

Assessing the Effectiveness of Multimodal Text-Based Whole-Language Learning Materials for Children

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ABSTRACT

Whole language is a teaching approach emphasizing the natural process of language acquisition, integrating reading, writing, speaking, and listening. This study addresses the need for Whole Language-based teaching materials that utilize multimodal texts to enhance Indonesian language learning for grade IV elementary students. This research developed and validated teaching materials based on the Whole Language approach. The materials incorporate steps such as Reading Aloud, Journal Writing, Sustained Silent Reading, Shared Reading, Guided Reading, Guided Writing, Independent Reading, and Independent Writing. A sample of grade IV students from West Jakarta was selected via simple random sampling. Validation involved three experts assessing material content, language, and media quality using Aiken's V. Validation scores were Aiken V = 0.75 (moderate) for material content, 0.86 (high) for language, and 0.83 (high) for media. These results indicate that the materials meet quality standards and are suitable for enhancing student engagement and comprehension. Findings demonstrate that Whole Language-based materials provide meaningful improvements in reading comprehension, motivation, and critical thinking skills. By emphasizing integrated skills and real-world contexts, these materials offer a holistic and effective learning experience. Whole Language-based teaching materials have the potential to significantly improve language learning outcomes and character education. Their implementation in classrooms can create a more engaging and meaningful learning environment, fostering both academic and personal growth in students.

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1. INTRODUCTION

Under the 2013 Curriculum framework (Veum et al., 2020), Indonesian is positioned as a core subject integrated across all thematic lessons, underscoring its essential role in facilitating the delivery of other subjects. Indonesian language learning encompasses four key skills: listening, speaking, reading, and writing (Latifah & Munajah, 2021). Proficiency in these interconnected language skills enhances an individual's ability to effectively absorb and communicate information, whether orally or in writing. For instance, listening skills are closely linked to writing proficiency, while reading skills are foundational to speaking abilities (Walldén, 2022). This interdependence highlights the importance of a comprehensive

approach to language education for fostering students' academic and communicative competence.

In the increasingly fierce digital revolution, reading comprehension skills are becoming increasingly crucial. Ironically, survey results show that Indonesian students' interest in reading tends to decline. The 2013 Curriculum, with its focus on developing literacy skills, is here as an effort to reverse this trend. However, its implementation in the field still faces various challenges. How can we create Indonesian language learning that not only meets the demands of the curriculum but is also able to arouse students' interest in reading and improve their comprehension skills?

Reading comprehension skills are the foundation for student success in various fields of study. With good literacy (Martínez et al., 2024), students can access information, analyze data, and solve problems more effectively. However, the results of the Program for International Student Assessment (PISA) show that Indonesian students' reading literacy skills are still far below the average for OECD countries. This worrying data is an alarm for all of us. If not addressed immediately, low reading literacy will hinder the progress of Indonesian education as a whole and impact the nation's competitiveness in the future. PISA (Kemendikbudristek, 2023) has highlighted that many Indonesian students have difficulty understanding complex texts, concluding information, and evaluating arguments. Low reading literacy is not only an educational problem but also a broader social problem.

The low reading comprehension ability of Indonesian students is a complex problem that requires a comprehensive solution (Yan & Cai, 2021). Some of the main challenges faced are lack of interest in reading, limited vocabulary, difficulty in identifying main ideas, and lack of regular reading practice. To overcome these challenges, a more innovative and holistic learning approach is needed. One promising approach is the Whole Language approach.

Reading literacy (Sagirlı, 2020) is the ability to understand, use, evaluate, and reflect on various types of texts to solve problems, and develop individual capacity, as Indonesian citizens and global citizens so they can contribute productively to society. This fact was strengthened by a preliminary study conducted by researchers that gave a reading comprehension test to fourth-grade elementary school students to measure the level of students' reading comprehension ability in learning Indonesian. The test given is in the form of multiple choice which is adapted to Indonesian language learning in grade IV elementary school.



