

The Effect of Pop-Up Book Usage on the Reading Comprehension Achievement of the Fifth Graders at SDN Bakungan in Academic Year 2023/2024

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ABSTRACT

This study aimed to determine whether the use of pop-up books affects the reading comprehension achievement of fifth-grade students at SDN Bakungan in the 2023–2024 academic year. A quantitative approach with a one-group pretest–posttest design was employed. The sample consisted of 21 students from class VA, and data were collected using a reading comprehension test. The results showed an improvement in students' performance, with the mean pretest score of 66.67 increasing to 87.14 in the posttest. Statistical analysis using the Wilcoxon test yielded a significance value of 0.001, which is lower than 0.05, indicating a significant effect of pop-up book usage on students' reading comprehension. These findings suggest that pop-up books can serve as an effective and engaging instructional medium to enhance reading comprehension among elementary school students. Therefore, teachers are encouraged to integrate interactive media such as pop-up books into reading instruction, and future researchers may explore its application across different grade levels or in comparison with other instructional media.

Keywords: *Pop Up Book; Reading Comprehension Achievement; Part of Body*

A. Introduction

Despite the use of conventional media, students still struggle to understand reading texts, particularly at the elementary school level. In many classrooms, including grade V at SDN Bakungan, the teaching and learning process still relies heavily on printed worksheets (LKS) with limited visual support and minimal interactivity. As a result, students often experience difficulties in comprehending texts, show low engagement, and demonstrate limited vocabulary development. This condition reflects a broader issue in Indonesia, where reading interest remains low; UNESCO data indicate that the national reading index is still very limited (Rahmawati, 2020).

English is widely used as an international language and plays an important role in global communication and access to information (Subiyati, 1995; Zain, 2012). In Indonesia, English has been introduced at the elementary school level to support students'

future academic and professional communication (Tavarez DaCosta & Herrera Gutierrez, 2020). Among the four language skills—listening, speaking, reading, and writing—reading is a fundamental skill that supports knowledge acquisition and vocabulary development (Mogea, 2023; Arifin, 2019). Reading enables students to gain information, understand ideas, and expand their knowledge (Sari et al., 2019). However, reading comprehension is a complex process that involves not only recognizing words but also interpreting meaning and connecting ideas within a text (Nurani et al., 2021; Irdawati et al., 2014).

To address these challenges, appropriate instructional media are needed to enhance students' engagement and comprehension. One potential solution is the use of pop-up books, which are interactive, three-dimensional learning media that combine visual elements with movement and simple text (Rahayu, 2020). Pop-up books can attract students' attention and make learning more interesting through their unique shapes and visual effects (Diwa, 2019). Additionally, they can support students' imagination and help them better understand reading materials through concise explanations and visual representations (Astuti et al., 2023). Previous studies have demonstrated the effectiveness of pop-up books in improving vocabulary mastery and learning outcomes (Diwa, 2019; Arifin, 2019; Wulandari, 2019). However, these studies mainly focus on vocabulary or are conducted at different educational levels, indicating a gap in research on their impact on reading comprehension at the elementary school level.

In this study, the researcher used “Parts of the Body” material, which introduces basic vocabulary and concepts related to human body parts and their functions. The topic covers three main sections: the head (e.g., eyes, ears, nose, hair), the body (e.g., chest, abdomen, hands, fingers), and the legs (e.g., thighs and feet). This material is considered appropriate for elementary school students because it is closely related to their daily lives and can be effectively supported through visual and interactive media such as pop-up books. The pop-up book used in this study presents pictures, brief explanations, and translations in a clear and engaging way, which is expected to facilitate students' understanding of the reading text.

Reading is a complex cognitive process in which readers actively construct meaning from written language (Nurani et al., 2021). It involves not only recognizing

words but also interpreting phrases, sentences, and entire texts by connecting them with prior knowledge (Irdawati et al., 2014). From the perspective of reading comprehension theory, understanding a text requires the integration of linguistic knowledge, background knowledge, and cognitive strategies. Therefore, reading comprehension is not a passive activity but an active process that engages higher-order thinking skills. This view is supported by the idea that reading serves as a tool to expand knowledge, develop language competence, and enhance critical thinking (Bojovic, 2010). However, students often face difficulties in achieving comprehension due to limited vocabulary, lack of interest, and the use of less engaging instructional media.

