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The Effectiveness of Canva-Based Instructional Media in Deep Learning–Oriented Indonesian Language Instruction for Fifth-Grade Elementary School Students

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Abstract

This study aimed to analyze the effectiveness of implementing Canva-based instructional media integrated with a deep learning approach on the Indonesian language learning outcomes of fifth-grade elementary school students. The study employed a quantitative approach using a quasi-experimental design with a pretest–posttest control group structure. The research sample consisted of 41 students divided into an experimental group and a control group. Data were collected through learning achievement tests and analyzed using the N-Gain test and an independent samples t-test.The results indicated a greater improvement in learning outcomes in the experimental group compared to the control group. The mean score of the experimental group increased from 60.75 to 83.25, while the control group improved from 61.19 to 75.00, with an N-Gain value of 0.5898 (moderate category) and a statistically significant difference ($p < 0.05$). These findings demonstrate that the integration of Canva-based instructional media with a deep learning approach is effective in improving students' learning outcomes. The study also highlights the importance of integrating digital media with appropriate pedagogical strategies in Indonesian language instruction at the elementary school level.

Keywords: *Canva, deep learning, elementary school, Indonesian language, learning outcomes*

INTRODUCTION

The development of digital technology in the 21st century has brought significant changes to the field of education, particularly in the learning process at the elementary school level. The utilization of technology-based instructional media has become an essential component in creating interactive, innovative, and student-centered learning environments (Fitri et al., 2024). The use of digital instructional media is expected to enhance student engagement and support the development of more meaningful learning experiences.

Indonesian language instruction in elementary schools plays a crucial role in developing students' literacy skills from an early stage. Literacy skills encompass not only reading and writing abilities but also the capacity to understand information, think critically, and express ideas systematically (Safitri & Suriadi, 2023). However, in practice, Indonesian language instruction at the elementary school level still frequently relies on conventional teaching methods that do not optimally utilize digital instructional

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media, resulting in less engaging learning experiences and limited student participation.

One digital instructional medium that can support more engaging and interactive learning processes is Canva. Canva is a graphic design platform that enables teachers to organize instructional materials visually, systematically, and creatively, thereby helping improve students' learning motivation and understanding of the learning content (Astriani & Kurniawan, 2025). The use of visually appealing instructional media through Canva has the potential to support more effective learning processes, particularly in Indonesian language instruction at the elementary school level.

In addition, the implementation of a deep learning approach has become an important strategy for improving the quality of the learning process (Komara et al., 2026). Deep learning emphasizes comprehensive conceptual understanding, the connection between knowledge and real-life experiences, and the development of students' critical and reflective thinking skills (Rahmawati et al., 2025).

Previous studies have shown that the use of Canva-based instructional media can improve student engagement and learning outcomes (Nafila et al., 2025). However, other studies have found that the use of digital media without appropriate pedagogical approaches does not produce significant improvements in students' conceptual understanding (Reza et al., 2025). These findings indicate that the effectiveness of digital instructional media largely depends on its integration with appropriate instructional approaches.

Although several studies have examined the use of digital instructional media and deep learning approaches separately, research integrating both simultaneously in the context of Indonesian language instruction at the elementary school level remains limited. Furthermore, studies specifically investigating the effectiveness of Canva integrated with a deep learning approach among elementary school students, particularly fifth-grade students, are still scarce and have not yet provided consistent empirical evidence.

Therefore, this study aims to analyze the effectiveness of implementing Canva-based instructional media integrated with a deep learning approach in Indonesian language instruction for fifth-grade elementary school students. The findings of this study are expected to contribute to the development of innovative digital instructional media and serve as a reference for teachers in improving the quality of Indonesian language instruction at the elementary school level.

THEORETICAL FRAMEWORK

1. Canva-Based Instructional Media

Instructional media are tools used to facilitate the delivery of information from teachers to students in order to make learning more effective and meaningful. The use of digital technology–based instructional media has become increasingly important in supporting 21st-century learning environments. According to Mahdiyah and Layyinnati (2025), instructional media refer to anything that can be used to deliver learning messages in ways that stimulate students' attention, interest, thoughts, and emotions during the learning process. Furthermore, Kassa et al. (2024) state that the use of visual media in learning can enhance students' understanding by supporting the integration of verbal and visual information simultaneously, thereby making the learning process more effective.

According to Damayanti and Tjoi (2025), Canva is a digital instructional medium based on graphic design that provides various visual templates such as presentations, posters, infographics, and interactive worksheets that teachers can use to present instructional materials in an engaging and systematic manner.

Based on these perspectives, it can be concluded that Canva-based instructional media represent a visual digital learning medium that can be used to deliver instructional content creatively, interactively, and systematically in order to enhance students' engagement and understanding in Indonesian language learning at the elementary school level.