Figure 1. Indonesia's PISA scores from 2000 -2018

The PISA report, released on Tuesday, December 3, 2019, was related to Indonesia's reading score, and it was ranked 72th out of 77 countries. Among Southeast Asian countries, Indonesia is at the bottom, with the Philippines ranked last in reading and the score before last in two other fields (Kemendikbud, 2019). Based on this, the government created a Minimum Competency Assessment (AKM), which measures two basic competencies, namely reading literacy and mathematical literacy (Kemendikbud, 2020). In the 2018 PISA report, Indonesia's score fell relatively in all fields. The sharpest decline occurred in the reading section (Kemendikbudristek, 2023).

Teachers are the center of the transfer of knowledge that students first get. In learning activities, teachers act as facilitators so that learning runs effectively and according to existing conditions (Highland & Fedtke, 2023). Furthermore, in terms of language learning, three disciplines involve language learning, including linguistics, psychology, and education (Bodén et al., 2023). Linguistics provides students with an understanding of general and specific language information. Psychology explains what a person learns, while education is how

a person designs learning that combines learning models that are appropriate to the needs of students. The following are language skills that are difficult to learn, namely.

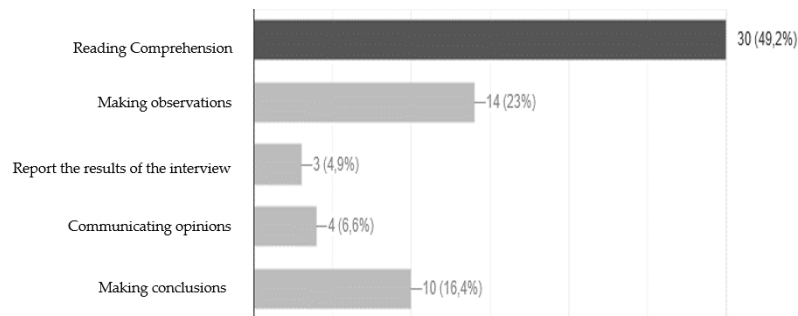


Figure 2. Indonesian language skills that are difficult for students to understand

Based on the needs analysis and several previous studies, it is necessary to develop integrated learning materials with an approach that can improve students' reading comprehension skills. Therefore, the application of the whole language approach is present as a solution to this problem, the difference between the learning materials (Obojska & Vaiouli, 2023a) that will be developed and the existing ones is that the learning materials developed are based on the whole language approach with the specifications of the whole language steps consisting of Reading aloud, Journal writing, Sustained silent reading, Share reading, Guided reading, Guided writing, Independent reading, and Independent writing.

The Whole Language approach offers a fresh alternative to language learning. Rather than focusing on reading skills separately, this approach integrates various aspects of language, such as writing, speaking, and listening, into a meaningful learning process (Aridasarie & Rohmah, 2024). Thus, students not only learn to read word by word, but also understand the context, build knowledge, and develop critical thinking skills. Some of the basic principles of Whole Language that can improve students' reading comprehension include: Reading as a social activity, reading is not only done individually but also in a social context, such as group discussions or presentations. connecting reading with real life, the reading material chosen is relevant to students' experiences and interests, so that they are more motivated to understand the contents of the reading. Writing in response to reading, students are encouraged to write their responses to the text, either in the form of a summary, analysis, or new creation (Rothe et al., 2024). Using various types of texts, students not only read narrative texts, but also informative, persuasive texts, and others. Creating a language-rich learning environment, schools provide a variety of reading materials, such as story books, magazines, and newspapers, and create comfortable reading corners.

The Whole Language approach aims to enhance students' interest in reading by providing engaging materials and diverse reading activities, which have been shown to stimulate motivation and curiosity (Bodén et al., 2023). Through exposure to a variety of texts, students naturally expand their vocabulary, enriching their linguistic repertoire. Regular reading practice combined with related activities improves text comprehension, enabling students to better understand and interpret written content. Additionally, this approach encourages students to become active readers who think critically, analyze, and evaluate information. The Whole Language approach offers promising solutions to address the persistent challenges of reading comprehension in Indonesia (Ryan & Goodman, 2016). By integrating language skills holistically and fostering a rich, interactive learning environment, it supports the development of skilled and reflective readers.

Most teaching materials still focus on printed texts. This can limit students' interest in reading, especially for those who are more visual or kinesthetic (Hahl et al., 2024). Teaching materials are often monotonous and lack variety, so students easily get bored and lose motivation. Many teaching materials are not relevant to students' daily interests and experiences. As a result, students find it difficult to connect the material to real life. Teaching materials tend to be passive, where students only receive information without the opportunity to interact actively.