To address these challenges, the integration of appropriate learning media is essential. One relevant theoretical framework is multimedia learning theory, which suggests that students learn more effectively from a combination of words and visuals than from text alone. Visual elements can support cognitive processing by helping learners organize and integrate information more efficiently. In this context, pop-up books, as interactive three-dimensional media, provide both verbal and visual representations that can enhance comprehension and retention. Their interactive features also promote students' engagement, which is a crucial factor in successful reading comprehension.

Previous experimental studies have shown the potential benefits of using pop-up books in language learning. For instance, studies by Diwa (2019), Arifin (2019), and Wulandari (2019) indicate that pop-up books can improve students' vocabulary mastery and learning outcomes. However, these studies primarily focus on vocabulary development or are conducted at different educational levels, and they do not specifically examine reading comprehension in elementary school contexts. This indicates a gap in the literature, particularly in relation to how pop-up books can support reading comprehension achievement.

Based on these considerations, this study positions pop-up books not only as an engaging medium but also as a pedagogical tool grounded in reading comprehension theory and multimedia learning principles. Therefore, it is important to investigate their effectiveness in improving students' reading comprehension, especially in elementary school settings where students require concrete and visual support to understand texts.

Reading comprehension is understanding, evaluating, and utilizing information and ideas obtained through interaction between the reader and the writer (Mogea, 2023). Reading comprehension is not only about capturing words, but also about understanding deeper meanings, including the implied messages and nuances of the text. Reading comprehension will affect the way students think and creativity in the language learning process so that mastery of reading comprehension can determine the quality of students in language (Widiyanto, 2017). While the definition of reading comprehension achievement is a measure to measure the extent to which students understand the material in the form of text that has been given. In this study, there are several indicators used to test reading comprehension including word comprehension, sentence comprehension and paragraph comprehension.

Pop-up Book is a book that displays the potential for movement and interaction through the use of paper as a fold, roll, shape, wheel, or turn (Rahayu, 2020). This book is generally 3-dimensional and contains images and explanatory text. The explanation contained in this pop up book can be short or long depending on the material to be conveyed.

The steps for using pop up books in general in the learning process according to (Fitri, 2018) are as follows: 1) the teacher prepares the room for the process of teaching and learning activities. 2) the teacher explains the material to be learned using pop up. 3) the teacher opens the pop up book and shows the picture. 4) the teacher introduces the picture in the pop up book media. 5) students are asked to observe the pictures that have been shown.

The following are the steps for using pop up books that have been compiled in the core activities that will be tested on students of class VB SDN Bakungan, namely as follows: 1) the teacher groups the students into 5 groups, 1 group consists of 5 people. 2) the teacher prepares a pop up book with the material "Part of body". 3) the teacher explains the material using pop up book media. 4) the teacher distributes question sheets for students to work on. 5) the teacher directs and guides students in working on the questions that have been given. 6) students collect the assignment paper that has been done.

According to Montanaro (1993), pop-up books offer several advantages in the learning process, as they can support students' understanding of content by integrating visual elements with textual information. Their unique shapes, interactive features, and surprising elements can increase students' interest and motivation, making learning more engaging and meaningful. In addition, pop-up books can serve as an innovative medium to complement and improve traditional teaching methods. However, despite these benefits, pop-up books also have limitations, such as relatively high production costs and the time required to create them (Diwa, 2019).

Previous studies have reported that pop-up books can improve students' learning outcomes and vocabulary mastery (Diwa, 2019; Arifin, 2019; Wulandari, 2019). Nevertheless, most of these studies focus on general learning outcomes or specific aspects such as vocabulary, and only limited research has examined their effect on reading comprehension, particularly at the elementary school level. This indicates a gap in the literature regarding the use of pop-up books as an instructional medium to enhance students' reading comprehension achievement. Therefore, further research is needed to investigate how pop-up books can be effectively implemented to address students' difficulties in understanding reading texts. This study is important to provide empirical evidence on the effectiveness of pop-up books in improving reading comprehension and to support the development of more engaging and effective teaching strategies.

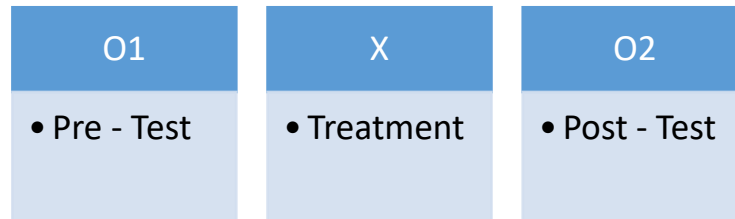
Therefore, this study aims to investigate the effect of using pop-up book media on students' reading comprehension achievement. The findings are expected to provide practical implications for teachers in selecting effective and engaging instructional media, as well as contribute to the improvement of English teaching practices at the elementary school level.

