



Development of a Digital Book (Flipbook) for Teaching Explanation Text Writing in Grade 5 Elementary School

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ABSTRACT

The low level of explanatory text writing skills among elementary school students has become a significant issue affecting their ability to organize ideas, apply text structures, and use appropriate language features. This study aims to develop a flipbook-based digital book that is valid, practical, and effective in improving the explanatory text writing skills of fifth-grade elementary school students. The research employed a Research and Development (R&D) method using the ADDIE development model, which includes the stages of analysis, design, development, implementation, and evaluation. The research subjects consisted of fifth-grade students at SD Negeri 1 Karangtengah Banjarnegara. Data were collected through observation, interviews, questionnaires, tests, and documentation, while data analysis used both quantitative and qualitative approaches. The results showed that the developed flipbook achieved a validity score with an average of 4.25, categorized as very valid. User responses were in the very good category, with an average score of 4.40 from teachers and 4.35 from students. The implementation of the media was also proven effective in improving students' writing skills, indicated by an increase in mean scores from 62.40 to 78.60 and the result of the paired sample t-test with a significance value of 0.000. The N-Gain Score of 0.65 indicates a moderate level of improvement. These findings suggest that the flipbook-based digital book can create an interactive and engaging learning environment and contribute to improving students' explanatory text writing skills in elementary schools.

Keywords: *flipbook, digital learning media, writing skills, explanatory text, elementary school*

ABSTRAK

Rendahnya keterampilan menulis teks eksplanasi pada siswa sekolah dasar menjadi permasalahan yang memengaruhi kemampuan siswa dalam mengorganisasi ide, menerapkan struktur teks, dan menggunakan kaidah kebahasaan yang tepat. Penelitian ini bertujuan untuk mengembangkan buku

digital berbasis flipbook yang valid, praktis, dan efektif dalam meningkatkan keterampilan menulis teks eksplanasi siswa kelas V sekolah dasar. Penelitian ini menggunakan metode Research and Development (R&D) dengan model pengembangan ADDIE yang meliputi tahap analisis, desain, pengembangan, implementasi, dan evaluasi. Subjek penelitian terdiri dari siswa kelas V SD Negeri 1 Karangtengah Banjarnegara. Teknik pengumpulan data meliputi observasi, wawancara, angket, tes, dan dokumentasi, sedangkan analisis data menggunakan pendekatan kuantitatif dan kualitatif. Hasil penelitian menunjukkan bahwa media flipbook yang dikembangkan memperoleh skor validitas rata-rata sebesar 4,25 dengan kategori sangat valid. Respon pengguna berada pada kategori sangat baik dengan skor rata-rata 4,40 dari guru dan 4,35 dari siswa. Implementasi media juga terbukti efektif dalam meningkatkan keterampilan menulis siswa, ditunjukkan dengan peningkatan nilai rata-rata dari 62,40 menjadi 78,60 serta hasil uji paired sample t-test dengan nilai signifikansi 0,000. Nilai N-Gain sebesar 0,65 menunjukkan peningkatan pada kategori sedang. Temuan ini menunjukkan bahwa buku digital berbasis flipbook mampu menciptakan pembelajaran yang interaktif dan menarik serta berkontribusi dalam meningkatkan keterampilan menulis teks eksplanasi siswa sekolah dasar.

Kata Kunci: flipbook, media pembelajaran digital, keterampilan menulis, teks eksplanasi, sekolah dasar

INTRODUCTION

Education is a fundamental aspect of human life that continues throughout the lifespan in line with the development of science and technology. Through education, individuals are expected to develop intellectual, moral, and social competencies to become qualified and well-characterized human resources. The importance of knowledge is emphasized in the Qur'an, Surah Al-Mujādilah verse 11, which states that Allah elevates the degrees of those who believe and possess knowledge. The obligation to seek knowledge is also reinforced in the hadith of the Prophet Muhammad, which states that seeking knowledge is mandatory for every Muslim (HR. Ibnu Majah). These principles highlight the essential role of education in shaping human quality.

