digital and physical instructional resources, such as multimedia applications, e-books, educational games, interactive videos and interactive storytelling materials, that are designed to actively engage students through touch, motion, sound, images and visual displays, thereby making the learning process more lively, engaging and meaningful (Widianingsih et al., 2025). The use of interactive multimedia is therefore highly relevant to develop. Interactive multimedia integrates multiple elements text, images, audio, animation and interactivity into a unified learning experience. Recent research by Lestari et al. (2024) further confirms that web based interactive learning media are not only considered valid and practical but also effective in improving students' learning outcomes.

The theoretical foundation for developing interactive multimedia for reading comprehension instruction is rooted in Mayer's (2002) Cognitive Theory of Multimedia Learning. This theory posits that meaningful multimedia learning occurs when students

simultaneously construct mental representations from verbal and visual information and then integrate them into a coherent and in-depth understanding. Reinking (2005) further emphasizes that reading in the digital age is no longer confined to printed texts but has evolved into a process involving active interaction with various media forms, such as digital text, images, audio, video and hyperlinks.

Several prior studies have demonstrated the positive role of digital and interactive media in enhancing students' learning outcomes and reading abilities. Anam (2026) found a significant difference in reading comprehension between students who learned using interactive digital media and those who learned through conventional media. Puspitasari and Irvan (2026) developed a digital flipbook based on Semarang local wisdom and reported that the media was highly feasible and moderately effective in improving elementary students' reading comprehension. Meanwhile, Nasution et al. (2025) developed interactive multimedia for literature learning based on North Sumatra local wisdom and found that the integration of text, images, audio, animation and video could increase students' motivation and help them understand learning materials more effectively.

Although these studies confirm the potential of digital media and local wisdom-based learning, they differ from the present study in terms of media type and regional focus. Puspitasari and Irvan (2026) focused on a digital flipbook grounded in Semarang local wisdom, while Nasution et al. (2025) emphasized multimedia for literature learning rooted in North Sumatra local wisdom. In contrast, the present study develops website based interactive multimedia specifically grounded in Jambi local wisdom to improve fifth-grade students' reading comprehension. The product is designed not only to present local cultural texts, images, audio and interactive quizzes, but also to provide a teacher-managed content system that allows teachers to add, edit and adapt reading materials and quizzes according to classroom needs. Therefore, the novelty of this study lies in the integration of a website-based format, Jambi specific cultural content, inferential and evaluative reading activities and teacher-managed content features within a single interactive multimedia environment. Accordingly, this study aims to develop and examine the feasibility and effectiveness of website based interactive multimedia grounded in Jambi local wisdom to enhance elementary students' reading comprehension.

METHOD

This study employed a Research and Development (R&D) method aimed at developing and testing the feasibility of interactive multimedia to improve elementary school students' reading comprehension. In practice, multimedia project development does not follow a single uniform approach but nevertheless requires a logically structured framework (Safitri & Ridwan Aziz, 2022). The development model adopted was the ADDIE model, which comprises five stages: analysis, design, development, implementation and evaluation. These stages are easy to understand and implement for developing educational products such as textbooks, learning modules, instructional videos, multimedia and the like (Anggraini et al., 2021).

The research participants consisted of all 15 fifth-grade students enrolled at SDN 93/I Lopak Aur. This study employed total population sampling because all students in Class V were involved as participants. Considering that the participants were elementary school students, the study was conducted after obtaining permission from the school and approval from the classroom teacher. Students' participation was carried out under teacher supervision and students' identities and test results were kept confidential and used only for research purposes.

Data were collected through interviews, observations, expert validation sheets and reading comprehension tests. The test comprised 20 multiple-choice questions administered as a pretest and posttest. Prior to use, the instrument was reviewed by experts to ensure content

relevance, language clarity, item construction and alignment with the learning objectives. However, empirical reliability testing, such as Cronbach's alpha, item difficulty and item discrimination analysis, was not conducted due to the limited number of students available for pilot testing. Bujang et al. (2024) recommend that a minimum sample size of approximately 30 respondents is generally sufficient for conducting a pilot study to assess instrument reliability. Therefore, the absence of empirical reliability evidence is acknowledged as one of the limitations of this study.