B. Research Method

The approach used in this research was a quantitative approach. Quantitative research is a systematic study of a phenomenon by collecting data that can be analyzed using statistical, mathematical, or computer techniques (Priadana & Sunarsi, 2021). In this study the researcher used an experimental method with a pre experimental design form, namely using the One Group Pretest - Posttest form. The following is a design table that uses a one group pretest - posttest design.

Diagram 1

Research Design (One Group Pre-Test – Post-Test)



The researcher used a test to measure students' reading comprehension achievement. The study was conducted in two meetings on Wednesday, June 19, 2024, and Thursday, June 20, 2024. The participants were 21 students from class VA of SDN Bakungan. However, this study employed a one-group pretest–posttest design, which limits its internal validity and does not fully establish causality, as the observed improvement may have been influenced by other factors. In addition, the relatively small sample size restricts the generalizability of the findings to a wider population

In collecting the data, the researcher used a test to measure students' reading comprehension achievement. The test consisted of 10 multiple-choice questions based on the material "Parts of the Body." Before being administered, the instrument was examined for validity and reliability to ensure its quality. Content validity was established by aligning the test items with the learning objectives and consulting with an expert/teacher, while reliability was measured to ensure consistency of the instrument, indicating that the test produced stable and dependable results.

After the data were collected, they were analyzed through several stages. First, a normality test was conducted to determine whether the data were normally distributed. If the data were normally distributed, a paired t-test would be used; however, if the data were not normally distributed, a non-parametric test would be applied. The results of the normality test showed that the data were not normally distributed; therefore, the researcher used the Wilcoxon test to analyze the effect of using pop-up books on students' reading comprehension achievement at SDN Bakungan.

C. Research Finding and Discussion

Research Finding

a.) Pre – Test Result

Researcher analyzed the results of the pre-test by giving respondents a multiple choice test with part of body material, the questions used included the location and function of the external body parts. There were ten questions that students did with a completion time of 20 minutes. The following table showed the frequency and percentage results of pre-test scores for students' reading comprehension achievement in class VA SDN Bakungan.

Table 1. The Frequency and Percentage of Pre - Test Scores on Reading Comprehension Achievement

NO.	SCORE INTERVAL	CATEGORY	FREQUENCY	PERCENTAGE
1.	86 – 100	Very Good	1	4.76%
2.	71 – 85	Good	7	33.33%
3.	56 – 70	Fair	8	38.09%
4.	41 – 55	Poor	3	14.28%
5.	0 – 40	Very Poor	2	9.52%
TOTAL			21	100%

The pre-test data showed that out of 21 students there were 2 students who get scores (0-40) at the very poor level, 3 students scored (41-55) at the poor level, 8 students scored (56-70) at the fair level, 7 students scored (71-85) at the good level and there was 1 student who scored (86-100) at the very good level. Data can be obtained the highest score from pre-test was 90 and the lowest score was 30.

b.) Post – Test Result

The number and form of the questions given were the same as the pre test, namely the function and location of the external body parts.

Table 2. The Frequency and Percentage of Post - Test Scores on Reading Comprehension Achievement

NO.	SCORE INTERVAL	CATEGORY	FREQUENCY	PERCENTAGE
1.	86 – 100	Very Good	5	23.80%
2.	71 – 85	Good	9	42.85%
3.	56 – 70	Fair	4	19.04%

4.	41 – 55	Poor	3	14.28%
5.	0 – 40	Very Poor	0	0
TOTAL			21	100%

The post test data showed that out of 21 students there were 0 students who get scores (0-40) which is at the very poor level, 3 students scored (41-55) which is at the poor level, 4 students scored (56-70) which is at the fair level, 9 students scored (71-85) at the good level and there were 5 students who scored (86-100) at the very good level. Data can be obtained the highest score from post test was 100 and the lowest score was 60.

c.) Wilcoxon Test

The wilcoxon test was a form of nonparametric test used when the data was not normal with the aim of knowing whether there was a difference in the average of two paired samples.

