

Developing a Gebyok Kudus E-Book for Writing Instruction

Khairunisa, I.¹, Utaminingsih, S.¹, & Rondli, W. S.¹

¹Muria Kudus University

Kudus Regency, Jawa Tengah 59327, INDONESIA

*Corresponding Author: imadakhairunisa1@gmail.com

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Abstract: This study aims to develop and evaluate a culturally-based e-book featuring Gebyok Kudus as a learning medium for descriptive text writing among fourth-grade elementary students in Kudus Regency. The research employed the Research and Development (R&D) method as proposed by Sugiyono, consisting of stages such as needs analysis, design, validation, limited trials, and effectiveness testing. The needs analysis revealed that most students had difficulty understanding and writing descriptive texts and lacked knowledge of local culture, particularly Gebyok Kudus. The e-book was developed using Canva and contains materials on the history, motifs, and philosophical values of Gebyok Kudus, aligned with the structure of descriptive texts. The trial results showed a significant improvement in students' post-test scores, increasing from an average of 71.85 to 80.81. Students also demonstrated enhanced cultural awareness and the ability to describe local heritage with greater accuracy. Product evaluation indicated positive responses regarding visual and content aspects, although several elements required refinement. The effectiveness test showed that the e-book-supported classes outperformed conventional learning in developing writing competence. Therefore, the developed e-book proves effective as an instructional tool that not only improves students' literacy skills but also strengthens their understanding of local culture. This product is recommended as an alternative teaching material aligned with the Merdeka Belajar Curriculum, which emphasizes contextual and culturally responsive learning.

Keywords: Contextual learning, Descriptive writing, E-book, Gebyok Kudus, Primary education

1. Introduction

Preserving local culture while enhancing students' literacy in the digital age is a challenge faced by many education systems, particularly in developing countries. In Indonesia, this challenge intersects with a national priority to revitalize local wisdom through contextual learning in schools, especially under the Merdeka Belajar curriculum reform. Gebyok Kudus, a traditional carved wooden panel originating from Kudus Regency, Central Java, is a form of local heritage rich in artistic and philosophical values (Kemdikbudristek, 2021; Fiska Noviana Wulandari; Nur Fajrie; Fatikhatun Najikhah, 2023). Despite its cultural significance, recent classroom observations and interviews conducted at SD Demangan revealed that only 5 out of 16 fourth-grade students had any prior knowledge of Gebyok Kudus. This low awareness raises concern about the loss of cultural identity among younger generations (S Yulianingsih; Fahrurrozzi; M.C.N Utami, 2023).

The lack of cultural awareness among students is not an isolated case. Further reinforcing this concern, a study by Nahdah, Fajrie, & Kironoratri (2022) found that children in Blimbing Rejo Village had varied levels of appreciation toward Gebyok—some only recognized it superficially, while others understood it more deeply. This indicates a broader pattern of uneven cultural knowledge among elementary-age students, emphasizing the need for educational interventions that connect heritage with formal learning.

The integration of cultural content in education has been shown to support meaningful learning by connecting students' lived experiences with academic content (S Yulianingsih; Fahrurrozzi; M.C.N Utami, 2023). Descriptive texts, which require visualization, detail, and emotional engagement, are well suited for culturally rich materials. Moreover, culturally embedded texts stimulate personal reflection and promote the development of national identity, especially when students are able to relate directly to the subject matter. However, findings from student assessments at SD Demangan indicate that 44% of students did not meet the minimum standard score (KKM) for the descriptive text material, demonstrating a significant gap in comprehension (Mufriana, Widiansyah, & Dariyanto, 2022).