Educational policies in Indonesia continue to evolve to meet global demands and technological advancements. The Regulation of the Minister of Education, Culture, Research, and Technology Number 12 of 2024 emphasizes that the curriculum must be adaptive to scientific progress, technological development, global dynamics, and sociocultural diversity. The curriculum plays a strategic role as a guideline for implementing educational processes (Simatupang et al., 2019). Its dynamic nature allows continuous development based on students' needs and characteristics (Putri & Aryani, 2022). Education should also align with both natural disposition and the demands of the era to optimally develop students' potential (Yulianto, 2022) (Dari & Hudaidah, 2021). Technological development has become an inseparable component of modern education (Putra et al., 2025).

The role of teachers in the 21st century extends beyond delivering content to facilitating and guiding student-centered learning. Teachers act as facilitators, mediators, and reconstructors of knowledge in professional practice (Ariyani, 2019). Effective teachers motivate, guide, and serve as role models for students (Nurfaijan et al., 2025). The ability to integrate technology into teaching practices is essential to improve instructional quality (Oktaviani & Fitriyani, 2024).

Technological advancement creates opportunities for innovation in educational practices. The transition from traditional methods to technology-based learning enhances effectiveness and efficiency (Sapiah et al., 2024). Educators are required to master technology and provide

interactive learning media that foster meaningful learning experiences (Luh Nuryani & Abadi, 2021) (Akmal et al., 2025). Instructional innovation is essential to improve educational quality (Hidayat, 2019) and to prepare creative, adaptive learners capable of responding to digital-era challenges (Rosmala et al., 2025) (Kurnia et al., 2023). The integration of technology in learning also supports the development of students' digital literacy skills, which are increasingly important in modern education.

Digitalization in education has shifted from a trend to a necessity that supports innovation in teaching and learning processes (Putra et al., 2025). Digital transformation involves the comprehensive integration of technology into educational systems (Sapiah et al., 2024) (Fajrie et al., 2024). Learning media must therefore evolve to increase student engagement and participation through interactive and technology-based approaches.

Indonesian language learning is a compulsory subject in elementary schools and plays a crucial role in developing students' communication skills. Language instruction at this level is systematically planned and implemented (Kadang, 2024). The learning objectives include the development of knowledge, skills, creativity, and attitudes (Anwar, 2017). Four core language skills are emphasized: listening, speaking, reading, and writing (Tarigan, 2018). Writing skills, particularly explanatory text writing, are essential for fostering structured and logical thinking.

Explanatory text writing requires students to describe processes or phenomena systematically by emphasizing causal relationships (Wagirun & Irawan, 2019). This skill involves organizing ideas, applying appropriate text structures, and using accurate linguistic features. Writing is a complex cognitive process that demands continuous practice and guidance (Widodo et al., 2020). Students also need to develop critical thinking skills to analyze relationships between events and present them logically. The use of appropriate instructional strategies and learning media is essential to support students in mastering explanatory text writing effectively.

Preliminary observations conducted at SD Negeri 1 Karangtengah Banjarnegara from September 25 to November 5, 2025 revealed that learning activities were still dominated by lecture methods and printed textbooks. Classroom conditions were relatively conducive; however, student engagement remained low. Many students demonstrated passive behavior, including lack of attention, daydreaming, and minimal participation in discussions. These conditions contributed to limited understanding of the material.

Students experienced significant difficulties in writing explanatory texts. Challenges included identifying text structure, generating ideas, and constructing effective sentences. Interviews with teachers indicated that most students had not mastered the structural components of explanatory texts. Students tended to replicate examples rather than develop original ideas. Interviews with students confirmed that limited understanding of the material and the lack of engaging learning media contributed to these difficulties.

Similar findings have been reported in previous studies, which indicate that elementary school students often struggle with explanatory text writing (Deswita & Kharisma, 2025). Instructional media plays an important role in addressing these challenges by increasing student motivation and engagement (Nurdyansyah, 2019). Media also functions as an effective learning resource in modern education (Syawaluddin et al., 2022).