The implementation employed a one-group pretest-posttest design. Students completed a pretest before using the website-based interactive multimedia and a posttest after the learning activities. The absence of a control group is acknowledged as a methodological limitation; therefore, the findings should be interpreted as initial evidence of improvement rather than as a definitive causal claim. The data were analyzed using the Shapiro-Wilk normality test, paired-samples t-test and N-gain analysis.

RESULTS AND DISCUSSION

Results Analysis

The needs analysis phase was carried out through observations, interviews with fifth-grade teachers and students, an analysis of the textbooks used and an examination of curriculum documents related to reading comprehension. The results of the observations and interviews indicated that reading instruction was still dominated by the use of printed textbooks as the primary learning resource. Activities were generally limited to reading a text and then answering the questions provided in the book. Although some of the questions were designed to target reading comprehension skills, the available activities still offered insufficient opportunities for students to actively engage in the process of understanding the text. The teacher reported that most students were able to read texts fluently but continued to struggle with understanding implicit information, identifying the message of a story and drawing conclusions from what they had read.

Interviews with students revealed that long and monotonous reading passages often diminished their interest in reading to the end. Furthermore, the material presented in the textbooks tended to be generic and rarely included stories or information related to the students' culture and immediate environment. This lack of reading variety also emerged as a significant finding. The textbooks in use generally provided only a single reading passage followed by a set of practice questions. The analysis also showed that the school actually had adequate technology-based learning facilities, such as computers, projectors, an internet network and a smart TV. However, their use remained limited to serving as tools for one-way information delivery, for instance, to show instructional videos or presentation slides. These findings indicate the need to develop interactive multimedia grounded in Jambi local wisdom that can present reading materials in a more engaging, contextual and interactive manner, thereby helping students improve their reading comprehension while providing a more meaningful learning experience.

Design

The interactive multimedia grounded in Jambi local wisdom was designed as a website that presents reading materials rooted in the local culture of Jambi, accompanied by supporting images and audio and concluded with interactive exercises. This multimedia was developed to help students understand reading content more easily and can be used either independently or with teacher guidance. Its structure comprises a homepage, a collection of readings based on Jambi local wisdom, various types of exercises and quizzes and a dedicated feature for teachers to manage content, allowing the addition, editing and deletion of reading materials and quizzes according to instructional needs. The media design emphasizes ease of navigation and interactivity, enabling students to interact more actively during the learning process.

Development

At this stage, the previously developed design was realized into an interactive multimedia product based on Jambi local wisdom, ready for classroom use. The following presents an overview of the developed interactive multimedia.



Figure 1. Homepage

The homepage was designed as a visual gallery of folklore collections from Jambi Province, displaying story cards that include cover images, titles, regional origins and quiz question indicators. This design was chosen because it allows teachers and students to quickly identify and select stories. The homepage contains several curated default folklore stories provided by the developer as ready to use content, while also enabling teachers to independently add new local stories through an admin panel without requiring technical skills. As a result, the media content can continuously evolve to match the cultural context and learning needs of each school.

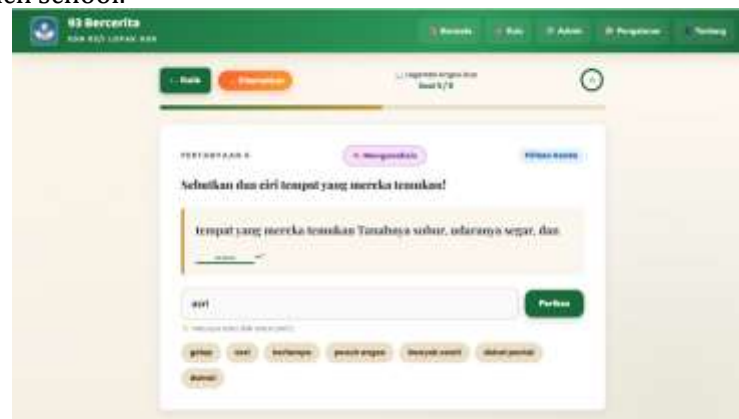


Figure 2. Exercise/Quiz Interface

The exercise/quiz interface was designed to appear automatically after the story reading session is completed, functioning to directly measure students' reading comprehension and critical thinking skills. The quiz design integrates seven interactive question types multiple choice, true/false, fill-in-the-blank, word arrangement, event sequencing, matching and open-ended reflection—each linked to the levels of Bloom's Taxonomy. This ensures that the quizzes do not merely assess memorization but also encourage analytical and evaluative skills.