Teachers often rely on textbooks and printed modules that fail to capture the students' local context. E-books offer an alternative solution with multimedia features that engage students more effectively (Sundari, Karyono, & Soeteja, 2020). In particular (Nasution Yusra; Tambunan Husna P; Risma., 2021), e-books allow for the inclusion of interactive visuals, localized stories, and flexible access element that are beneficial in promoting both literacy and digital literacy among young learners. Prior research supports the development of culturally relevant digital resources in elementary education to improve student motivation and comprehension (Anisa, 2018); (Karyada; Wardana . P. M. A.; Sanjaya K. O., 2022)

Given these findings, this study aims to develop and evaluate the effectiveness of a Gebyok Kudus themed e-book in enhancing descriptive writing skills among fourth grade students. This research also seeks to fill the gap in existing studies, as few if any previous works have focused on using Gebyok Kudus as the foundation for instructional materials in primary education. This e-book serves not only as a learning medium but also as a tool for cultural preservation, aligned with national curriculum goals and 21st century digital learning practices.

1.1 Conceptual framework

The development of culturally-based e-learning media is an essential component of contextual learning strategies, which aim to bridge academic knowledge with students' real-life environments. According to Purbasari dan Ismaya (Purbasari, 2018) contextual learning is process that links instructional content with students' everyday life, making learning more relevant and meaningful. Contextual learning is grounded in the premise that when educational content reflects students' lived experiences, learning becomes more meaningful and durable. As also noted by Prastowo (2014), instructional materials should be developed systematically to reflect the competencies to be mastered and should be relevant to learners' cultural and social context. In this study, Gebyok Kudus a traditional wooden carving from Kudus Regency, Central Java is utilized as cultural content to enhance descriptive writing skills in Grade IV elementary education.

The choice of Gebyok Kudus is not arbitrary. As a local cultural artifact rich in artistic, historical, and philosophical meaning, it provides authentic material that fosters both literacy and cultural awareness. Research indicates that integrating local culture into school instruction supports identity formation and develops a sense of belonging in students (Yulianingsih, Fahrurrozzi, & Utami, 2023). When students are exposed to heritage-based learning materials, they are more likely to engage with the content emotionally and cognitively.

In parallel, e-books are considered a suitable platform for delivering such content in the digital age. E-books combine text, images, animations, and interactive features, which stimulate students' sensory and cognitive development. Their accessibility anytime and anywhere makes them a powerful medium for independent and differentiated learning. Additionally, e-books are adaptable and can be tailored to include culturally relevant themes, making them ideal for integrating local wisdom into the curriculum (Nasution, Tambunan, & Risma, 2021; Karyada, Wardana, & Sanjaya, 2022).

To support the development of the e-book, a needs analysis was conducted at SD Demangan in Kudus. The results revealed two critical issues: students demonstrated low performance in descriptive writing, and most lacked basic knowledge of Gebyok Kudus. Furthermore, teachers reported an absence of engaging and locally contextualized learning materials. These findings underscore the urgent need to create innovative media that merges cultural heritage with formal instruction in a pedagogically sound manner.

Accordingly, the conceptual framework of this research is constructed upon four interrelated components:

1. Students' Learning Needs – identifying gaps in descriptive writing proficiency and limited cultural knowledge;
2. Cultural Content Integration – embedding Gebyok Kudus as an authentic and locally relevant theme;
3. Digital Media Development – designing an interactive e-book using Canva, aligned with elementary curriculum standards;
4. Learning Outcomes – aiming to enhance students' descriptive writing skills and deepen their understanding and appreciation of local heritage.

This framework serves as a guide for the systematic development and evaluation of a culturally contextualized e-book. It also reinforces the dual goal of modern education: to nurture literacy and to preserve cultural identity, particularly in an increasingly globalized and digitalized educational landscape.

1.2 Research Objectives

This study was conducted to determine the students' learning needs related to descriptive writing skills and their cultural awareness of Gebyok Kudus as local heritage. Results of the gathered data will be used as a basis for proposing the development of a culturally based ebook to support students' writing competence and cultural understanding in primary education.

2. Methodology

2.1 Research design

This study employed a Research and Development (R&D) approach as outlined by Sugiyono (2016), which involves a systematic process of designing, developing, and validating educational products. The R&D method was selected to guide the creation of a culturally based e-book aimed at enhancing descriptive writing skills among fourth-grade students. As part of the initial stage, a descriptive survey was conducted to identify students' learning needs and their awareness of Gebyok Kudus, a traditional cultural heritage. The findings from this survey served as the basis for product development, ensuring that the instructional media was both pedagogically relevant and culturally contextualized.