Digital learning media, particularly electronic books, offer innovative solutions to improve learning experiences. Flipbook-based digital books provide interactive features such as animations, images, audio, and video (Syamsuri, 2023). These features allow flexible access to learning materials and support independent learning (Afriyadi & Hayati, 2023). Previous studies have demonstrated that flipbook media is valid, practical, and effective in improving learning outcomes (Yunitasari et al., 2025; Juliani & Ibrahim, 2023; Makruf & Mahendra, 2025). Such characteristics make flipbook media highly suitable for creating engaging and student-centered learning environments. In general, flipbooks as interactive e-books enhance motivation and literacy outcomes compared to printed books; however, their variations still require in-depth evaluation (Egert et al., 2022).

Existing studies primarily focus on the development, validity, and practicality of flipbook media. Limited research has examined its effectiveness in improving specific language skills, particularly explanatory text writing, within elementary school contexts. Empirical evidence using comprehensive approaches that integrate instructional design with language skill development remains insufficient. This gap indicates the need for further investigation into the effectiveness of flipbook-based digital media in enhancing students' writing competencies.

The novelty of this study lies in the integration of flipbook-based digital media with structured explanatory text writing instruction tailored to elementary school students. The study emphasizes not only media development but also its application in improving students' ability to organize ideas, understand text structures, and construct coherent explanatory texts. The contextual implementation in elementary classrooms provides additional contributions to practical and pedagogical aspects of language learning.

This study aims to develop a flipbook-based digital book for teaching explanatory text writing in Grade 5 of SD Negeri 1 Karangtengah Banjarnegara. The research also aims to examine the feasibility and effectiveness of the developed media in improving students' understanding and writing skills in explanatory texts.

METHOD

Type and Design

This study employed a Research and Development (R&D) method aimed at developing a flipbook-based digital book for teaching explanatory text writing in elementary school. This method was selected because it focuses not only on producing an instructional product but also on testing its effectiveness to ensure its applicability in real learning contexts. R&D involves systematic steps to develop new products or refine existing ones to meet educational needs. In the educational context, this method is used to design and validate learning products that are relevant, practical, and effective for students.

The development design in this study referred to the ADDIE model, which consists of five stages: analysis, design, development, implementation, and evaluation. This model was chosen due to its systematic, iterative, and flexible structure that allows revisions at each stage based on evaluation results. The ADDIE model supports the development of structured and applicable instructional media. The product developed in this study was a flipbook-based digital book designed to improve students' explanatory text writing skills.

Data and Data Sources

The data in this study consisted of both qualitative and quantitative information related to the development and testing of the flipbook-based digital book. The data included results of needs analysis, product design and development processes, validation outcomes, implementation findings, and evaluation results. Additional data included students' learning outcomes, responses from teachers and students, and the feasibility level of the developed product. This study was conducted at SD Negeri 1 Karangtengah, Banjarnegara Regency, over a period of six months from September 2025 to February 2026. The research subjects consisted of fifth-grade students as users of the product, the fifth-grade teacher as a supporting subject, and expert validators (material and media experts) who assessed the feasibility of the product. Subjects were selected purposively based on their relevance to the research objectives and their direct involvement in the implementation of the developed media. The data sources included informants, documents, and learning activities. Informants consisted of teachers and students who provided information regarding learning conditions and responses to the product. Documents included lesson plans, the developed flipbook product, validation sheets, questionnaires, and supporting documentation such as photos and videos. Learning activities during the implementation stage also served as an important source of data

Data Collection

Data were collected through observation, interviews, questionnaires, tests, and documentation. Observation and interviews were used to identify classroom conditions, learning challenges, and media needs. Questionnaires were administered to teachers, students, and experts to assess needs, validation, and user responses. Pretests and posttests were used to measure the effectiveness of the flipbook in improving explanatory text writing skills. Documentation supported the data through records of activities and student work. Instruments included tests, observation sheets, interview guidelines, and Likert-scale questionnaires, while data validity was ensured through source and technique triangulation.