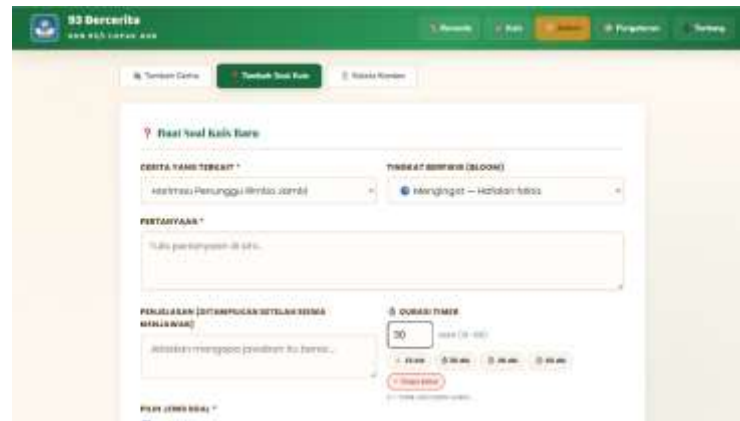


Figure 3. Content Management Feature

The content management feature was designed as a teacher-specific administration panel that enables independent management of all application content without requiring programming expertise. Through this panel, teachers can add new stories using a dynamic page system with no limit on the number of pages, complete each story page with illustrative images and supporting sound effects and create quizzes in seven different question types, complete with settings for Bloom's Taxonomy level, time duration and answer explanations. In addition to adding new content, teachers can also edit and update existing stories and questions, including replacing images, audio and all text content on each page, as well as deleting content that is no longer in use.

The interactive multimedia grounded in Jambi local wisdom underwent a validation phase conducted by experts to ensure the quality and feasibility of the developed product before its use in the learning process. The assessment was carried out using validation instruments designed based on aspects relevant to the characteristics of multimedia learning. The results of the expert validation are presented in the following table.

Table 1. Expert Validation Results

No.	Component	Expert Validator	Percentage (%)	Criteria
1	Media	Media Experts	97%	Highly Feasible
2	content	Content Experts	91%	Highly Feasible
3	Language	Language Experts	89%	Highly Feasible

The validation results showed that the developed interactive multimedia obtained a score of 97% from media experts, 91% from content experts and 89% from language experts. All three scores fell into the highly feasible category. These findings indicate that the developed media met the feasibility standards in terms of technical quality, content appropriateness and language use, confirming that the interactive multimedia based on Jambi local wisdom could proceed to the implementation stage following refinement based on the validators' suggestions and feedback.

Implementation

The implementation phase was carried out after the interactive multimedia grounded in Jambi local wisdom was declared feasible by the expert validators. At this stage, the developed multimedia was applied in the reading comprehension learning process for fifth-grade students at SDN 93/I Lopak Aur. The implementation aimed to examine the practicality of the multimedia in instruction and to observe its effect on students' reading comprehension. Before the learning began, students were first administered a pretest. The pretest aimed to determine the students' initial reading comprehension ability prior to using the interactive multimedia. After the pretest, learning was conducted using the interactive multimedia based on Jambi local wisdom. During the learning activities, the teacher acted as a guide who assisted the students in using the multimedia.