2.2 Respondents of the study

The population of study consisted of 40 fourth grade students from three elementary school located in Kudus Regency, Indonesia. These schools included SD Demangan, SD Negeri 2 Purwosari, and SD Negeri 3 Purwosari, all of which belong to the Ahmad Yani cluster. The schools were selected through purposive sampling based on their relevance to the cultural context of Gebyok Kudus and the availability of descriptive text material in the Bahasa Indonesia curriculum.

Permission to conduct the study was obtained from school principals. The study also involved three (3) teachers as respondents in the teacher interview session.

The research instruments used in the study was composed of three parts: a needs analysis questionnaire (Part I), a descriptive writing pre-test (Part II), and an interview guide for teachers (Part III). The questionnaire was administered to students and teachers to identify needs related to media and cultural content, while the pre-test was used to assess students' ability to write descriptive texts. The curriculum shows that descriptive writing is introduced in Grade IV and is typically taught in the second or third quarter of the academic year.

Table 1 - Mean and qualitative description for descriptive writing pre-test result.

School	No.of Students	Score	Mean	Qualitative Description
SD Demangan	14	905	64.64	Fair
SD 2 Purwosari	12	862	71.83	Good
SD 3 Purwosari	14	1107	79.07	Good
Total	40	2874	71.85	Good

Table 2 - Range of scores and qualitative interpretation

Mean	Qualitative Description
1,00-1,75	Very Poor
1,76-2,49	Poor
2,50-3,25	Fair
3,26-4,00	Good

Data were collected over a period of six months, from February to July 2024. The needs analysis and interviews were conducted first, followed by the administration of the pre-test in each participating school. All ethical considerations were observed, including informed consent from school authorities and anonymity of student responses. The results of this preliminary study served as the foundation for the design and development of the culture-based e-book prototype.

3. Findings and discussion

The following are the results of the collected data in assessing the descriptive writing competence of fourth-grade students and their responses to the development of a cultural-based e-book on Gebyok Kudus.

3.1 Descriptive Writing Competence

A preliminary needs analysis was conducted across three primary schools SD Demangan, SD 2 Purwosari, and SD 3 Purwosari to determine students' learning interests and their perceived challenges in descriptive writing. The analysis revealed a high level of interest in using culturally based digital media for learning. As shown in Figure 1, 90.21% of students in SD Demangan, 88.58% in SD 2 Purwosari, and 85.71% in SD 3 Purwosari expressed interest in the development of an e-book based on Gebyok Kudus as a cultural learning medium. These results suggest that students are not only in need of alternative instructional media but are also eager to engage with materials that incorporate local cultural content.

