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The Use of Culturally Responsive Teaching-Based Magic Learning Boxes on the Learning Interests of Grade V Students

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Abstrack
This study aims to improve the learning outcomes of Natural and Social Sciences among grade IV C students of Public Elementary School 1 Bakalan Krajan Malang through the application of the Discovery Learning model assisted by electronic student worksheets (e-learning worksheets). The background of this study lies in the low learning outcomes and limited student engagement in Natural and Social Sciences learning, which are partly caused by conventional instructional methods and the lack of interactive digital learning materials. This classroom action research was implemented in two cycles following the Kemmis and McTaggart model, consisting of the stages of planning, implementation, observation, and reflection. In the first cycle, learning was carried out using the Discovery Learning model without integrating electronic worksheets, while in the second cycle, the process was supplemented with interactive electronic worksheets designed to guide students in discovery activities, problem-solving, and critical thinking tasks. The subjects of this study were 28 students of grade IV C. Data were collected through learning outcome evaluation tests administered at the end of each cycle. The findings showed a significant improvement in learning mastery, increasing from 58 percent in the first cycle to 89 percent in the second cycle, reflecting a 31 percent enhancement. These results demonstrate that the application of the Discovery Learning model assisted by electronic worksheets is effective not only in improving students' learning outcomes in Natural and Social Sciences but also in fostering active participation, engagement, and motivation throughout the learning process.

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Introduction

Education in the 21st century requires learning models that are not only able to improve cognitive abilities but also capable of strengthening students' character, cultural identity, and social awareness (Gay, 2018). In the context of elementary schools, learning must be designed to be meaningful, engaging, and relevant to students' daily lives (Ladson-Billings, 1995). One of the critical challenges faced by elementary school teachers is how to integrate cultural elements into learning so that students do not lose their connection to local wisdom while still achieving academic goals (Banks, 2008). This challenge becomes more urgent because globalization and the rapid advancement of technology often distance students from cultural roots that serve as their moral compass. Therefore, schools are increasingly expected to bridge knowledge and culture through innovative and responsive approaches.

Culturally Responsive Teaching (CRT) is a pedagogical framework that emphasizes the importance of connecting students' cultural backgrounds with the teaching and learning process (Gay, 2018; Ladson-Billings, 2009). Through this approach, teachers are encouraged to design learning media and activities that not only deliver knowledge but also respect and reflect students' cultural values. Previous studies have shown that the use of culturally relevant learning strategies increases students' motivation, engagement, and academic achievement (Villegas & Lucas, 2007). However, the application of CRT at the elementary school level, especially in Indonesia, remains limited and often still abstract, focusing more on concepts rather than concrete media. This indicates the need for innovative efforts that can translate the principles of CRT into practical and engaging learning tools for students.

Elementary students in grade V are in a crucial developmental stage where interest in learning is strongly influenced by the learning environment, media used, and the relevance of materials to their personal experiences (Piaget, 1970). Unfortunately, in many cases, students show low levels of learning interest because learning is still dominated by monotonous lectures and textbooks. Indicators of learning interest such as pleasure, attention, and involvement often do not develop optimally because the learning process lacks cultural and contextual nuances. Without intervention, this situation can lead to decreased motivation and even alienation from the cultural identity of students' communities. Thus, it becomes important to design interactive learning media that can spark curiosity and enthusiasm while preserving cultural relevance.

This research is expected to make a theoretical contribution in enriching the study of culture-based learning in elementary schools through concrete CRT-based media. Practically, this research serves as an alternative solution for elementary school teachers in designing creative, interactive, and local culture-based learning media according to student characteristics. Based on this description, the main objective of this study is to increase the learning interest of grade V elementary school students through the use of Magic Learning Box media developed with the Culturally Responsive Teaching approach. Specifically, this study tests the effectiveness of the media in improving indicators of learning interest such as students' feelings of pleasure, curiosity, attention, and involvement during learning.