Language skills are essential for students to access, understand, and communicate information

effectively. The 2013 Curriculum emphasizes the integration of the Indonesian language across all subjects, highlighting its role in developing key skills such as listening, speaking, reading, and writing. However, traditional language learning materials often lack the ability to engage students or cater to diverse learning styles, limiting opportunities for meaningful connections between learning and real-world contexts. This research addresses this gap by integrating multimodal texts—such as videos, images, and audio—into the Whole Language approach, which prioritizes language learning in meaningful contexts (Bodén et al., 2023). While existing studies have often focused on individual media or isolated skills, few have comprehensively examined how multimodal text integration can enhance reading comprehension.

The novelty of this study lies in combining the Whole Language approach with multimodal texts and digital tools to create a more interactive, contextually rich, and engaging learning experience. Unlike conventional materials, the proposed learning resources are offered in both printed and e-book formats, enriched with multimedia features like videos and audio for online and offline use. Furthermore, the materials are designed to incorporate Pancasila values, promoting character education alongside language learning. This comprehensive approach addresses limitations in current practices by making learning more accessible, engaging, and effective.

This study aims to validate the effectiveness of multimodal text-based learning materials integrated with the Whole Language approach in improving the reading comprehension of grade IV elementary school students. It seeks to explore how these materials enhance student engagement, support contextual understanding, and foster digital literacy and critical thinking skills. By addressing these questions, the research seeks to provide innovative teaching strategies that can significantly improve language education.

The findings of this study hold significant potential for transforming language learning. By integrating innovative approaches with digital tools and multimodal texts, the research contributes to enhanced learning outcomes and better prepares students for the challenges of a digitalized world. Additionally, the developed materials promote holistic skill development, including critical thinking, creativity, and collaboration, equipping students with the tools to thrive in various academic and real-world contexts.

2. METHODS

Based on this, the research and development model uses the Instructional Design model Dick and Carey by combining the Tomlinson model (Latifah et al., 2023) (Goffman & Gerken, 2023) The Dick and Carey model and the Tomlinson model are both widely recognized frameworks for instructional design. Their integration provides a comprehensive and effective approach to developing Whole Language-based learning materials. The Dick and Carey model is a systematic instructional design model that outlines a series of steps for creating effective instructional materials. These steps include: 1) Needs Analysis: Identifying the needs and goals of learners. 2) Learning Objectives: Defining specific learning outcomes. 3) Instructional Strategies: Selecting appropriate teaching methods and activities. 4) Assessment: Developing assessments to measure learning outcomes. 4) Evaluation: Evaluating the effectiveness of the instruction.

This model provides a structured framework for developing instructional materials, ensuring that they are aligned with learning goals and meet the needs of learners. The Tomlinson model is a differentiated instruction model that emphasizes providing students with different learning opportunities based on their individual needs and abilities. This model includes: 1) Flexible Grouping: Grouping students based on their learning needs and interests. 2) Tiered Activities: Providing different levels of activities to accommodate students at various levels of understanding. 3) Choice: Giving students choices in their learning activities. 4) Differentiated Assessment: Assessing students in ways that reflect their strengths and weaknesses. 5) This model ensures that instructional materials are accessible and engaging for all students, regardless of their learning styles or abilities. The integration of the Dick and Carey model and the Tomlinson model offers several advantages for developing Whole Language-based learning materials. The visualization is as follows:

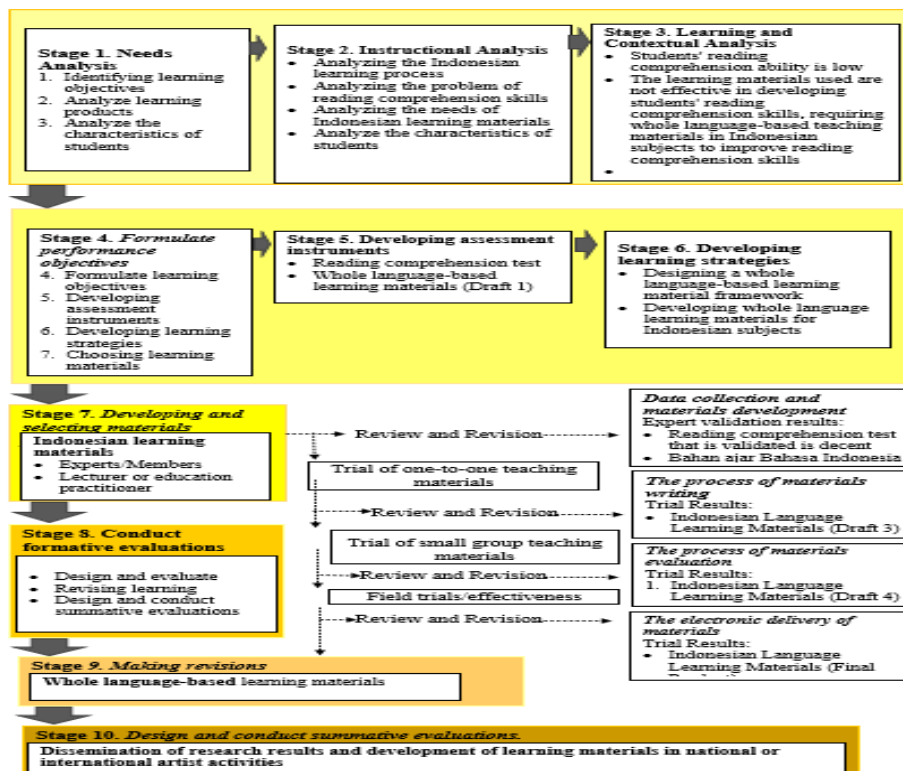


Figure 3. Steps for developing whole language-based learning materials for Indonesian language subjects.

Developing and validating teaching materials involves a systematic process to ensure their quality and effectiveness. The process begins with the analysis and design of materials, followed by expert validation to refine and optimize the content. Expert judgment is a critical component, with experts selected based on stringent criteria: possessing a doctoral degree, expertise in elementary education, specialization in language studies, and experience in developing educational materials.

Each expert plays a distinct yet complementary role in this process. Material experts focus on the accuracy and relevance of content. They evaluate whether the material aligns with learning objectives, ensuring it is neither overly complex nor overly simplistic. They also verify that all critical aspects of a topic are addressed, filling any gaps in knowledge. Their assessments emphasize the quality of content, alignment with educational goals, and the material's potential to achieve desired learning outcomes.

Language experts ensure the material's linguistic accuracy and accessibility. They refine grammar, spelling, and vocabulary to match the audience's comprehension level (Aridasarie & Rohmah, 2024). Additionally, they enhance the language style to make it engaging and clear while maintaining consistency throughout the text. This includes addressing the use of technical terms to avoid confusion and ensuring coherence and logical progression in the presentation of ideas.

Media experts evaluate the effectiveness of visual and multimedia components, such as images, videos, and animations. They ensure these elements are engaging, relevant, and technically sound, including considerations of resolution, device compatibility, and overall usability (Obojska & Vaiouli, 2023a). They also assess the design aspects, such as layout, color schemes, and typography, to ensure the materials are visually appealing and supportive of the learning process.

Input from these experts informs the revision and improvement of the materials. Their collaborative efforts ensure the materials are accurate, engaging, and pedagogically effective. Suggestions and feedback from the validation process are systematically reviewed to refine the initial drafts. Revised drafts are revalidated to confirm improvements before progressing to field trials. This iterative process ensures that the final materials meet high standards of quality, addressing the needs of learners effectively.

The validated materials are then subjected to initial field trials, where they are tested in real

classroom settings. This stage provides practical insights into the materials' usability and effectiveness, further informing revisions. Through this rigorous process, the development of teaching materials ensures alignment with educational goals, integration of multimodal elements, and the Whole Language approach, resulting in comprehensive resources that enhance learning outcomes (Alrajhi, 2024).

3. FINDINGS AND DISCUSSION

3.1 The Needs Analysis

The questionnaire was created in an online form to make it easier for respondents to access it anywhere. A total of 211 teachers who have filled out the questionnaire completely to be used as research samples. This research was conducted during the Covid pandemic so that for the data collection technique the researcher used a purposive sampling technique through Google Form which was distributed to several regions in Indonesia. Descriptive data on demographic characteristics including gender, length of teaching experience, and educational background of teachers are presented in the following table.

