

# The Effect of Picture Storybooks on Language Development of Preschool Children at TK Al Muttaqin

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## Abstract

Language development is an essential aspect of preschool children's growth and development. One way to stimulate language development is through storytelling activities using illustrated storybooks. This book is visually appealing and helps children understand vocabulary, sentence structure, and how to communicate effectively. This study aimed to investigate the effect of picture storybooks on language development in preschool children at TK Al Muttaqin. This study was a nonequivalent quasi-experimental research with a control group design. This research was conducted from 10 March to 18 March 2025. The sample for this research consisted of 70 respondents, with 35 per group. The sampling was done using a total sampling technique. The data were collected through observation. The statistical tests in this study employed the Wilcoxon and Mann-Whitney tests. The study results showed that most participants are 6 years old, female, and speak Indonesian and Javanese. Before the intervention, the majority of respondents were in the Still Developing category, with 22 respondents (62.8%). After the intervention, there was an increase in the majority to the Developing Very Well category, with 20 respondents (56.4%). The research results show a significance value of p value 0.000. Therefore, it can be concluded that using picture storybooks has an effect on language development in preschool children at TK Al Muttaqin.

**Keywords:** Picture Storybook; Language Development; Preschool Children

## Introduction

Language development is significant because a person can interact with their environment through language. However, some children have problems with their language development. Therefore, children must be given sound stimuli from a young age (Hamidah & Fauziah, 2024). Children who experience language development disorders will have difficulty understanding and using words correctly, recognizing and constructing sentences, learning grammar, and honing their verbal communication skills. These issues can make it more difficult for children to interact with their environment, communicate with peers, and learn in the classroom (Nasution et al., 2023).

In 2023, WHO estimates that approximately 52.9 million children under the age of five will have developmental disabilities, and approximately 95% of them will live in low- and middle-income countries (WHO, 2025). The rate of developmental delays in Indonesia reaches 29.9%, making it the highest in the world (Norlita & Rizky, 2022). According to data from the Ministry of Health (Kemenkes) 2019, 19% of 5-year-old children in Indonesia experience speech and language delays (Ayudiah et al., 2024). Data from 2021 shows that the prevalence of speech delay in preschool children in Indonesia reached 42.5%. According to data from the Indonesian Pediatric Society (IDAI) in 2023, the prevalence of

language and speech delay in preschool children in Indonesia reached 5-8%. (Kemenkes, 2024). A preliminary study conducted at Al Muttaqin Kindergarten also shows that most children are not yet able to articulate vocabulary and construct simple sentences fully, and they exhibit passive responses during storytelling activities.

Picture books are storybooks accompanied by animated illustrations. The selection of story titles is based on the moral message to be conveyed and the use of language that is easy for children to understand. Additionally, choosing stories focusing on animal tales or fables encourages creativity and keeps children happy and engaged (Faizin, 2022). Previous studies have revealed that picture book storytelling effectively stimulates children's language abilities. Picture books combine engaging verbal and visual elements, enhancing children's attention, enriching their vocabulary, and helping them understand sentence structures more easily (Anggriani et al., 2022). Meanwhile, the storytelling method with picture books can generally improve children's language skills, as it encourages children to be more active in understanding, retelling stories, and increasing their courage to speak in public (Rahmawati et al., 2023). However, most of the research was conducted without a quasi-experimental design that compares experimental and control groups, and there has been little measurement of the effectiveness of interventions in the context of formal learning for preschool-aged children.

This study aims to know the effect of picture storybooks on the language development of preschool children at TK Al Muttaqin. The novelty of this research lies in using a nonequivalent quasi-experimental approach with control group design and implementing interventions over two cycles within the school environment. It is hoped that the results of this research can serve as a reference for teachers and early childhood education institutions in using effective visual learning media to stimulate language development.

## Methods

This study was a quasi-experimental research with a nonequivalent control group design, consisting of two groups that were not randomly assigned and each given pre-test and posttest measurements (Nursalam, 2020). This design was used to determine the effect of an intervention using illustrated storybooks on the language development of preschool-aged children. The research was conducted at TK Al Muttaqin Sleman, Yogyakarta, for two weeks, from 10 March to 18 March 2025. The population in this study was all children in group A-B aged 4–6 years, formally registered at TK Al Muttaqin, which amounts to 70 children. The sampling technique used was total sampling, in which the entire population served as the research sample. The sample was then divided into the experimental group of 35 children and the control group of 35 children. The instrument used in this research was a child language development observation sheet that underwent validity and reliability testing.