Despite the growing discourse on culturally responsive education, research that operationalizes CRT through concrete and innovative learning media remains scarce, especially in the Indonesian elementary school context. Most existing studies stop at conceptual discussions or the use of conventional materials without creative innovations that directly attract

students' interest. This research seeks to fill this gap by introducing and testing the Magic Learning Box, a media specifically designed to integrate cultural values with interactive learning activities. Theoretically, the results of this study are expected to strengthen the literature on CRT by demonstrating its applicability at the elementary level. Practically, the findings can provide empirical evidence and recommendations for teachers to adopt culture-based and student-centered media innovations, ensuring that learning is both meaningful and engaging.

Method

This study employed a research and development (R&D) design following the Borg and Gall model with necessary modifications to suit the classroom context. The research was conducted at a public elementary school in Malang, Indonesia, involving 30 fifth-grade students as participants. Data were collected through observation, interviews, questionnaires, and documentation to obtain comprehensive information on students' needs and responses to the developed media. The development process included several stages: preliminary research, product design, expert validation, small-scale trials, revisions, and large-scale implementation. To ensure validity and reliability, expert validators in instructional media and elementary education evaluated the product using standardized validation instruments. The practicality of the Magic Learning Box was tested through limited trials, while its effectiveness was assessed using pre-test and post-test comparisons of students' learning interest. Both qualitative descriptive analysis and simple quantitative techniques were applied to interpret the data. The entire procedure aimed to develop culturally responsive concrete media that is pedagogically sound and contextually relevant.

Results and Discussion

Result

This study was conducted in three stages, namely the pre-cycle, Cycle I, and Cycle II, to measure the learning interest of fifth-grade students at Kebonsari 1 Elementary School, Malang City. In the pre-cycle stage, an observation of Pancasila Education learning on February 10, 2025, revealed that students showed low enthusiasm; some were daydreaming during lessons, and only a few actively participated. Interviews further indicated that students felt bored when learning was limited to memorization and expressed the expectation of a more interactive classroom atmosphere. The results of the learning interest questionnaire, which consisted of 15 statements covering four indicators (pleasure, interest, focused attention, and involvement), showed an average score of 48.3%, falling into the very poor category. These findings are presented in Table 1.

Table 1. Pre-Cycle Learning Interest Survey Results

No	Indicators of Interest	Percentage (%)	Category
1	Feeling good	48,7	Very Less
2	Interest	48,0	Very Less
3	Special Attention	48,2	Very Less
4	Involvement (Discipline)	50,4	Less
	Average	48,3	Very Less

Based on the pre-cycle results, interventions were implemented using the Magic Learning Box (Kobeja) media developed through the Culturally Responsive Teaching approach, starting from Cycle I. Cycle I was conducted on February 17–18, 2025, consisting of two meetings that included group discussions, student presentations, and educational games using the Kobeja media. The results of the learning interest questionnaire administered at the end of the first cycle showed an average score of 60.0%, which falls into the sufficient category. Detailed data for each indicator are presented in Table 2.

Table 2. Comparison of Pre-Cycle and Cycle I Learning Interests

Indicator	Pra-Cycle (%)	Cycle I (%)
Feeling good	48,7	61,2
Interest	48,0	64,7
Special Attention	48,2	56,7
Involvement	50,4	57,4
Average	48,3	60,0

The implementation of the first cycle showed some improvement; however, several students remained unfocused and passive during learning activities. Therefore, several enhancements were introduced in the second cycle, including the integration of archipelago dance videos, challenge-based student worksheets, ice-breaking activities, and culturally oriented tasks during group presentations. Cycle II was conducted on February 24–25, 2025. The results of the learning interest questionnaire at the end of Cycle II showed an average increase to 72.2%, which falls into the high category. The progression of students' learning interest from the pre-cycle to Cycle II is presented in Table 3.