Throughout the implementation, students appeared more interested in engaging with the learning because the material was presented not only in written form but was also supported by images, audio, animations and interactive activities. This presentation helped students comprehend the reading content in a more concrete and meaningful manner. After the learning using the interactive multimedia was completed, the students were given a posttest. The posttest was administered to assess the students' reading comprehension after receiving the treatment. The implementation results were subsequently corroborated through statistical analyses namely, normality tests, paired sample t-tests and N-gain analysis to determine the significance and the level of effectiveness of the improvement in students' reading comprehension.

Evaluation

The subjects of this study were fifth-grade elementary school students. The students were administered a pretest and a posttest to determine the difference in their reading comprehension before and after learning using the interactive multimedia grounded in Jambi local wisdom. The test instrument consisted of 20 multiple-choice questions designed to measure the students' reading comprehension.

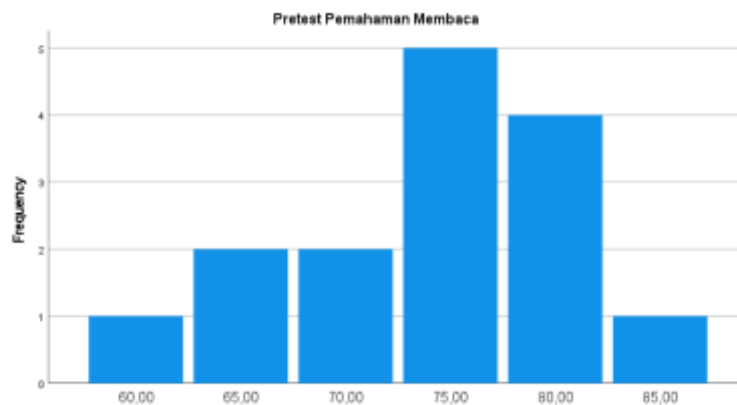


Figure 4. Pretest Results

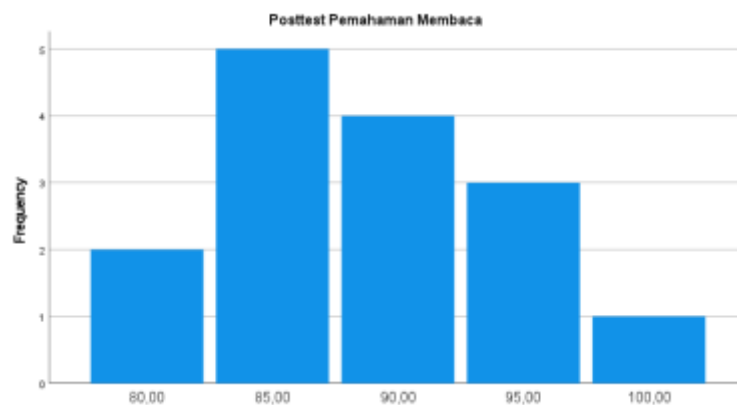


Figure 5. Posttest Results

Based on the pretest and posttest results presented in Figure 4 and 5, the mean pretest score before the treatment was 74.00. After the students participated in learning using the interactive multimedia rooted in Jambi local wisdom, the mean posttest score increased to 88.67. This improvement indicates a positive change in the students' reading comprehension abilities following the use of the interactive multimedia.

The difference between the mean pretest and posttest scores suggests that the developed interactive multimedia potentially helped students better understand the reading content. This may be attributed to the fact that the interactive multimedia presents reading material through a combination of text, images, audio, animations and interactive activities. This multimodal presentation can help students gain a more concrete, engaging and easily comprehensible

learning experience. Moreover, the integration of Jambi local wisdom content makes the reading material more relatable to the students' environment and experiences, thereby rendering the comprehension process more contextual and meaningful.

However, an increase in mean scores alone is insufficient to conclude that the difference is statistically significant. Therefore, statistical analyses were conducted to determine whether the difference between the pretest and posttest scores is truly attributable to the treatment or occurred merely by chance. Before hypothesis testing, the pretest and posttest data were first tested for normality as a prerequisite for parametric testing. The results of the normality test, obtained from SPSS 27 software, are presented as follows.