2. Deep Learning Approach

The deep learning approach is an instructional approach that emphasizes comprehensive conceptual understanding through critical, reflective, and contextual thinking activities. According to Komariyah (2025), deep learning is a learning process that enables students to develop competencies in critical thinking, creativity, collaboration, communication, and character development while meaningfully understanding and applying knowledge in real-life contexts. Furthermore, Liu and Qiao (2025) explain that deep learning is an approach oriented toward meaningful understanding of learning materials through students' active engagement in the learning process rather than mere memorization of information. Wu (2023) argues that through a deep learning approach, students are encouraged to connect new knowledge with prior experiences, thereby developing stronger and more sustainable understanding.

Based on these perspectives, it can be concluded that the deep learning approach emphasizes students' active engagement in understanding learning materials conceptually, reflectively, and contextually, thereby fostering meaningful and sustainable learning experiences.

3. Indonesian Language Learning Outcomes of Fifth-Grade Elementary School Students

Learning outcomes are important indicators for evaluating the success of the learning process implemented by teachers and students in the classroom. According to Sun and Sailer (2025), learning outcomes refer to the competencies acquired by students after participating in learning experiences, which include cognitive, affective, and psychomotor aspects. Similarly, Ofem et al. (2024) state that learning outcomes represent changes in students' behavior across three major domains: the cognitive domain (knowledge), the affective domain (attitudes), and the psychomotor domain (skills) as a result of the learning process. Noveliana and Ghani (2022) explain that in Indonesian language instruction at the elementary school level, learning outcomes can be observed through students' abilities to comprehend texts, express ideas, read with understanding, and write systematically in accordance with language conventions.

Based on these perspectives, it can be concluded that the Indonesian language learning outcomes of fifth-grade elementary school students refer to the level of students' achievement after participating in the learning process, including aspects of comprehension, language skills, and the ability to express ideas both orally and in written form in accordance with the established learning objectives.

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METHOD

This study employed a quantitative approach using a quasi-experimental method with a pretest–posttest control group design to examine the effectiveness of implementing Canva-based instructional media integrated with a deep learning approach on the Indonesian language learning outcomes of fifth-grade elementary school students. According to John W. Creswell and J. David Creswell (2018), the pretest–posttest control group design is used to compare changes in learning outcomes before and after treatment between the experimental group and the control group.

The study population consisted of all fifth-grade students totaling 61 students. The research sample included 20 students in the experimental group and 21 students in the control group, selected using a purposive sampling technique. The experimental group received instruction using Canva-based instructional media integrated with a deep learning approach, while the control group received conventional instruction.

Data were collected using learning outcome tests administered as pretests and posttests. The research instruments were tested for validity and reliability to ensure their appropriateness for use in the study.

Data analysis was conducted using both descriptive and inferential statistical techniques. The prerequisite tests included normality and homogeneity tests. Furthermore, the improvement in students' learning outcomes was analyzed using the N-Gain test, while hypothesis testing was performed using an independent samples t-test to determine differences in learning outcomes between the experimental and control groups after the treatment was administered.

RESULTS AND DISCUSSION

1. Results

Description of Pretest and Posttest Results

A comparison of the pretest and posttest mean scores between the control group and the experimental group is presented in Table 1.

Table 1. Mean Scores of Students' Pretest and Posttest Results

Group	Number of Students	Mean Pretest	Mean Posttest	Gain
Control Group	21	61.19	75.00	13.81
Experimental Group	20	60.75	83.25	22.50

Based on the results obtained from both the experimental and control groups, the control group (21 students) achieved a mean pretest score of 61.19 and a mean posttest score of 75.00, indicating an increase of 13.81 points. Meanwhile, the experimental group (20 students) obtained a mean pretest score of 60.75 and a mean posttest score of 83.25, indicating an increase of 22.50 points.

These results indicate that the improvement in students' learning outcomes in the experimental group was higher than that of the control group. This finding suggests that the use of Canva-based instructional media integrated with a deep learning approach had a positive effect on improving fifth-grade students' Indonesian language learning outcomes.

Normality Test Results

The normality test was conducted using the Shapiro–Wilk test because the sample size was fewer than 50 students. The results are presented in Table 2.

Table 2. Results of the Normality Test

Group	Shapiro–Wilk Sig.	Interpretation
Control Pretest	0.304	Normal
Control Posttest	0.210	Normal
Experimental Pretest	0.439	Normal
Experimental Posttest	0.094	Normal

The Shapiro–Wilk test results showed significance values of 0.304 for the control group pretest, 0.210 for the control group posttest, 0.439 for the experimental group pretest, and 0.094 for the experimental group posttest. Since all significance values were greater than 0.05 ($p > 0.05$), it can be concluded that the students' learning outcome data in both groups were normally distributed. Therefore, the data met the assumptions required for parametric statistical analysis.

Homogeneity Test Results

The homogeneity test was conducted using Levene's Test to determine whether the variances of the two groups were equal. The results are presented in Table 3.

Table 3. Results of the Homogeneity Test

Data	Sig.	Interpretation
Posttest Scores	0.531	Homogeneous

Based on the results of Levene's Test, the significance value was 0.531. Since this value was greater than 0.05 ($p > 0.05$), it can be concluded that the variances of the experimental and control groups were homogeneous. Therefore, the data met the assumptions required for hypothesis testing using an independent samples *t*-test.