Data Analysis Techniques

Data analysis employed both quantitative and qualitative approaches. Quantitative data were obtained from questionnaires, validation results, and pretest-posttest scores, then analyzed using descriptive statistics to determine validity, practicality, and effectiveness. Product feasibility was calculated using percentage criteria. Effectiveness was measured through learning outcomes, with mastery set at a minimum score of 70 and classical completeness at 75%. Statistical analysis included normality and homogeneity tests, followed by a paired sample t-test to identify differences between pretest and posttest scores. Improvement levels were analyzed using the N-Gain Score. Qualitative data were analyzed using an interactive model consisting of data reduction, data display, and conclusion drawing. Relevant data from observations, interviews, and open-ended responses were selected, presented in narrative form, and verified through comparison across data sources to ensure validity.

RESULTS AND DISCUSSION

Needs Analysis for Flipbook Development

The needs analysis indicates that learning activities in fifth grade at SD Negeri 1 Karangtengah have not yet optimally supported students' explanatory text writing skills. Observation results show that although instructional delivery was generally well-structured,

student engagement and writing performance remained relatively low. Only 5 out of 16 observed indicators reached the “good” category (score 3), while the majority of indicators were still in the “sufficient” (score 2) and “low” (score 1) categories, particularly in the use of media, student participation, and writing skills.

Interview data with the teacher reveal that students experience difficulties in understanding text structure, applying appropriate language features, and developing ideas into coherent paragraphs. Learning activities are still dominated by lecture methods, discussion, and assignments using printed textbooks. Limited availability of instructional media and the absence of digital learning tools were identified as major constraints affecting the learning process.

Student interview findings further support these results. Most students reported that writing explanatory texts is difficult, especially in organizing ideas, understanding structure, and selecting appropriate vocabulary. Students also expressed low motivation during learning activities, as the instructional process tends to be monotonous and lacks interactive elements. Digital media such as videos were perceived as helpful, but their use remains limited in classroom practice.

Questionnaire results show that both teachers and students strongly need more engaging and interactive learning media. The majority of students expressed interest in digital learning media containing images, videos, examples, and guided exercises. Teachers also indicated the need for accessible, practical, and visually appealing instructional media that can support independent learning and increase student motivation.

Based on these findings, a clear gap exists between current learning conditions and students’ needs. Conventional learning approaches have not effectively facilitated students’ writing skill development. Therefore, it is necessary to develop an innovative, technology-based learning medium such as a flipbook to support students in understanding and practicing explanatory text writing more effectively

Development of Flipbook-Based Digital Learning Media

The development process was conducted following the ADDIE model, consisting of analysis, design, development, implementation, and evaluation stages. The design stage involved organizing learning materials systematically, including definitions, structures, language features, examples, exercises, and evaluations of explanatory texts. The flipbook interface was designed to be visually engaging, user-friendly, and appropriate for elementary school students.

The development stage resulted in a digital flipbook integrating multimedia elements such as images, animations, and interactive navigation. The product was designed to facilitate independent and guided learning. Validation by material and media experts was conducted to assess the feasibility of the product in terms of content accuracy, design quality, and usability.

The developed flipbook is published online to support accessibility and independent learning. The media can be accessed through the following link: <https://heyzine.com/flip-book/e72fdc78ed.html>. This digital format enables students to use the learning resource anytime and anywhere through devices such as laptops or smartphones. The flipbook presents materials in an interactive format, including visual illustrations, structured explanations, and guided exercises that support students’ understanding of explanatory texts. The appearance of

the flipbook media is presented in Figure 1 and Figure 2, which illustrate the cover design and the content layout of the developed digital book. The cover design emphasizes visual attractiveness and relevance to the material, while the content layout highlights clarity, organization, and interactive elements to enhance engagement and usability during the learning process.



Figure 1. Cover Design of the Flipbook-Based Digital Learning Media



Figure 2. Content Layout and Interactive Features of the Flipbook-Based Digital Learning Media

The feasibility of the developed flipbook was evaluated through expert validation covering content, design, and usability aspects. The assessment aimed to ensure that the product meets instructional standards and is appropriate for use in elementary school learning. The results of the validation are presented in Table 1.