Table 1. Participant Demographic Information

Gender	Male	83
	Female	131
Teaching Duration	Less than 5 years	100
	More than 5 years	111
Graduated	PGSD	178
	Non-PGSD	33

The selection of interview samples was obtained through the classification of evaluation of questionnaire jaws and the selection of various responses to help understand the answers revealed by the questionnaire analysis (Walldén, 2022). In filling out the questionnaire, respondents were asked to include their telephone number if they were willing to be interviewed. The percentage showed that almost all the questionnaires were willing to interview by providing their box details (Aridasarie & Rohmah, 2024). As a result, an "information-rich" sample was selected from among the available participants, which varied according to their answers and characteristics. Until the end of the fifteen samples were found.

The length of teaching experience does have a significant correlation with how a teacher selects and uses learning materials. The longer a teacher teaches, the richer the experience and knowledge he/she has, which in turn will affect his/her perspective on learning, especially in terms of reading comprehension and learning resources (Lin et al., 2024). Teachers with longer experience tend to better understand how students' cognitive development occurs over time. They can adjust the level of difficulty of the reading material according to the student's developmental stage. Repeated experience allows teachers to identify the various learning styles of students. This allows them to choose a variety of reading materials and learning resources to accommodate differences in learning styles. Experienced teachers better understand the interests and needs of individual students (Bodén et al., 2023). They can choose reading materials that are relevant and interesting to students.

Extensive experience allows teachers to have a rich bank of materials, including reading materials that have been proven effective. Senior teachers understand how one reading material is related to other materials in the curriculum (Gartziarena et al., 2024). They can build a more holistic understanding in students. The length of teaching experience gives teachers an advantage in selecting and using learning materials. Rich experience allows them to better understand students, the curriculum, and various learning resources. This in turn will have a positive impact on improving students' reading comprehension.

Indonesia has hundreds of regional languages. This prepares learning materials that are appropriate for all language backgrounds very complex (Obojska & Vaiouli, 2023b). Cultural diversity in Indonesia is very high. This requires a more inclusive learning approach and accommodates various cultural values. The education system in Indonesia has unique characteristics, such as the existence of public and private schools, as well as various levels of education. This requires adjustments in implementing the

whole language approach. Indonesia's vast geographical conditions and its many islands make the distribution of learning materials and teacher training more difficult (Santiago-Garabieta et al., 2023a). This can be overcome by providing adequate training to implement the whole language approach. Conduct regular evaluations to see the extent of the success of the implementation of the whole language approach and make improvements if necessary. Despite many challenges, the implementation of the whole language approach in Indonesia still needs to be done. With the right efforts and support from various parties, this approach can provide significant benefits for the language development of Indonesian children.

Analysis of the needs of learning materials (Alomar, 2022) includes the availability of learning materials used by students during the learning process, from the results of the survey that has been filled out by elementary school teachers, the results of the graph are obtained as:

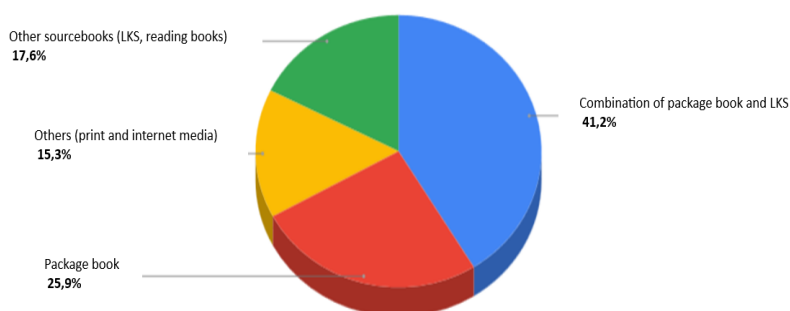


Figure 4. Reading Resources in Teaching Reading Comprehension

Based on the results of a survey filled out by 211 elementary school teachers who teach grade 4, it shows that 41.2% of teachers use a combination of package books and LKS books separately (Chandler, 2017) and there are still few teachers who use other sourcebooks such as reading books and other references, this shows that 17.6% of teachers choose not to use other sourcebooks, while print media and the internet are used by 15.3% by teachers, meaning that some utilization outside of package books is still minimal. Meanwhile, the curriculum related (Sagirli, 2020) to teachers' perceptions of Indonesian learning materials that can support student understanding can be seen in the following table.