Table 2. Normality Test Results

		<i>Kolmogorov-Smirnov^a</i>			<i>Shapiro-Wilk</i>		
		Statistic	df	Sig.	Statistic	df	Sig.
Pretest	Pemahaman	,225	15	,040	,932	15	,296
Membaca							
Posttest	Pemahaman	,203	15	,099	,929	15	,262
Membaca							

The normality test was performed using the Shapiro-Wilk test, as the number of participants was fewer than 50. Based on the normality test results displayed in Table 2, the significance values were 0.296 for the pretest and 0.262 for the posttest. Both values exceed 0.05, indicating that the pretest and posttest data are normally distributed. Thus, the research data met the criteria to proceed to hypothesis testing using the Paired Sample T-Test. The results of this test, conducted via SPSS software, can be seen in Table 3.

Table 3. Paired Sample Test Results

		<i>Paired Differences</i>								
						95% Confidence Interval of the Difference		t	df	Sig. (2- tailed)
		Mean	Std. Deviation	Std. Error Mean		Lower	Upper			
Pair 1	Pretest Pemahaman Membaca - Posttest Pemahaman Membaca	-14,66667	5,16398	1,33333		-17,52638	-11,80695	-11,000	14	<,001

After the data were confirmed to be normally distributed, hypothesis testing was carried out using the Paired Sample T-Test. This test aimed to determine whether there was a significant difference in students' reading comprehension before and after using the interactive multimedia based on Jambi local wisdom in the learning process. The decision-making for the hypothesis test was based on a significance level of 5% ($\alpha = 0.05$). Based on the Paired Sample T-Test results shown in Table 3, a significance value of $p < 0.001$ was obtained. This value is smaller than 0.05; therefore, H_0 is rejected and H_1 is accepted. Thus, it can be concluded that there is a significant difference between the students' pretest and posttest scores. This result indicates that the use of interactive multimedia grounded in Jambi local wisdom has a significant effect on improving the reading comprehension of fifth-grade elementary school students.

This finding corroborates the earlier descriptive results, with the mean score increasing from 74.00 on the pretest to 88.67 on the posttest. This demonstrates that the improvement in students' reading comprehension is evident not only from the difference in mean scores but is also statistically confirmed through the Paired Sample T-Test results. After a significant difference was established, the analysis proceeded with the N-Gain test. This test aimed to evaluate the level of improvement in students' reading comprehension after using the interactive multimedia based on Jambi local wisdom. The N-Gain analysis was conducted using SPSS version 27 and is presented in Table 4.

Table 4. N-Gain Test Results

	N	Minimum	Maximum	Mean
N-Gain	15	,25	1,00	,5777

N-Gain Percentage	15	25,00	100,00	57,7698
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Based on the N-Gain test results listed in Table 4, the average N-Gain score was 0.5777, or 57.77%. According to the N-Gain interpretation criteria, this value falls within the moderate category. This indicates that the interactive multimedia rooted in Jambi local wisdom is moderately effective in improving students' reading comprehension.

This N-Gain result signifies that the improvement in students' reading comprehension is at a fairly good level, although it has not yet reached the high category. This suggests that the multimedia can positively impact the reading comprehension learning process. Nevertheless, its effectiveness can still be enhanced through the refinement of activity design, the strengthening of critical reading exercises and the provision of more targeted feedback to students.

Overall, the research findings indicate that the interactive multimedia grounded in Jambi local wisdom is moderately effective for use in reading comprehension instruction. This is evidenced by the increase in mean pretest and posttest scores, the significant Paired Sample T-Test result and the N-Gain value categorized as moderate. Therefore, this multimedia is not only feasible as a learning tool but also demonstrates tangible effectiveness in improving the reading comprehension abilities of fifth-grade students at SDN 93/I Lopak Aur.

Discussion

This indicates that the interactive multimedia based on Jambi local wisdom is not only theoretically valid but has also been empirically proven to make a significant contribution to facilitating reading comprehension instruction in a more engaging and relevant manner. The effectiveness of this interactive multimedia is evident from the improvement in students' mean scores. Based on the pretest and posttest results, the mean pretest score was 74.00, while the mean posttest score increased to 88.67 after learning using the interactive multimedia grounded in Jambi local wisdom. This increase reflects a positive change in students' reading comprehension abilities following the treatment. The result was further corroborated by the Paired Sample T-Test, which yielded a significance value of $p < 0.001$, confirming a significant difference between the pretest and posttest scores.