Table 1. Product Validation Results

Aspect	Mean Score	Criteria
Content Feasibility	4.30	Very Valid
Design Feasibility	4.20	Very Valid
Usability	4.25	Very Valid
Average	4.25	Very Valid

The validation results indicate that the developed flipbook meets the criteria of being highly feasible. Content aspects show strong alignment with curriculum objectives, while

design aspects demonstrate clear layout, readability, and visual attractiveness. Minor revisions were made to improve visual consistency and clarity of instructions.

Implementation was conducted through a limited trial involving fifth-grade students using a deep learning approach integrated with a Problem-Based Learning model. Learning activities were carried out in three main stages: introduction, core activities, and closing. The introductory stage began with classroom conditioning, apperception through real-life phenomena such as rain and floods, delivery of learning objectives, and administration of a pretest to identify students' initial understanding.

The core activities emphasized active and student-centered learning through structured problem-solving steps. Learning began with a triggering question related to natural phenomena, followed by the introduction and guided use of the flipbook. Students explored the flipbook content independently using digital devices, including observing materials, studying examples, and completing interactive exercises. Group-based activities were then conducted, where students selected specific themes and collaboratively designed explanatory texts. The learning process continued with project planning, writing activities based on text structure, and teacher-guided monitoring. Each group presented their work, received feedback from peers, and obtained reinforcement from the teacher. The use of flipbook media in this stage supported students in understanding concepts more concretely and encouraged active participation.

The closing stage involved administering a posttest to measure learning outcomes, followed by reflection and conclusion of key concepts. Students and teachers discussed the learning experience, emphasizing that explanatory texts must be structured, logical, and clear. The implementation results show that learning using the flipbook created a more interactive and engaging classroom atmosphere. Students were more actively involved in discussions, demonstrated higher motivation, and showed improved ability in organizing and writing explanatory texts.

The practicality of the developed flipbook was examined through responses from both teachers and students after the implementation stage. This evaluation aimed to identify the ease of use, attractiveness, and usefulness of the media in supporting the learning process. The results of teachers' and students' responses are presented in Table 2.

Table 2. Teachers' and Students' Responses

Respondents	Mean Score	Criteria
Teacher	4.40	Very Good
Students	4.35	Very Good

Responses from both teachers and students indicate that the flipbook is practical, easy to use, and effective in supporting learning activities. The media also contributes to a more interactive and enjoyable classroom environment.

Effectiveness of Flipbook in Improving Writing Skills

The effectiveness of the developed flipbook was examined by comparing students' writing performance before and after the implementation of the learning media. The assessment focused on key indicators of explanatory text writing, including content development, organization of ideas, vocabulary use, grammatical accuracy, and writing mechanics. Pretest data were collected to represent students' initial abilities, while posttest data reflected learning outcomes after exposure to the flipbook-based instruction. This

comparison provides a clear picture of the extent to which the developed media contributes to improving students' writing skills. The results of this comparison are presented in Table 3.

Table 3. Pretest and Posttest Results

Indicator	Mean Pretest	Mean Posttest
Writing Skills	62.40	78.60

The findings demonstrate a substantial improvement in students' writing performance after the use of the flipbook. The increase in mean scores indicates that students were better able to organize ideas, apply appropriate language features, and produce more coherent explanatory texts. The achievement of minimum mastery criteria by the majority of students further confirms the effectiveness of the developed media in supporting learning outcomes. These results suggest that the integration of interactive digital media can significantly enhance students' writing abilities and engagement in the learning process.

Prior to conducting hypothesis testing, prerequisite tests were carried out to ensure that the data met the assumptions required for parametric statistical analysis. One of the essential requirements is that the data should be normally distributed. The normality test was performed on both pretest and posttest scores to examine whether the distribution of data followed a normal pattern. Establishing normal distribution is important to validate the use of further statistical procedures, particularly the paired sample t-test. The results of the normality test are presented in Table 4.

Table 4. Normality Test

Data	Sig.	Description
Pretest	0.200	Normal
Posttest	0.187	Normal

The results indicate that both pretest and posttest data are normally distributed, as evidenced by significance values greater than the standard threshold. This condition confirms that the data meet the normality assumption, allowing the analysis to proceed using parametric statistical methods. The fulfillment of this requirement strengthens the reliability of subsequent hypothesis testing and ensures that the conclusions drawn from the analysis are statistically valid.

