

## **The Impact of Animated Storybooks on Kindergarten Vocabulary**

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### **Abstract**

This study investigates the effect of animated storybooks on vocabulary achievement among B Class students of TK Islam Al Azhar 4 Samarinda in the 2024/2025 academic year. Employing a quasi-experimental design, 86 students were divided into an experimental group (n=43) and a control group (n=43). The experimental group received vocabulary instruction through animated storybooks, while the control group was taught using traditional methods. Data were collected through a vocabulary matching test and analyzed using the Mann-Whitney U Test due to the non-normal distribution of data. The results showed a significant difference in vocabulary achievement between the two groups ( $p = 0.004$ ), with the experimental group scoring higher. This suggests that animated storybooks are an effective medium to enhance vocabulary learning among young learners.

**Keywords:** animated storybooks, vocabulary achievement

### **1. Introduction**

Vocabulary plays a vital role in mastering English, especially for young learners. Nazara (2019) states that having a strong vocabulary foundation plays a crucial role in enhancing the four core language skills: listening, speaking, reading, and writing. In early childhood education, vocabulary learning must be fun and developmentally appropriate due to the limited attention span and cognitive capacity of young children (Clenton & Fraser, 2021; Alqahtani, 2015).

Children in the preoperational stage (ages 2–7), as defined by Piaget, learn best through visual, symbolic, and interactive media rather than abstract or written instruction (Hergenhahn & Olson, 2017). Therefore, using engaging media like animated storybooks can support vocabulary acquisition by providing contextual visuals and auditory input simultaneously.

Animated storybooks are digital narratives combining animation, sound, and narration, offering a multisensory learning experience. As proposed by Paivio (2007) through Dual Coding Theory and Mayer (2009) through Multimedia Learning Theory, integrating both visual and verbal elements enhances learners' ability to retain information and improves their overall understanding. Prior studies, such as those by Bus & Smeets (2012) and Takacs et al. (2015), have shown that animated storybooks significantly improve young learners' language development.

This study aims to investigate whether animated storybooks significantly influence the vocabulary achievement of B Class students at TK Islam Al Azhar 4 Samarinda in the 2024/2025 academic year. This research contributes to the development of effective vocabulary instruction strategies for early childhood education and highlights the importance of integrating digital media in EYL (English for Young Learners) classrooms.

## **2. Literature Review**

Vocabulary is a core component of language learning. It provides the foundation for developing listening, speaking, reading, and writing skills (Nazara, 2019). For young learners, vocabulary instruction must align with their developmental stage, as they are easily distracted and require engaging, multisensory experiences to retain new words (Putra, 2021; Deni & Fahriany, 2020).

Piaget's theory of cognitive development classifies children aged 2–7 in the preoperational stage, where they rely heavily on visual and symbolic thinking and struggle with abstract reasoning. Thus, concrete visuals and repetitive exposure are more effective for vocabulary learning than written text (Hergenhahn & Olson, 2017). This supports the integration of animated storybooks as an instructional medium for children at the kindergarten level.

Animated storybooks are digital texts enriched with narration, music, and animations that enhance children's comprehension and motivation. According to Mayer (2009), the Cognitive Theory of Multimedia Learning explains that learning is more effective when information is presented through both verbal and visual channels. Paivio's (2007) Dual Coding Theory also supports this by stating that verbal and non-verbal representations help strengthen memory and understanding when processed together.

Several previous studies have supported the use of animated storybooks in vocabulary learning. Wafi (2013) found that animated picture programs significantly enhanced vocabulary among fifth graders in Gaza. Similarly, Aunia (2019) concluded that animated storybooks improved vocabulary achievement in elementary school students in Samarinda. However, few studies have focused specifically on early childhood learners. Therefore, this study aims to fill that gap by investigating the effect of animated storybooks on vocabulary development in kindergarten students.

## **3. Methods**

This research utilized a quasi-experimental approach involving a non-randomized control group, accompanied by both pre-test and post-test measures. The study was carried out at TK Islam Al Azhar 4 Samarinda in the 2024/2025 academic year. A total of 86 B Class students participated, consisting of 43 students in the experimental group (B3) and 43 students in the control group (B2). The selection was based on practical considerations such as class schedules and facilities. Both classes were confirmed to be homogeneous based on Levene's Test ( $p = 0.191$ ).