Table 2. Teachers' Perceptions of Language Learning Materials Activities that Can Support Students' Reading Comprehension

Statement	Strongly disagree	Disagree	Agree	Strongly agree	Total
Update material can improve reading comprehension	29	37	55	90	211
An attractive display of books can increase students' concentration in reading	7	4	15	185	211
Adding new vocabulary can stimulate students to make the right sentences	13	18	35	145	211
The use of visual audio media can foster reading comprehension	0	5	27	179	211
Lack of vocabulary makes it difficult for students to make a speech					

3.2. Design Stage

The purpose of the performance of this research is to provide solutions to improve reading comprehension. In contrast to the ability to read (Veum et al., 2020) which is only used by readers to obtain the message conveyed by the writer through the medium of words or written language. But the ability to read comprehension is more about being able to remember, understand, distinguish, analyze, and assess reading. The development of learning materials begins with making a plan. Development

planning includes 1) compiling syllabi and lesson plans for Indonesian subjects, 2) formulating goals to be achieved by learning outcomes 3) determining and sequencing materials 4) compiling scenarios and learning activities that students must do to achieve the expected competencies, and 5) designing a framework of learning materials. The framework of whole language-based learning materials in Indonesian Language subjects is as follows.

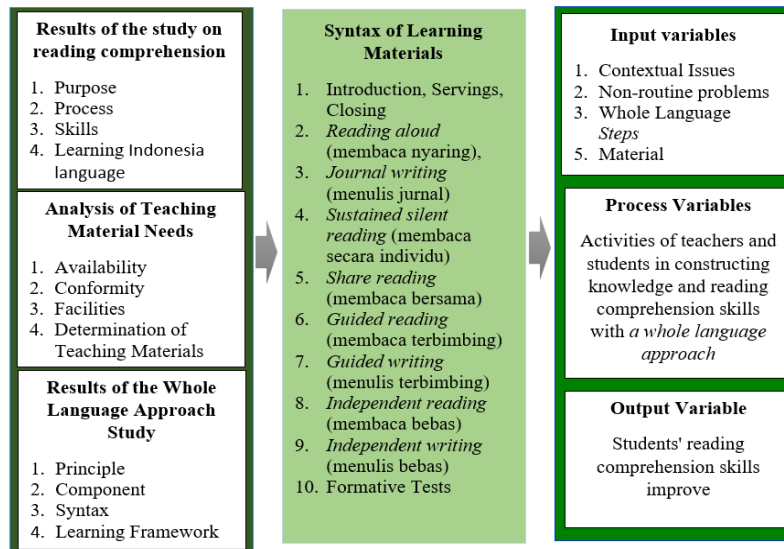


Figure 5. Theoretical Framework Scheme of Learning Materials

3.3. Development

The development of multimodal flipbook e-modules reflects the integration of the Whole Language approach with contemporary digital tools, aiming to enhance reading comprehension in Indonesian language learning. The Whole Language approach, which emphasizes holistic and contextual language understanding, aligns well with the flexibility of the Merdeka Curriculum. This curriculum encourages innovative, student-centered learning, providing opportunities for educators to design relevant and meaningful instruction tailored to students' needs. Leveraging advancements in information and communication technology (ICT) further enhances this approach by enabling access to diverse learning resources and fostering interactive methods (Aridasarie & Rohmah, 2024).



Figure 6. Snippet of Multimodal Flipbook E-Module

Research has shown the effectiveness of the Whole Language approach in various educational

contexts, including its ability to improve literacy skills in preschoolers (Ma'rufah Rohmanurmeta et al., 2024), enhance speaking abilities and self-efficacy in language teachers (Meier-Faust & Watermann, 2023), and support foreign language learning (Karasu, 2020; Ryan & Goodman, 2016). The integration of digital platforms, such as Edmodo, with the Whole Language approach has also been noted for making learning more engaging through interactive features (Lemmi & Pérez, 2024).