In addition to normality, homogeneity of variance was also tested to determine whether the variability of the data is consistent across measurements. Homogeneity testing ensures that differences observed between pretest and posttest results are not influenced by unequal data variance. This step is essential to support fair comparison and accurate interpretation of the effectiveness of the developed media. The results of the homogeneity test are presented in Table 5.

Table 5. Homogeneity Test

Data	Sig.	Description
Pretest-Posttest	0.214	Homogeneous

The findings show that the data have homogeneous variance, as indicated by the obtained significance value. This result confirms that the variability between pretest and posttest scores is relatively consistent. The fulfillment of both normality and homogeneity assumptions indicates that the dataset is suitable for further parametric analysis. This strengthens confidence in the validity of the statistical procedures used to evaluate the effectiveness of the flipbook.

Hypothesis testing was conducted to determine whether the observed differences between pretest and posttest scores were statistically significant. The paired sample t-test was

selected because the data were obtained from the same group of students measured at two different points in time. This test allows for a direct comparison of students' performance before and after the implementation of the flipbook-based learning media. The results of the hypothesis testing are presented in Table 6

Table 6. Paired Sample t-test

Data	Sig. (2-tailed)	Description
Pretest-Posttest	0.000	Significant

The test results indicate a statistically significant difference between pretest and posttest scores, demonstrating that the use of the flipbook has a meaningful impact on students' explanatory text writing skills. This finding confirms that the improvement observed is not due to chance but is influenced by the learning intervention. The results reinforce the conclusion that the developed flipbook is effective in enhancing students' writing performance and can be utilized as an innovative instructional medium in elementary school learning contexts

To obtain a more detailed description of students' improvement in writing skills, the N-Gain Score was analyzed based on each writing aspect. This analysis aims to identify which components of explanatory text writing experienced the most significant development after the implementation of the flipbook-based learning media. The aspects assessed include content, organization, vocabulary, grammar, and mechanics, which represent the core components of writing competence. The results of the N-Gain analysis for each aspect are presented in Table 7.

Table 7. N-Gain Score Based on Writing Aspects

Indicator	Mean N-Gain	Category
Content	0.68	Medium
Organization	0.66	Medium
Vocabulary	0.63	Medium
Grammar	0.62	Medium
Mechanics	0.61	Medium
Average	0.65	Medium

Table 7 shows that all aspects of students' explanatory text writing skills experienced improvement in the medium category. The content aspect obtained the highest N-Gain score of 0.68, indicating that students showed better ability in developing ideas and conveying information clearly after using the flipbook. This suggests that the provided examples and guided exercises helped students understand what to write and how to elaborate their ideas.

The organization aspect reached a score of 0.66, which reflects improvement in students' ability to structure their writing in a logical and systematic way. Students became more capable of arranging texts according to the proper structure of explanatory texts, including general statements, sequences of explanations, and interpretations.

The vocabulary and grammar aspects obtained scores of 0.63 and 0.62, respectively. These results indicate that students' ability to choose appropriate words and construct effective sentences improved, although not yet optimal. Continued practice is still needed to strengthen language accuracy and variation.

The mechanics aspect showed the lowest score at 0.61, although it remains within the medium category. This finding indicates that students still face challenges in applying correct spelling, punctuation, and writing conventions. Greater attention and reinforcement are needed in this aspect to achieve higher accuracy.

The overall average N-Gain score of 0.65 falls into the medium category, indicating that the improvement occurred consistently across all aspects of writing. This result demonstrates that the flipbook-based learning media contributes to enhancing students' writing skills in a balanced manner, covering both content development and language use.

The improvement in students' explanatory text writing skills is influenced by the characteristics of the flipbook-based learning media, which provides structured and progressive learning experiences. The learning process is designed through stages of understanding, practice, and presentation. Each stage contributes to developing students' writing skills in a gradual manner. The initial stage allows students to explore concepts such as definitions, structures, and language features through interactive materials in the flipbook. The practice stage provides guided exercises that help students develop ideas, organize texts, and apply appropriate vocabulary and grammar. The presentation stage gives students opportunities to present their written work, which supports the development of confidence and responsibility in expressing ideas.

