



# The Effect of Instructional Media and Interpersonal Intelligence on Early Reading Skills

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## Abstract

The interaction of kindergarten students with others is dominant in individual activities. It causes low early reading skills. The application of innovative learning media would attract students' interest in interacting with other children and optimize children's interpersonal intelligence. The study examined the effect of instructional media and interpersonal intelligence on early reading skills. This study used to design treatment by level 2 x 2. The selection of this method is based on the existence of treatment with variable attributes based on Interpersonal intelligence levels. Using simple random sampling 44 children were divided into four groups – data Analysis of Variance (ANOVA) and Tukey test. The study concluded that there was a significant difference between the effect of instructional media and media fun thinkers and big books for early reading skills. There was a significant interaction between instructional media and interpersonal intelligence on the early reading skills, (3) for a group that has a high degree of interpersonal intelligence and use fun thinkers media the effect early reading skills is higher than that used big books treatment media. For groups who have lower levels of interpersonal intelligence and used media fun thinkers treatment early reading skills lower than that used big books treatment media.

**Keywords:** *early reading skills; instructional media; interpersonal intelligence.*

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## Introduction

The challenge in early childhood education is the tremendous demand from society so that children who go through kindergarten can read and count (Bao et al., 2020; Mulyana et al., 2022; Putra et al., 2021). The teachers changed instructional media from learning media while playing to pure learning (Abramovich et al., 2019; Puspitarini & Hanif, 2019). Even children are required to do homework. However, in reality, reading ability is still not satisfactory based on the data obtained for the early reading ability of Kindergarten Group B in Metro Lampung City. The results of children's early reading abilities are still low, which should reach the minimum achievement level of children's early reading abilities. The developmental achievement level has been determined based on kindergarten children's competence in language development (Allen et al., 2015). In this case, recognizing letters, reading symbols, and simple writing.

Kindergarten Group B is the characteristics development of children aged 5-6 years, which is a continuation of action at the last age. According to Piaget, children's cognitive development at the age of 2-7 years is in the concrete preoperational stage (Babakr & Kakamad, 2019; Zamfirov, 2019). At this stage, the child begins to describe the world with words and pictures, where the children have mastered cognitive development. Cognitive is a process that occurs internally in the brain when humans think (MacKinnon & Hoey, 2021). Cognitive abilities develop gradually as physical growth and nerves in the central nervous system or brain. Each child has different characteristics from others because each child learns at his own pace, with variations in learning speed for each age group.

Research on early reading skills has been carried out by (Dika et al., 2017; Islamiyah et al., 2022; Simangunsong et al., 2021; Yunita et al., 2020) using innovative media. The results show that using innovative media improves children's early reading skills. Research on the importance of interpersonal intelligence in the development of kindergarten children was carried out by (Dika et al., 2017; Ginting et al., 2022; Leni et al., 2014; Setiawan et al., 2020). However, this study focuses on developing early reading skills using Fun Thinkers and Big Books media by paying attention to children's interpersonal intelligence abilities.

The gap analysis results make the basis for consideration of this research in designing alternative measurable, operational, and scientifically accountable solutions to improve children's early reading skills. Determination of learning media variables as treatment. Based on the assumption that learning media is one of the main components, determining the success or failure of a learning process to achieve learning objectives.

This study aims to determine the effect of Early Reading Learning Media, namely Fun Thinkers Media, Big Books Media, and Interpersonal Intelligence, on early reading skills. Media Fun Thinkers is an early reading learning media that uses a word approach. Big Books is an early reading learning that uses a sentence approach. Interpersonal intelligence is the ability to understand other people. This ability can be realized when several main elements contained in interpersonal intelligence can be possessed, namely (1) the ability to interact, respond, and have good self-confidence, (2) the ability to work by thinking and acting together and collaborating activities, (3) the ability to feel sympathy, intentions and understanding others and (4) the communicating ability with effect therapy caution and effective listening. These abilities are indicators of someone who has interpersonal intelligence.

## Methodology

The experimental research design used the Nonequivalent Group Posttest-Only Design in table 1.