Additionally, the N-Gain test produced an average score of 0.5777, or 57.77%, which falls within the moderate category. Thus, the interactive multimedia based on Jambi local wisdom can be considered moderately effective in improving students' reading comprehension. These findings align with the Cognitive Theory of Multimedia Learning proposed by Mayer (2002). The theory posits that students learn more effectively when information is presented through a combination of verbal and visual channels. In this study, the interactive multimedia presented reading comprehension material through a blend of text, images, audio, animations and interactive activities. This multimodal presentation helped students understand the reading content more concretely, as the information was conveyed not only through text but also reinforced by visual and audio elements.

The presence of visual elements, audio and stories that are relevant to students' local environment in the interactive multimedia provided a richer learning experience. Through such multisensory stimulation, students' attention could be better directed toward the reading content being studied. This is important because reading comprehension extends beyond word recognition; it involves understanding information, making connections, identifying characters, recognizing problems and drawing conclusions from the text. The use of multimedia enabled students to receive more concrete and engaging learning support, making the process of understanding reading material more active and meaningful. Appropriate media use can encourage students to be more active and creative, leading to more effective and efficient learning (Jauza & Albina, 2025).

In addition to being supported by multimedia theory, the findings of this study can also be explained through the constructivist theories proposed by Piaget (1972) and Vygotsky (1978). Constructivism posits that knowledge is not passively received but actively constructed through students' experiences and interactions with their learning environment. The interactive multimedia based on Jambi local wisdom engages students not only in reading texts but also in

observing illustrations, listening to audio, following storylines and answering various practice questions embedded in the media. This series of activities directly involves students in the learning process, providing them with opportunities to build their own understanding of the reading content. Interactively designed reading media can enhance student engagement in learning (Sonya & Muthi, 2025).

The use of interactive learning media can also facilitate students' understanding of the material, thereby improving their abilities and learning outcomes. Interactive learning media can increase students' interest in learning while helping them better understand the learning material (Rosa et al., 2023). Compared to traditional teaching methods, which tend to be static, interactive stories provide opportunities for students to interact directly with the learning content, follow the storyline and engage in activities that stimulate critical and creative thinking skills (Akhiruddin et al., 2024). In this regard, images and audio serve to reinforce the story's context, while interactive exercises help students check their understanding immediately.

The integration of Jambi local wisdom is one of the key strengths of the developed interactive multimedia. The reading materials not only serve as resources for training reading comprehension skills but also as a means of introducing regional culture to students. Materials drawn from the students' own local wisdom can make learning contextual and meaningful (Sari, 2020). The folklore, characters, traditions, places and daily life of the Jambi community featured in the multimedia make the learning experience more contextual.

This finding aligns with the study by Puspitasari and Irvan (2026) which showed that digital media based on local wisdom is moderately effective in improving elementary school students' reading comprehension skills. Local wisdom-based media can also help students understand reading materials more deeply, particularly in identifying characters and problems in stories (Cristi et al., 2026). Thus, the use of local contexts in reading instruction not only strengthens students' understanding of the reading content but also fosters their connection to their own regional culture.

Moreover, the integration of local wisdom into the interactive multimedia holds significant value for primary education. Learning is not only directed at enhancing cognitive abilities but also at strengthening students' cultural identity. Through readings based on Jambi local wisdom, students gain learning experiences that are inseparable from their social and cultural environment. This is in line with Riwi et al. (2025) who stated that local wisdom-based media serves not only as a learning tool but also as an effort to preserve cultural identity in the digital era.

Although the results indicated a significant improvement, the N-gain score falling within the moderate category suggests that the effectiveness of the interactive multimedia based on Jambi local wisdom still has room for further enhancement. This moderate category indicates that the developed multimedia has positively contributed to students' reading comprehension; however, it has not yet fully achieved a high level of effectiveness.