Table 3. SPSS Calculation of Wilcoxon Test

		Ranks		
		N	Mean Rank	Sum of Ranks
Post Test - Pre Test	Negative Ranks	0 ^a	.00	.00
	Positive Ranks	21 ^b	11.00	231.00
	Ties	0 ^c		
	Total	21		

a. Post Test < Pre Test

b. Post Test > Pre Test

c. Post Test = Pre Test

(SPSS Version 23.00, 2024)

Negative ranks results are the number 0 for N, Mean Rank and Sum of Ranks. Positive ranks results showed that there were 21 students who experienced an increase in pre test to post test scores. The average value of the increase was 11.00 and the sum of ranks was 231.00. Ties result was 0 which indicates that there was no one student who gets the same pretest and posttest scores.

d.) The Hypothesis Verification

Hypothesis verification aims to determine whether there is an effect of using pop up books for reading comprehension achievement in grade V students at SD Bakungan

in the 2023-2024 school year. To get the answer, researcher must propose an alternative hypothesis (Ha) and null hypothesis (Ho) as below.

- Ha: there is an effect of using pop up book on students' reading comprehension achievement in grade V students at Bakungan Elementary School.
- Ho: there is no effect of using pop up book on students' reading comprehension achievement in fifth grade students at SD Bakungan.

The following is a table to determine the results of hypothesis verification

Table 4. SPSS Calculation of Wilcoxon Test of Hypothesis Verification

Test Statistics ^a	
	Post Test - Pre Test
Z	-4.058 ^b
Asymp. Sig. (2-tailed)	.001

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

(SPSS Version 23.00, 2024)

According to the hypothesis testing criteria, if the Wilcoxon test value is less than 0.05, Ha is accepted and Ho is rejected. Conversely, if the value is greater than 0.05, Ha is rejected and Ho is accepted. Based on the SPSS results shown in the table, the Wilcoxon test value is 0.001, which is lower than 0.05, indicating that Ha is accepted. Based on the results of this analysis, it can be concluded that the alternative hypothesis (Ha) is accepted and Ho is rejected, which means that there is a effect of using pop up books on the reading comprehension achievement of fifth grade students at SDN Bakungan.

Discussion

Based on the formulation of the problem, namely whether there is any effect of pop-up book usage on the reading comprehension achievement of fifth graders at SDN Bakungan in the 2023–2024 academic year, the findings indicate that the answer is affirmative. The results showed a significant improvement in students' reading comprehension after the implementation of pop-up book media. The mean score increased from 66.67 in the pretest to 87.14 in the posttest, indicating substantial progress in students' performance. Furthermore, the statistical analysis using the Wilcoxon test

revealed an Asymp. Sig. (2-tailed) value of 0.001, which is lower than the significance level of 0.05. This result confirms that the alternative hypothesis (H_a) is accepted and the null hypothesis (H_0) is rejected, meaning that the use of pop-up books had a significant effect on students' reading comprehension achievement.

These findings can be explained by the characteristics of pop-up books as interactive and visually rich learning media. The three-dimensional images, combined with concise and clear explanations, help students to better understand the content of the text. This supports the principles of multimedia learning, where the integration of visual and verbal information enhances comprehension and retention. In this study, students showed greater interest and engagement during the learning process, which contributed to their improved performance. The interactive nature of pop-up books also helps students connect abstract vocabulary with concrete visual representations, making it easier for them to process and understand the reading material.

The results of this study are consistent with previous research. For example, Elviani (2018) found that the use of pop-up books was effective in improving students' reading ability at the elementary school level. Similarly, studies by Diwa (2019) and Arifin (2019) reported that pop-up books can enhance students' learning outcomes and vocabulary mastery. However, this study extends previous findings by specifically focusing on reading comprehension achievement rather than general learning outcomes or vocabulary alone. This indicates that pop-up books are not only effective for vocabulary acquisition but also for supporting deeper comprehension of texts.

In conclusion, the use of pop-up book media has a significant and positive effect on students' reading comprehension achievement. The effectiveness of this media lies in its ability to combine visual, textual, and interactive elements, which increase students' motivation, engagement, and understanding. Therefore, pop-up books can be considered an effective instructional medium for improving reading comprehension, particularly for elementary school students.

D. Conclusion

Based on the research result, the average value of the pre test was lower than the post test value, namely the value of the pre test was 66.67 while the average obtained from the post test was 87.14. In addition, the normality test analyzed through SPSS

Asymp sig value is $0.001 < 0.05$ and it can be interpreted that the data is not normally distributed. Because this study obtained abnormal data, the researchers used a non-parametric test, namely the Wilcoxon test. The result of the wilcoxon test is 0.001 which is less than 0.05. based on the Wilcoxon test H_a is accepted and H_o is rejected. The conclusion of the Wilcoxon test was that there is an effect of using pop up books on the reading comprehension achievement of fifth grade students at SDN Bakungan in Academic Year 2023 / 2024."

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