The indicators on the observation sheet referred to the language development aspects listed in the Standard Level of Achievement of Child Development (STPPA) established by Permendikbud No. 146 of 2014. The research implementation stages were carried out across two intervention cycles, each consisting of two weekly meetings. The experimental group received an intervention involving the Interactive Reading of picture storybooks presented by the researcher. Before and after the intervention, language development was measured in both groups using the same observation instrument. Data were analyzed using univariate and bivariate analysis. Univariate analysis describes the characteristics of respondents and the language development categories before and after the intervention. For the bivariate analysis, the Wilcoxon Signed-Rank Test was used to assess differences in pre-test and posttest scores within

each group, and the Mann-Whitney U Test was used to evaluate differences in score changes between the experimental and control groups. All analyses were conducted with a significance level ( $p < 0.05$ ). This research has received information about passing ethical review from the Research Ethics Commission Team of the Nursing Department, Health Polytechnic of the Ministry of Health Yogyakarta, Number DP.04.03/e-KEPK.1/291/2025.

## Results

### A. Univariate Analysis

The characteristics of the respondents, including age, gender, and bilingualism, can be seen in Table 1. Most respondents were 6 years old, with a percentage of 60.0% in the experimental group. The gender distribution in the experimental group was primarily female, with a percentage of 54.3%. Based on the bilingual distribution, most respondents were Indonesian and Javanese, with a percentage of 51.4% in the experimental group.

**Table 1.** Frequency Distribution of Preschool Children's Respondent Characteristics

No.	Characteristics	Experimental Group	
		f	%
1.	Age		
	a. 4 Years	5	14,3
	b. 5 Years	9	25,7
	c. 6 Years	21	60,0
2.	Gender		
	a. Male	16	45,7
	b. Female	19	54,3
3.	Bilingualism		
	a. Indonesia	17	48,6
	b. Indonesia and Java	18	51,4
	Total	35	100

In Table 2, the majority of respondents in the experimental group before the intervention had a language development level of Still Developing, with 22 respondents (62.8%). After the intervention, the majority had a language development level of Developing Very Well, with 20 respondents (56.4%).

**Table 2.** Frequency Distribution of Preschool Children's Language Development

Language Development	Experimental Group			
	Pre Test		Post Test	
	f	%	f	%
Not Developed yet	13	37,2	0	0
Still Developing	22	62,8	0	0
Developing as Expected	0	0	15	43,6
Developing Very Well	0	0	20	56,4
<b>Total</b>	35	100	35	100

## B. Bivariate Analysis

The results of the normality test in Table 3 show that the significance value  $p < 0.05$  for the language development level data in the pre-test of the experimental group, post-test of the experimental group, pre-test of the control group, and post-test of the control group. Based on the results, it can be concluded that all four data sets do not follow a normal distribution. Therefore, the bivariate analysis in this study was conducted using nonparametric statistical tests, namely the Wilcoxon test and the Mann-Whitney test.

**Table 3.** Results of the Normality Test

Group	Sig.
<b>Experimental</b>	
Pre-Test	0,006
Post-Test	0,001

The Wilcoxon test on the experimental group before and after the intervention in Table 4 shows a significance value or p-value of  $0.000 < 0.05$ , meaning picture storybooks affect language development before and after the intervention. Meanwhile, the control group before and after the intervention shows a significance value or p-value of  $0.000 < 0.05$ , which means there is an effect of using audio stories on language development.

**Table 4.** Wilcoxon Test Results Before and After Intervention in Experimental Group

Variable	N	Mean Rank	Sum of Ranks	Z	P Value
Pretest- Posttest Experimental	35	18,00	630,00	-5,165	0,000

Based on Table 5, the Mann-Whitney statistical test results show a p-value of 0.000, less than 0.05. Therefore, when comparing post-test interpretations, there is a significant difference in learning with picture storybooks and audio stories on language development in preschool children.

**Table 1.** Results of the Mann-Whitney Test on the Experimental Group

Variable	Group	Mean Rank	Z	P Value
Language Development	Experimental	53,00	-7,290	0,000

## Discussion

### A. Respondent Characteristics

From the research data, the characteristics of the respondents are based on age, gender, and bilingualism. Most respondents were 6 years old in both the experimental and control groups. The gender distribution in the experimental group was primarily female, while in the control group it was predominantly male. Based on the bilingual distribution, most experimental and control group respondents speak Indonesian and Javanese.