N-Gain Test Results

The N-Gain test was conducted to determine the level of improvement in students' learning outcomes after the treatment was administered in the experimental group. The results are presented in Table 4.

Table 4. Results of the N-Gain Calculation for the Experimental Group

Variable	Minimum	Maximum	Mean	Percentage	Category
N-Gain	0.36	0.80	0.5898	58.98%	Moderate

The results of the N-Gain analysis showed that the mean N-Gain score in the experimental group was 0.5898 (58.98%), which falls into the moderate category. This indicates that the use of Canva-based instructional media integrated with a deep learning approach was moderately effective in improving students' Indonesian language learning outcomes in the fifth grade of elementary school.

Hypothesis Testing Results (Independent Samples *t*-Test)

Hypothesis testing was conducted using an independent samples *t*-test to determine differences in learning outcomes between the experimental and control groups. The results are presented in Table 5.

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Table 5. Results of the Independent Samples *t*-Test

Data	Sig. (2-tailed)	Mean Difference	Interpretation
Experimental vs Control Posttest	0.001	8.250	Significant

Based on the results of the independent samples *t*-test, the significance value (Sig. 2-tailed) was 0.001. Since this value was less than 0.05 ($p < 0.05$), the null hypothesis (H_0) was rejected and the alternative hypothesis (H_1) was accepted.

Therefore, it can be concluded that there was a statistically significant difference between the learning outcomes of students in the experimental group who were taught using Canva-based instructional media integrated with a deep learning approach and those in the control group who received conventional instruction.

2. Discussion

The results of this study indicate that the implementation of Canva-based instructional media integrated with a deep learning approach had a significant effect on improving the Indonesian language learning outcomes of fifth-grade elementary school students. The greater improvement observed in the experimental group suggests that integrating digital instructional media with appropriate pedagogical approaches can enhance learning effectiveness more optimally. These findings reinforce the view that the use of technology in learning must be aligned with instructional strategies oriented toward conceptual understanding (Inayah et al., 2024).

This conclusion is further supported by the N-Gain test results, which fell within the moderate category, as well as the hypothesis testing results indicating a statistically significant difference between the experimental and control groups. These findings confirm that the treatment administered contributed meaningfully to improving students' learning abilities. Thus, the results of this study not only demonstrate descriptive differences between groups but also provide significant empirical evidence regarding the effectiveness of Canva-based instructional media integrated with a deep learning approach.

Conceptually, the improvement in learning outcomes observed in the experimental group indicates that Canva-based instructional media function not only as visual support tools but also as conceptual representation tools that strengthen students' understanding in a more systematic and meaningful way. These findings are consistent with previous studies suggesting that interactive visual media can enhance students' engagement and conceptual understanding (Maulidia & Muthi, 2025; Fadil et al., 2025). Furthermore, these results indicate that the effectiveness of digital instructional media largely depends on how such media are integrated into instructional designs that actively promote students' cognitive engagement rather than merely emphasizing visual presentation aspects.

In addition, the implementation of a deep learning approach played an important role in encouraging students to understand learning materials conceptually through critical, reflective, and contextual thinking processes. Learning environments that emphasize students' active involvement in constructing knowledge enable the development of more meaningful learning experiences. These findings are consistent with studies indicating that deep learning approaches contribute significantly to improving both the quality of the learning process and learning outcomes (Siregar et al., 2025; Noptario et al., 2025). Therefore, it can be understood that improvements in learning outcomes are influenced not only by the use of instructional media but also by the instructional approaches underlying their implementation.

Furthermore, this study contributes novelty through the simultaneous integration of Canva-based instructional media and a deep learning approach within the context of Indonesian language instruction at the elementary school level. Unlike previous studies that tended to examine digital instructional media or learning approaches separately (Reza et al., 2025), this study demonstrates that the combination of both provides a more optimal impact on students' learning outcomes. This finding indicates that synergy between technology and pedagogy is a key factor in improving the quality of learning in the digital era.

Therefore, the integration of digital instructional media and deep learning approaches can serve as an effective alternative instructional strategy for improving the quality of Indonesian language instruction at the elementary school level. The implications of these findings suggest that teachers need to develop competencies in designing learning environments that not only utilize technology but also integrate it pedagogically to actively and meaningfully promote students' cognitive engagement.

CONCLUSIONS

This study confirms that the integration of Canva-based instructional media with a deep learning approach effectively improves the quality of Indonesian language instruction by promoting more meaningful learning experiences and encouraging students' active engagement. These findings align with the demands of 21st-century learning, which emphasize the use of digital technologies integrated with pedagogical strategies oriented toward conceptual understanding and critical thinking. In addition, this study contributes novelty through the simultaneous integration of Canva-based instructional media and a deep learning approach in Indonesian language instruction at the elementary school level, an area that has previously received limited empirical attention.

From a practical perspective, Canva has strong potential as an innovative and flexible instructional medium to support classroom learning, with its effectiveness largely determined by teachers' ability to design contextual and reflective learning activities. However, the limitations of this study in terms of sample size and research context indicate the need for further research in more diverse settings to examine the consistency of these findings and to explore their impact on students' higher-order thinking skills and digital literacy.

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