The experimental group was taught vocabulary using animated storybooks, while the control group received traditional instruction through printed word lists. The treatment was conducted over four sessions, each focusing on animal-related vocabulary.

The research instrument was a vocabulary matching test consisting of 10 items. Students were asked to match English animal names to corresponding pictures. The instrument was tested for validity using Spearman's correlation ( $r = 0.329$ ,  $p = 0.031$ ), and reliability was confirmed with  $r = 1.000$ ,  $p = 0.000$ , indicating perfect consistency.

The data were analyzed using the Mann-Whitney U Test, as the normality assumption was not met ( $p < 0.05$ ). Gain scores were calculated from pre-test and post-test results and further categorized using PAUD developmental levels: Berkembang Sangat Baik (BSB), Berkembang Sesuai Harapan (BSH), Mulai Berkembang (MB), and Belum Berkembang (BB).

**Tabel 1.** Comparison of Pre-test and Post-test Scores

Group	N	Pre-test Mean	Post-test Mean	Gain Score Mean	Std. Deviation
Experimental	43	6.09	7.02	0.93	2.59
Control	43	3.30	8.16	4.86	2.03

**Tabel 2.** Mann-Whitney U Test Result

Categories	Number of Students	Mean Rank	Sum Rank
Experimental Group	43	61.12	2628
Control Group	43	25.88	1113

Result:  $U = 1253.5$ ,  $p = 0.004$  (significant)

#### 4. Result

The result of the vocabulary matching test revealed a significant difference between the experimental and control groups. Based on the Mann-Whitney U Test, the experimental group had a mean rank of 61.23, while the control group had a mean rank of 25.77. The statistical test showed a significance value of  $p = 0.004$  ( $U = 1253.5$ ), which is lower than 0.05. This indicates that students in the experimental group achieved significantly higher vocabulary scores after being taught using animated storybooks.

Additionally, gain scores were used to classify students' vocabulary development into categories based on the PAUD framework. Most students in the experimental group were classified as Berkembang Sangat Baik (BSB) and Berkembang Sesuai Harapan (BSH),

while most students in the control group remained in the Mulai Berkembang (MB) and Belum Berkembang (BB) levels.

## 5. Discussion

The findings demonstrate that animated storybooks can effectively enhance vocabulary achievement in young learners. The higher mean rank and gain scores in the experimental group suggest that integrating visual and auditory elements supports better word retention. These results are consistent with Mayer's (2009) Multimedia Learning Theory and Paivio's (2007) Dual Coding Theory, both of which emphasize that combining verbal and visual input enhances learning outcomes.

Furthermore, the experimental group showed greater engagement and enthusiasm during the learning sessions, which may have positively influenced their performance. These behavioral observations align with prior studies by Bus & Smeets (2012) and Takacs et al. (2015), who highlighted the motivational benefits of animated digital texts for children's language development.

This study adds to the growing body of evidence supporting the use of multimedia resources in early childhood education. Animated storybooks provide a fun, contextual, and cognitively appropriate approach to teaching vocabulary for children in the preoperational stage (Piaget, in Hergenhahn & Olson, 2017), who rely heavily on concrete and symbolic learning.

However, this study has several limitations. The treatment duration was relatively short, consisting of only four sessions. Additionally, the vocabulary tested was limited to animal-related words. Future research is encouraged to use a wider range of vocabulary themes and extend the treatment period to enhance the generalizability of the findings.

## 6. Conclusion

This study concludes that the use of animated storybooks significantly improves vocabulary achievement among kindergarten students. The experimental group, which received instruction using animated storybooks, demonstrated higher post-test scores and gain ranks compared to the control group. The findings support the integration of multimedia learning tools in early childhood education, particularly for teaching English vocabulary to young learners. Animated storybooks provide visual and auditory stimuli that enhance engagement and support memory retention. Therefore, educators are encouraged to adopt digital storytelling as an effective strategy in EYL (English for Young Learners) classrooms.

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