Qualitative data from interviews and observations support the quantitative findings. Teachers reported noticeable improvements in students' learning behavior, including increased participation in discussions, greater engagement during activities, and improved ability to complete writing tasks. The use of flipbook media created a more interactive and student-centered learning environment compared to previous instruction dominated by conventional methods. Students also showed positive responses, as the media was considered more interesting, easier to understand, and helpful in guiding them through the writing process.

Documentation results further indicate increased student engagement during the learning process. Students appeared more focused, actively involved in group discussions, and more confident in completing and presenting their writing. The availability of visual elements, examples, and interactive features in the flipbook helped students better understand the material and reduced difficulties in developing ideas and organizing texts. These changes demonstrate that improvements in writing skills are not only reflected in test scores but are also evident in students' actual learning behaviors.

Overall evaluation results indicate that the flipbook-based digital learning media meets the criteria of effectiveness in improving students' explanatory text writing skills. This effectiveness is demonstrated through the consistency between quantitative data, such as pretest-posttest scores and N-Gain results, and qualitative findings from observations and interviews. The developed media not only enhances cognitive aspects of learning but also increases student motivation, engagement, and participation. The flipbook has strong potential to be used as an innovative learning medium that supports meaningful and interactive learning experiences in elementary school contexts.

Discussion

The results of the needs analysis indicate that students' explanatory text writing skills are still at a low level, particularly in the aspects of idea development, text structure, and language use. These findings are consistent with the study by Deswita & Kharisma (2025), which revealed that elementary school students often struggle to construct explanatory texts in a coherent and logical manner. Limited writing ability is closely related to the dominance of conventional teaching methods that provide minimal opportunities for exploration and practice. Writing, as a productive language skill, requires continuous practice and appropriate

instructional support to develop effectively (Tarigan, 2018). The lack of instructional media further constrains students' learning experiences, resulting in difficulties in understanding and applying writing concepts in meaningful contexts.

Low student motivation caused by monotonous learning activities also aligns with contemporary learning theories emphasizing the importance of interactive media. Digital-based learning media have been shown to increase student engagement by presenting content in a more varied and attractive format (Afriyadi & Hayati, 2023). The continued reliance on printed textbooks reflects a gap between students' learning needs and existing classroom practices. Innovative instructional media are essential to create meaningful learning experiences and foster student engagement (Nurdyansyah, 2019). The need for interactive digital media identified in this study is further supported by findings that such media can significantly enhance students' participation and motivation (Yusnan, 2025).

The development of the flipbook-based digital learning media in this study aligns with current trends in integrating technology into elementary education. Similar findings were reported by Abdulatif & Arifin (2023), who demonstrated that digital storybooks can improve students' comprehension through engaging and contextualized content. The integration of multimedia elements such as images, animations, and interactive navigation enhances students' learning experiences compared to conventional media. Flipbook-based learning media have been found to be effective in improving students' understanding due to their systematic and interactive presentation (Purnamadewi & Wiyasa, 2022). The design of the flipbook in this study also accommodates the characteristics of elementary school students, particularly in supporting visual and experiential learning styles.

The validation results, which fall into the "very valid" category, indicate that the developed product meets the required standards of instructional feasibility. These findings are consistent with the study by Luh Nuryani & Abadi (2021), which reported that flipbook media demonstrate high validity in both content and design aspects. Alignment with curriculum objectives and visually appealing design are key factors in determining the quality of learning media. Effective digital learning media should fulfill criteria such as content clarity, usability, and visual attractiveness (Syamsuri, 2023). Minor revisions made during the development process reflect the iterative nature of instructional design, ensuring that the final product is both effective and user-friendly.