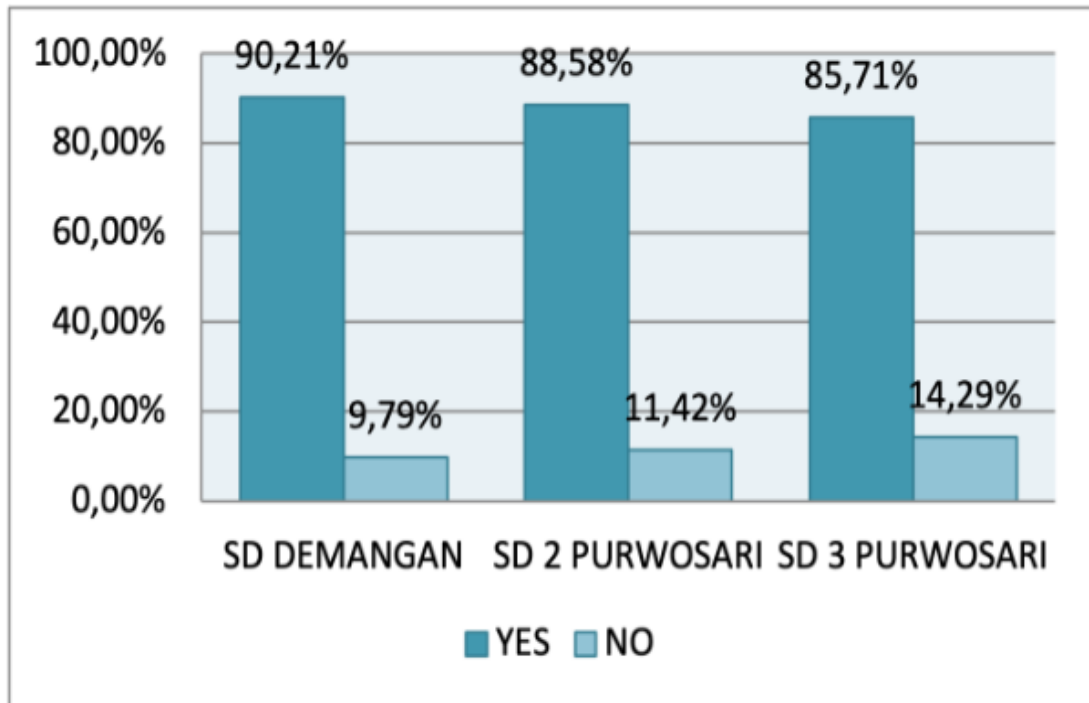


Fig. 1 - Students' Interest in the Development of a Gebyok Kudus Themed E-Book

This strong interest provided the foundation for designing a learning intervention to improve students' descriptive writing competence using an e-book as a digital, culturally contextualized learning resource.

This data provided a strong rationale for implementing a cultural-based e-book intervention to improve students' descriptive writing competence. Based on Table 3, the post-test mean score of 80.81 shows a significant improvement compared to the pre-test mean score of 71.85, indicating that students' descriptive writing skills improved after the intervention. The score increase was consistent across all three schools involved in the study, with SD Demangan showing an improvement from 64.64 to 73.50, SD 2 Purwosari from 71.83 to 83.00, and SD 3 Purwosari from 79.07 to 85.93. These results reflect notable gains in students' ability to write descriptive texts using appropriate structure, contextual vocabulary, and relevant cultural content.

These results were further supported by the findings of the needs analysis, which indicated that between 78% and 92% of students experienced difficulty in writing descriptive texts. This underscores the importance of targeted instructional support and culturally contextual materials such as the developed e-book.

Table 3 - Comparison of Pre-test and Post-test Mean Scores.

School	Pre-test	Post-test	QD*
SD Demangan	64.64	73.50	Good
SD 2 Purwosari	71.83	83.00	Very Good
SD 3 Purwosari	79.07	85.93	Excellent
Overall Mean	71.85	80.81	Good

These findings indicate a positive shift in students’ descriptive writing competence after using the developed e-book. Students were able to elaborate on ideas more clearly, demonstrate better organization, and apply expressive, culturally relevant language with greater confidence. The descriptive text content related to Gebyok Kudus appeared to enhance student motivation and emotional engagement, as they could connect their writing to familiar cultural symbols.

This outcome is in line with the study by Anisa (2018), which demonstrated that culturally embedded media improve writing performance by fostering personal relevance and engagement. Similarly, Nasution, Tambunan, & Risma (2021) found that cultural integration in digital materials enhances students’ understanding and strengthens local identity. The findings also support Karyada, Wardana, & Sanjaya (2022), who emphasized that interactive e-books increase student interest and writing fluency when aligned with local content.

In addition, the cognitive development of students progressed beyond basic recall. Based on a follow-up analysis using Bloom’s Revised Taxonomy, students in SD 2 and SD 3 Purwosari showed increased abilities in applying, analyzing, and even creating content related to descriptive writing. This suggests that the use of a culturally-based e-book not only improves literacy outcomes but also fosters higher-order thinking skills (HOTS).