In this study, the application of a Whole Language approach in conjunction with multimodal learning media represents a step forward in addressing the unique needs of Indonesian language learners. The development of a flipbook e-module exemplifies this innovation, providing students with an interactive and multimodal learning experience that aligns with both curriculum objectives and the digital transformation of education. Figure 6 illustrates a snippet of this multimodal flipbook e-module.

3.4. Evaluation

The feasibility test or validation of whole language-based Indonesian learning materials is carried out by experts or experts including material experts, linguists, and media experts. Each of them is validated by three experts so that the total number of validators of learning materials is nine percent. This aims to produce learning materials that are suitable for use in the learning process so that they can improve the reading comprehension ability of grade IV elementary school students. The results of the validation carried out by the experts are as follows:

3.4.1 Material Expert Validation Results

Table 3. Feasibility Results of Material Expert Validity

Assessment aspects	Expert			s_1	s_2	s_3	$\sum s$	$n(c-1)$	V	Info
	1	2	3							
1. Content Quality and Purpose	42	42	43	31	30	30	91	120	0.758333	Medium
2. Quality of Learning	39	40	42	29	30	32	91	120	0.758333	Medium
Total	80	80	82	60	60	62	182	240	0.758333	Medium

Based on the content validity test using the Aiken v Index, it shows that the validity of the whole language-based Indonesian learning material expert is suitable for use with a medium index.

3.4.2 Results of Linguist Validity

Linguistic validation focuses on ensuring that the grammar, vocabulary, and overall language use in the Whole Language-based Indonesian learning materials are appropriate for improving the reading comprehension skills of grade IV elementary school students. The materials are evaluated based on their alignment with students' developmental levels, clarity of communication, and coherence in the flow of thought. This validation is crucial in making the materials both accessible and engaging for young learners, ensuring they can effectively grasp and apply the concepts presented.

During the validation process, language experts carefully reviewed the text for grammatical accuracy, consistency in terminology, and appropriateness of language for the target age group. Suggestions included simplifying complex sentences, improving word choice to match students' reading levels, and restructuring certain sections to enhance logical flow and readability. Experts also emphasized the importance of using clear and concise language that maintains students' attention while fostering critical thinking.

Feedback from the linguistic validation process was followed up with significant revisions to the draft materials. These revisions included refining sentence structures, ensuring that the tone of the language remained engaging and motivating, and integrating contextual examples to help students connect with the content more effectively. Additionally, efforts were made to maintain a balance between

formal language for instruction and relatable conversational tones to make the materials feel approachable.

By addressing the feedback and criticisms from linguistic experts, the revised materials now offer a cohesive, developmentally appropriate, and linguistically accurate resource designed to enhance reading comprehension in alignment with the Whole Language approach. These improvements ensure that students can not only read and understand the materials but also engage with them in a meaningful and enjoyable way.

Table 4. Feasibility Results of Material Expert Validity

Assessment aspects	Expert			s ₁	s ₂	s ₃	∑ s	n(c - 1)	V	Info
	1	2	3							
Suitability to the level of development of the participants	15	15	16	11	10	10	31	36	0.866111	Height
Communication	19	19	19	14	14	14	42	60	0.8	Height
Coherence and accuracy of thought flow	8	7	8	6	5	6	17	24	0.70833	Height
Total	41	39	40	31	29	30	90	120	1.85	Height

The results of the Aiken v index calculation show that the validity of the Indonesian language learning material based on Whole Language is worthy of use with a high index.

3.4.3 Media Expert Validation Results

Based on the content validity test using the Aiken v Index, it shows that the validity of the material expert for Indonesian language learning materials based on whole language is suitable for use with a moderate index.