Table 3. The Growth of Students' Learning Interests

Indicator	Pra-Cycle (%)	Cycle I (%)	Cycle II (%)
Feeling good	48,7	61,2	72,8
Interest	48,0	64,7	71,7
Special Attention	48,2	56,7	80,1
Involvement	50,4	57,4	64,3
Average	48,3	60,0	72,2

Discussion

The observed increase in students' learning interest from the pre-cycle to Cycle II indicates that the use of the Magic Learning Box (Kobeja) media, developed based on Culturally Responsive Teaching, positively influences learning motivation. The application of Culturally Responsive Teaching principles, which link learning materials to students' cultural experiences and backgrounds, has proven effective in enhancing students' interest, attention, and active engagement during lessons. These findings align with the results of Argaruri et al. (2023), who reported that concrete learning media create a more enjoyable classroom atmosphere and encourage active participation. Furthermore, Gusria et al. (2024) highlighted that integrating local culture into learning significantly strengthens students' interest and motivation, making the learning process more meaningful and contextually relevant.

Specifically, the most significant increase in learning interest was observed in the focused attention indicator, which rose from 48.2% in the pre-cycle to 80.1% in the second cycle. This indicates that students became more attentive and enthusiastic when learning was facilitated through diverse media and interactive methods. This improvement is supported by Putri et al. (2017), who emphasized that learning media plays a crucial role in fostering students' interest and participation in classroom activities. Additionally, these findings align with Farizza et al. (2024), who demonstrated that the Culturally Responsive Teaching approach promotes both emotional and social engagement in learning, making students more motivated and actively involved.

The theoretical contribution of this study lies in the adaptation of Culturally Responsive Teaching principles into concrete media at the elementary school level, an approach that has rarely been implemented directly in classrooms. Practically, the Magic Learning Box (Kobeja) media has been shown to be applicable by other teachers across different learning materials to enhance student motivation and engagement. Nevertheless, this study has limitations, as it was conducted in only one class at a single elementary school and did not examine the long-term sustainability of increased learning interest. These limitations suggest the need for further research to explore the broader applicability and enduring effects of Culturally Responsive Teaching -based concrete media in diverse classroom settings.

The results of this study reinforce the importance of using local culture-based learning media in combination with the Culturally Responsive Teaching approach to enhance students' interest in learning. Consistent with Simanullang and Gultom (2024), high learning interest not only contributes to academic achievement but also encourages students to pursue continuous learning and personal development beyond the classroom, supporting the process of lifelong learning. Therefore, the implementation of the Magic Learning Box (Kobeja) media can serve as an effective and practical strategy for elementary school teachers to foster active participation, motivation, and sustained engagement in various subjects.

Conclusion

This study aimed to enhance the learning interest of fifth-grade students at Kebonsari 1 Elementary School, Malang City, through the application of the Magic Learning Box (Kobeja) media based on Culturally Responsive Teaching in Pancasila Education. Based on the results observed across two cycles, it can be concluded that the use of Kobeja media effectively increased students' learning interest, as evidenced by improved motivation, attention, engagement, and active participation in the learning process. The media successfully created a learning environment that is more contextual, enjoyable, and responsive to the cultural diversity of elementary school students. Theoretically, this study contributes to the literature on the implementation of culture-based learning at the elementary level. Practically, Kobeja media offers an innovative and applicable strategy for enhancing student engagement across various subjects. Nevertheless, this study has limitations, as it was conducted in only one class, involved a limited range of teaching materials, and was implemented over a short period; therefore, the sustainability of increased learning interest has not been examined. Future research is recommended to expand the number of participants, diversify teaching materials, include different grade levels, and assess the long-term impact of Kobeja media on both learning

outcomes and the reinforcement of culture-based character, in order to validate and generalize these findings more comprehensively.

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Authors' Note

The authors declare that there is no conflict of interest regarding the publication of this article. The authors confirmed that the paper was free of plagiarism.

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