Preschool-aged children are in a period known as the 'golden age,' which is a golden period in the development of various aspects, such as physical, cognitive, social-emotional, and other elements. Language skills, among multiple

aspects, have become essential to develop (Haryati, 2024). According to Jean Piaget's theory, a child's ability to assess and use language correctly also increases with age. Language maturity in children's growth and development is also influenced by the surrounding environment (Aulina, 2019). This condition is supported by Sudirlan's (2024) research, which states that children's language development will become increasingly complex as they age, due to enhanced brain capacity, thinking abilities, and interaction with the environment (Sudirlan, 2024).

Based on Jean Piaget's theory, gender influences language development. Biologically, girls mature faster, so their language skills and vocabulary acquisition tend to be superior to boys (Aulina, 2019). Then, according to Wang's statement (2023), girls tend to have better language skills compared to boys, as evidenced by their use of a wider variety of words, phrases, and more complex sentences (Wang, 2023).

According to Jean Piaget, bilingualism is also a factor that influences language development. Children who grow up in families that use two languages tend to speak more quickly and better, because they are accustomed to the variations in language use influenced by factors such as time, place, sociocultural context, situation, and media, such as using Javanese at home and Indonesian at school (Ngura, 2022). This fact is also supported by the research of Lestari et al. (2020) that children aged 4–5 years can become bilingual, influenced by their mother tongue and the environment in which they live (Lestari et al., 2020).

#### **B. The Development of Preschool Children's Language Before and After Intervention in the Experimental Group**

The results before the intervention showed that most language development levels were Still Developing, with 22 respondents. There were respondents with language development levels Not Developed Yet, totalling 13 respondents. After the intervention, the majority of preschool children's language Developing Very Well, with 20 respondents, and there were 15 respondents with language Developing at Expected level. The Wilcoxon test results showed a significance p-value of  $0.000 < 0.05$ , which means there was a significant improvement in the language development of preschool children before and after the intervention with picture storybooks.

The research results show a significant improvement in the language development of preschool children in the experimental group after the intervention of picture storybooks, in line with the findings of Schoppmann et al. (2023), who also emphasize the potential of picture storybooks as an effective intervention tool for early childhood (Schoppmann et al., 2023). This condition is supported by the research statement of Mahfudza & Sitorus (2025) that the use of picture story books equipped with interesting graphics and narratives according to children's experiences can be a good method to improve children's speaking skills. (Ratnasari & Zubaidah, 2019). Using picture storybooks in interactive reading activities helps children guess the storyline and identify objects through illustrations, thereby supporting the development of receptive and expressive language. This statement aligns with Lestari et al. (2020), who found that storytelling through picture storybooks can improve children's receptive language skills, particularly in understanding and listening.

#### **C. Differences in Preschool Children's Language Development Before and After Intervention in the Experimental Group**

Based on the Mann-Whitney statistical test results, the p-value was 0.000, less than 0.05. Because the p-value is  $< 0.05$ , there is a difference in learning language by using picture storybooks and audio stories for language development in preschool children.

Picture storybooks are considered more effective in stimulating children's language development because they combine visual and verbal elements simultaneously. Children listen to the story and at the same time see images that help clarify the content and enrich their imagination. In this case, picture storybooks are considered more effective in stimulating children's language development because they combine visual and verbal elements simultaneously. This condition is in line with the opinion of Anggriani et al. (2022), stating that concrete illustrations in picture storybooks help children understand the story's content and expand their vocabulary (Anggriani et al., 2022). It is also supported by Astuti (2023), who explains that illustrated media fosters children's interest in language and accelerates their ability to construct sentences (Astuti & Ramdhani, 2023). In addition, Ishak (2023) explained that illustrations in picture books stimulate children's imagination and strengthen their understanding of the story's content (Ishak & Awaliah, 2023). The intervention was conducted over two weeks with two meetings each week. This duration was chosen considering the effectiveness of preschool children's learning time and the expected outcomes. The research conducted by Hariyani et al. (2022) shows that using illustrated storybooks in two learning cycles has significantly improved children's storytelling abilities. Therefore, the difference in results between the experimental and control groups in this study is influenced by the intervention's duration and the media quality (Hariyani et al., 2022).

## Conclusion

This research shows that the use of picture storybooks significantly affects the improvement of language development in preschool children. Children who were given interventions in the form of interactive picture book reading activities experienced an improvement in language skills. It is supported by the results of the Wilcoxon and Mann-Whitney tests with a significance value of  $p = 0.000$  ( $p < 0.05$ ). Picture storybooks can be an effective alternative learning strategy to stimulate early childhood children's language skills. This study recommends the use of engaging visual media in language learning activities at early childhood education institutions, as well as the importance of active involvement of teachers or educators in the storytelling process.

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