Table 5. Media Expert Validity Eligibility Results

Assessment aspects	Expert			s ₁	s ₂	s ₃	∑ s	n(c - 1)	V	Info
	1	2	3							
Ease of use	15	17	16	11	12	10	33	36	0.916667	Height
Presentation eligibility	22	19	24	17	14	19	50	60	0.833333	Height
Media integration	15	10	15	12	7	12	31	36	0.861111	Height
Whole language approach	36	29	36	28	21	28	77	96	0.802083	Height
Function	4	4	4	3	3	3	9	12	0.75	Medium
Total	91	77	92	71	57	72	200	240	0.8333	Height

3.4.4 Practitioner Validation Results

Elementary school teachers carried out the validity of the practitioners with a total of 6 people from SDN Duri Kepa 16 Pagi, SDN Srengseng 03 Pagi, and SDN Duri Kepa 17 Pagi where each school was represented by two homeroom teachers for grade IV, the results of the assessment were carried out through the aspects of usefulness and ease with a total of 20 questions, the results of the practical quality are displayed in the following table:

Table 6. Practitioner Validity Eligibility Results

Assessment aspects	Expert						s_1	s_2	s_3	s_4	s_5	s_6	$\sum s$	$n(c - 1)$	V	Info
	1	2	3	4	5	6										
Benefits	54	54	54	56	56	61	41	40	39	40	39	43	242	288	0.84	Height
Convenience	36	38	37	34	34	33	28	30	29	26	26	25	164	192	0.85	Height
Total	90	92	91	90	90	94	69	70	68	66	65	68	406	480	0.85	Height

Based on the calculation of the Aiken V index, the practical validity of the Whole Language-based Indonesian learning material media achieved a score of 0.85, indicating a high validity index. This result demonstrates that the learning materials are of sufficient quality and can be effectively used in classroom settings to enhance student learning outcomes.

The Whole Language approach, which emphasizes holistic and contextual language understanding, holds significant potential to transform Indonesia's educational landscape (Nguyen et al., 2024). These teaching materials integrate multimodal elements and real-world contexts, making learning more engaging and relevant for students. This approach not only aligns with the goals of the Indonesian curriculum but also provides a foundation for curriculum development and teacher training initiatives. By incorporating Whole Language principles into classroom instruction, a paradigm shift in teaching practices can be achieved, cultivating a generation of students who are more creative, critical, and prepared for the challenges of the future (Santiago-Garabieta et al., 2023b).

Despite ongoing efforts to improve literacy in Indonesian elementary schools, challenges and gaps in reading comprehension remain significant obstacles (Jensen et al., 2024). These gaps often arise from the lack of engaging and contextually relevant learning materials. Addressing these issues through the development and implementation of Whole Language-based materials can provide a sustainable solution, fostering deeper understanding and retention of concepts among students.

The development of these materials plays a crucial role in enhancing the literacy skills of elementary school students. By focusing on holistic language learning, these resources not only improve reading comprehension but also promote critical thinking, creativity, and the ability to connect learning to real-world applications (Choi et al., 2023). As a long-term investment, the Whole Language-based teaching approach contributes to elevating the overall quality of education in Indonesia, ensuring students are better equipped to thrive in an increasingly complex and dynamic world.

4. CONCLUSION

The findings of this study highlight the effectiveness of Whole Language-based teaching materials in improving reading comprehension among elementary school students. By emphasizing the holistic understanding of texts and integrating meaningful, contextually relevant activities, the approach enables students to analyze, interpret, and evaluate information effectively. The materials not only enhance students' critical thinking and problem-solving skills but also foster a positive learning atmosphere that builds confidence and motivates students to engage actively. Designed to accommodate varying student abilities and learning contexts, the materials are accessible and adaptable, with activities that utilize minimal resources such as storybooks, images, and everyday objects, making them practical for diverse educational settings.

The implications of this research are significant for both curriculum design and pedagogical practices. The Whole Language approach provides a comprehensive framework for integrating reading, writing, speaking, and listening activities, thereby creating a more interactive and engaging learning experience. This approach aligns with contemporary educational goals, such as fostering creativity and critical thinking, and offers a foundation for teacher training and curriculum innovation. However, the research faced limitations, including the scope of implementation being confined to grade IV students and specific learning materials. Future research should explore the application of Whole Language-based materials across different grade levels, subjects, and cultural contexts to assess broader impacts.

Further studies could also investigate the integration of advanced digital tools and multimodal elements to enhance interactivity and accessibility. By addressing these areas, future research can build on the current findings, refining and expanding the approach to develop a generation of learners equipped with the skills needed for a dynamic and rapidly evolving world.

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