The implementation of flipbook-based learning integrated with the Problem-Based Learning model resulted in increased student participation and engagement. These findings support previous research indicating that problem-based or project-based learning approaches can enhance students' critical thinking and writing skills (Wagirun & Irawan, 2019). Collaborative activities such as group discussions and presentations provide opportunities for students to actively construct knowledge and develop ideas. Innovative technology-based learning strategies contribute to more interactive and participatory learning environments (Putra et al., 2025). The flipbook in this study functions as a supporting tool that facilitates students' understanding and encourages active involvement in the learning process.

The practicality test results indicate that the flipbook is easy to use and receives positive responses from both teachers and students. These findings are in line with Yunitasari et al. (2025), who reported that flipbook-based digital media demonstrate high practicality in

elementary language learning. Ease of access and user-friendly navigation are essential factors supporting effective implementation. Learning media should be practical and not require complex technical skills to ensure successful integration into classroom activities (Syawaluddin et al., 2022). Positive user responses indicate that the flipbook is not only visually appealing but also functionally effective in supporting learning.

The significant improvement in students' learning outcomes based on pretest and posttest results confirms the effectiveness of the flipbook in enhancing writing skills. Similar findings were reported by Juliani & Ibrahim (2023), who found that flipbook media positively influence students' learning outcomes in Indonesian language subjects. The increase in average scores indicates that students improved in organizing ideas, applying appropriate language features, and producing coherent texts. The effectiveness of flipbook media in improving both student activity and writing performance has also been supported by Makruf & Mahendra (2025). These findings demonstrate that integrating digital media into learning can significantly enhance students' competencies.

The N-Gain analysis results, which fall into the medium category, indicate consistent improvement across all aspects of writing skills. These findings are supported by Rizal et al. (2025), who found that digital learning applications contribute to gradual improvement in students' writing abilities. The highest improvement in the content aspect suggests that students benefit from structured examples and guided exercises in developing ideas. Lower improvement in mechanics indicates that students still require further practice in applying correct spelling and punctuation. Writing proficiency requires continuous practice and reinforcement to achieve optimal results (Widodo et al., 2020). These findings suggest that the flipbook serves as an effective initial stimulus but should be complemented with sustained instructional strategies.

Qualitative findings showing increased motivation and engagement further strengthen the quantitative results. Innovations in Indonesian language learning have been shown to significantly improve student interest and participation (Rosmala et al., 2025). Observed changes in student behavior, including increased activeness and confidence, indicate a more meaningful learning experience. Twenty-first-century pedagogy emphasizes the importance of active student involvement in the learning process (Oktaviani & Fitriyani, 2024). The flipbook-based learning media in this study successfully creates a learning environment that supports both cognitive and affective development.

The findings demonstrate that the flipbook-based digital learning media is effective in improving students' explanatory text writing skills. The results support the view that integrating technology into education can enhance the quality of learning. Innovation in instructional practices is essential to improve educational outcomes (Hidayat, 2019). Consistency between the findings of this study and previous research highlights the strong potential of digital media as a modern instructional solution. The developed flipbook can serve as an alternative learning medium that not only improves academic performance but also creates engaging and meaningful learning experiences.

CONCLUSION

The findings indicate that students' explanatory text writing skills were initially at a low level, as reflected in the pretest mean score of 62.40. Learning conditions were still dominated by conventional instruction with limited use of interactive media, which affected student engagement and writing performance. The needs analysis also revealed a strong demand for more engaging and technology-based learning media to support students' writing development. The development of the flipbook-based digital learning media using the ADDIE model resulted in a product categorized as highly valid, with an average validation score of 4.25. The implementation process shows that the use of flipbook media creates a more active and student-centered learning environment. Students were more engaged in learning activities and demonstrated better understanding of explanatory text structure and language features. The effectiveness test demonstrates a significant improvement in students' writing skills, with the posttest mean score increasing to 78.60. Statistical analysis confirms that the improvement is significant (Sig. 0.000), indicating that the use of the flipbook has a meaningful impact on learning outcomes. These results are also supported by observable changes in student participation and motivation during the learning process.

The flipbook-based digital learning media is effective in improving students' explanatory text writing skills and enhancing their engagement in learning. The developed media has strong potential to be used as an innovative instructional alternative in elementary education, particularly in supporting more interactive and meaningful learning experiences.

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