3.2 Cultural Awareness of Gebyok Kudus

Before the intervention, student responses in the questionnaire indicated a limited understanding of Gebyok Kudus. While most students could recognize it visually but could not describe its historical or cultural features. After engaging with the e-book, students displayed improved ability to write about local heritage with more descriptive accuracy.

These the findings support the study of Nahdah, Fajrie, & Kironoratri (2022), which found that children's appreciation of cultural artifacts in Blimbing Rejo Village varied some students had only superficial recognition, while others demonstrated deeper understanding when culturally enriched learning was provided. This highlights the importance of embedding cultural literacy into primary education content.

The cultural connection provided by the e-book was also reinforced through student feedback and observation during lessons, where students began using terms and motifs associated with Gebyok Kudus more fluently in their writing.

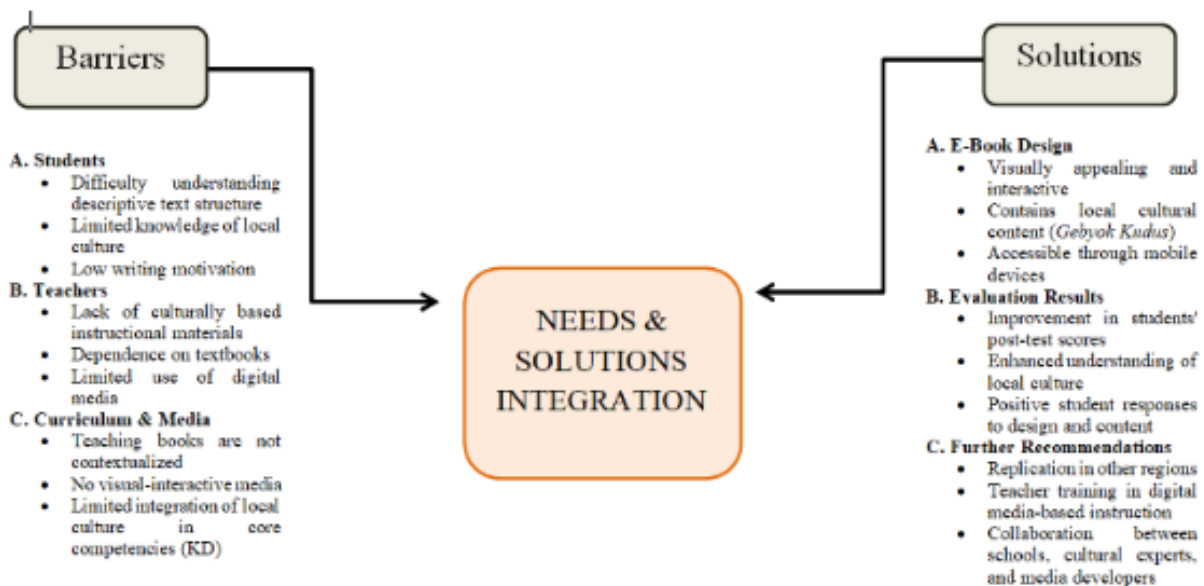


Fig. 2 - Integration of Needs, Barriers, and Solutions in the Development of a Culturally-Based E-Book

Figure 2 illustrates the integration framework of identified needs, barriers, and solutions in the development of a culturally based e-book featuring Gebyok Kudus for descriptive writing instruction. The barriers are categorized into three main areas: (1) Students, who demonstrated difficulty in understanding descriptive text structure, had limited knowledge of local culture, and showed low motivation in writing; (2) Teachers, who relied heavily on textbooks and lacked experience in utilizing digital media; and (3) Curriculum and Media, which lacked contextualization, visual-interactive elements, and integration of local culture in core competencies.

To address these challenges, the proposed solutions involved designing a visually appealing and interactive e-book that incorporates local cultural content and is accessible via digital devices. Evaluation results showed improvements in students' post-test scores, enhanced understanding of cultural content, and positive responses toward the e-book's layout and content. These findings align with Faidah, Usman, & Yarmi (2024), who emphasized that culturally embedded digital media can significantly enhance students' writing abilities.