One factor that may explain this outcome is the multimedia's component characteristics, which predominantly support visual and kinesthetic learning styles. The presentation of texts, images, story illustrations, interactive navigation and quiz exercises provides strong support for students who grasp information more easily through visual displays and hands-on activities. However, support for auditory learning styles remains relatively limited, as the audio elements in the media mainly consist of supporting sound effects such as a tiger's roar, sword clashes and river sounds rather than full narrative readings or verbal explanations that could guide students' understanding of the textual content. This finding is consistent with Damayanti et al. (2020), who stated that interactive multimedia tends to be more effective for students with visual learning styles because the media is predominantly composed of text and images, whereas students with auditory and kinesthetic tendencies may achieve lower outcomes if the audio and movement-based activity components are not optimally developed. In addition, the moderate N-gain score may also be influenced by students' initial abilities, reading habits, vocabulary mastery, concentration levels while using the multimedia and the teacher's role in facilitating the learning process. The success of using audiovisual media is not solely determined

by the quality of the media itself, but also by the teacher's ability to plan, select appropriate media and manage learning effectively (Angelie & Ahmad, 2025)

The results of this study indicate that the use of the interactive multimedia grounded in Jambi local wisdom is acceptable and moderately effective in the reading comprehension learning process at the fifth-grade elementary school level. The product's feasibility is evident from the expert validation, which showed that the media meets quality criteria in terms of content appropriateness, language use and multimedia presentation. Furthermore, its effectiveness has been demonstrated through the improvement in mean pretest and posttest scores, the significant result of the Paired Sample T-Test and the N-Gain value categorized as moderate. These findings indicate that the developed product not only serves as a learning aid but also creates a more engaging, relevant, contextual and meaningful learning experience to improve students' reading comprehension at the fifth-grade elementary level.

CONCLUSIONS

The interactive multimedia grounded in Jambi local wisdom, developed using the ADDIE model, was deemed highly feasible based on expert validation and ready for use. The effectiveness test revealed an improvement in the average reading comprehension score from 74.00 to 88.67. The paired sample t-test confirmed a significant difference between the pretest and posttest scores ($p < 0.001$). The N-gain score of 0.5777, categorized as moderate, indicates that the interactive multimedia based on Jambi local wisdom not only serves as a learning aid but also creates a more engaging and meaningful learning experience, thereby enhancing the reading comprehension of fifth-grade elementary school students.

The findings imply that website based interactive multimedia rooted in Jambi local wisdom can serve as a contextual and engaging learning medium for elementary reading instruction. Practically, the product may help teachers provide culturally relevant reading materials, integrate visual and audio support and facilitate interactive comprehension exercises in the classroom. However, the findings should be interpreted as promising initial evidence rather than definitive causal proof, considering the small sample size, single-site implementation, absence of a control group and reliance on multiple-choice tests as the main instrument. Future studies are recommended to involve larger samples, control or comparison groups, implementation across multiple schools and additional instruments such as observation rubrics, interviews, students' reading journals, or performance-based reading tasks to obtain a more comprehensive understanding of students' reading comprehension development.

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AUTHOR CONTRIBUTION STATEMENT

AD contributed to the conceptualization of the study, research methodology, software and multimedia development, investigation, data collection, formal analysis, visualization, and preparation of the original manuscript draft. EUK contributed to the research methodology, instrument validation, supervision, interpretation of the findings, and critical review and editing of the manuscript. JK contributed to software development, technical implementation of the interactive multimedia, data curation, visualization, and manuscript review and editing. Rodiah contributed to data collection, classroom implementation, validation, project administration,

and manuscript review and editing. A contributed to supervision, resource provision, validation, interpretation of the research findings, and critical review and editing of the manuscript. All authors reviewed and approved the final version of the manuscript and agreed to be accountable for the accuracy and integrity of the work.

AI DISCLOSURE STATEMENT

The author used DeepSeek and ChatGPT 5.5 during the preparation of this work for translation and language polishing purposes. After using these tools, the author thoroughly reviewed and edited the content as needed and takes full responsibility for the content of the publication.

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