Further recommendations include replicating this intervention in other regions, providing teacher training in digital media-based instruction (Indrawati, Sholihah, & Izzah, 2024), and fostering collaboration among schools, cultural experts, and media developers (Wulandari, Rejekiningsih, & Santosa, 2023). This integrated framework supports the development of effective contextual learning that not only strengthens student literacy but also fosters a deeper appreciation of local heritage.

3.3 Product Trial Evaluation

In addition to improvements in writing scores, a product trial was conducted to evaluate students' perceptions of the e-book's visual and content quality. The assessment included six aspects: cover design, illustration quality, font style, language use, color composition, and content clarity.

Table 4 - Summary of Product Trial Scores by School

Aspect	Max Score	SD Demangan	SD 2 Purwosari	SD 3 Purwosari
Cover Design	17	17	13	17
Illustration (Images)	18	18	13	16
Font Style	17	17	12	17
Language Use	17	17	14	16
Color Composition	17	17	13	14
Content/Material	17	17	14	16
Total Score	—	103	79	96
Mean per Student	—	14.71	13.17	13.71
Percentage (%)	—	61.29%	54.87%	57.12%

Students from SD Demangan gave the highest ratings, particularly for cover design, illustrations, and font style. This suggests that the visual aspects of the e-book played a crucial role in supporting student engagement and comprehension. Overall, students responded positively to the media, describing it as “interesting,” “clear,” and “easy to understand.”

Although the visual quality was rated as sufficient, this phase of the trial also helped identify areas for improvement. The e-book underwent further revision after the trial expanding from 17 to 33 pages, with enhanced illustrations, better layout, and the inclusion of interactive features such as QR-code based quizzes. These adjustments aimed to better align the product with current pedagogical standards and increase student interaction with the content.

3.4 Interpretation

The increase in post-test scores, the observed improvement in cultural understanding, and the positive evaluation of the product collectively indicate that culturally based digital media such as the developed e-book—can meaningfully enhance language learning outcomes. Students were more motivated and confident in writing tasks when the instructional content reflected their cultural context and everyday realities.

This aligns with the argument by Prabowo & Heriyanto (2013), who emphasize that the use of generic and non-contextual materials in language education often leads to disengagement and surface-level learning. In contrast, contextualized and localized instruction fosters deeper cognitive engagement, emotional connection, and cultural awareness.

These findings also reinforce the core principle of contextual learning as defined by Purbasari & Ismaya (2018) and Prastowo (2014) that learning becomes more effective when instructional content is relevant to the learners' lives and culture. The e-book functioned not only as a literacy tool but also as a vehicle for local heritage preservation in an increasingly digitalized world.

The developed e-book not only improved the students' descriptive writing competence but also increased their appreciation and understanding of Gebyok Kudus as a symbol of local cultural heritage. These outcomes affirm the importance of integrating local wisdom into primary education curricula to achieve both literacy development and cultural preservation.

4. Conclusions and recommendations

This study found that the Gebyok Kudus based e-book significantly improved fourth-grade students' descriptive writing competence in Kudus Regency. Post-test results showed consistent gains across schools, confirming the effectiveness of the developed digital learning media.

The needs analysis indicated that most students struggled with descriptive texts and lacked knowledge of Gebyok Kudus. Over 80% of students expressed the need for contextual, technology-based learning resources. In response, an interactive e-book was developed using Canva, containing cultural content and engaging visuals.

Feasibility tests yielded moderate scores, suggesting the e-book was functional but could benefit from further refinement. Effectiveness testing showed that students using the e-book outperformed the control group, demonstrating its positive impact on both writing skills and cultural understanding.

Recommendations include:

- Integrating culturally-based e-books into language learning,
- Encouraging teachers to use local content to boost engagement, and
- Expanding product trials in broader school settings.

The Gebyok Kudus e-book exemplifies how digital media can support literacy while preserving cultural identity in primary education.

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Conflict of Interest

The authors declare there is no conflict of interest.

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