**Table 1. Nonequivalent Group Posttest-Only Design**

Group	Treatment	Post test
Experiment 1	Fun Thinkers Media	○
Ekperimen 2	Big Books Media	○

**Table 2. Sample Distribution**

Variable (A) Attribute Variable (B)	Treatment	Instructional Media		Sum
		Fun Thinkers (A1)	Big Books (A2)	
High Interpersonal Intelligence (B1)		11	11	22
Low Interpersonal Intelligence (B2)		11	11	22
Total		22	22	44

This research was carried out on group B children at Roudhotul Jannah and Annisa Metro Kindergarten. This study uses experimental media with treatment design by level  $2 \times 2$ . The selection of this media is based on the treatment with attribute variables based on the interpersonal intelligence level (Fitri et al., 2017). The population of this study is all private kindergarten children in Metro City, with a total of 55 Kindergartens with the same standards and characteristics. Samples were 44 children, and they were divided into four groups as in table 2.

These data were obtained using (1) an early reading ability assessment and (2) an interpersonal intelligence assessment. The ability test instrument (performance test) on the dependent variable (early reading ability) while obtaining data on the attribute variable (interpersonal intelligence). The research data was obtained using the interpersonal intelligence observation sheet, an assessment through the observation points that have been made – developed by researchers from the indicators.

This study used experimental media in comparative analysis. The data analysis used a two-way variance analysis (ANOVA) technique. Before using Anova, the analysis requirements test was carried out, which included tests for normality and homogeneity of variance. The normality test used the Liliefors test, while the homogeneity test used the Bartlett test. The Tuckey test was used to compare the treatment groups because the number of research subjects in each cell was the same.

## Result and Discussion

The study results obtained data about the description of each variable on learning media and interpersonal intelligence on early reading skills. The data in the table 3. The samples were normally distributed if sig > 0,05. The data are summarized in the table 4.

**Table 3. Descriptive Statistics**

Group	N	Min	Max	Mean	Std. Dev
Fun Thinker Group	22	37	53	45.59	5.114
Big Books Group	22	37	51	43.73	3.269
High Interpersonal Intelligence	22	37	53	46.23	4.730
Low Interpersonal Intelligence	22	37	51	43.09	3.337

**Table 4. Normality Test Results**

Group	Sig	Information
A <sub>1</sub>	.070	Normal
A <sub>2</sub>	.200*	Normal
B <sub>1</sub>	.114	Normal
B <sub>2</sub>	.143	Normal
A <sub>1</sub> B <sub>1</sub>	.200*	Normal
A <sub>2</sub> B <sub>1</sub>	.200*	Normal
A <sub>1</sub> B <sub>2</sub>	.200*	Normal
A <sub>2</sub> B <sub>2</sub>	.183	Normal

Based on Table 4, all the variables have a significant level > 0,05. It can be concluded that data is normally distributed. Based on Table 5, the significance value > 0.05 means the variance of the four groups is homogeneous. The results of the two-way ANOVA calculation are as in table 6.

**Table 5. Homogeneity Test**

F	df <sub>1</sub>	df <sub>2</sub>	Sig.
1.942	3	40	.138

**Table 6. Two-Way ANOVA Results**

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	572.977(a)	3	190.992	31.977	.000
Intercept	87755.114	1	87755.114	14692.637	.000
A	38.205	1	38.205	6.396	.015
B	108.205	1	108.205	18.116	.000
A * B	426.568	1	426.568	71.419	.000
Error	238.909	40	5.973		
Total	88567.000	44			
Corrected Total	811.886	43			

a R Squared = .706 (Adjusted R Squared = .684)

Table 7. Tukey's Test Results

No	Comparison Group	Sig	Information
1	A <sub>1</sub> and A <sub>2</sub>	0.000	Significant
2	A <sub>1</sub> B <sub>1</sub> and A <sub>2</sub> B <sub>1</sub>	0.000	Significant
3	A <sub>1</sub> B <sub>2</sub> and A <sub>2</sub> B <sub>2</sub>	0.000	Significant

## Discussion

### Differences in Early Reading Ability between the Group Fun Thinkers and Big Books Media

Based on the results of the two-way analysis of variance, it was found that the significance value was  $0.015 < 0.05$  (Table 5). It shows a significant difference in early reading ability between the Fun Thinkers and Big Books media groups. The average early reading ability of the Fun Thinkers group was 45.59, and the Big Books media group was 43.73. It means that the average early reading ability of children who received the Fun Thinkers media treatment was higher than the Big Books media group.



Figure 1. Early Reading Ability Using the Big Books and Fun Thinkers Media

The difference in the results of early reading skills can be explained that Fun Thinkers media can improve early reading skills because this media uses an approach to images, words, and symbols along with colors that are easier to remember. The condition of learning activities is presented in figure 1. Likewise, the match frame used in the Fun Thinkers book while playing makes children challenged to find the correct answer on each page because children can find answers directly from the results of the game. Logical analysis and sequence of events are things that the left brain can remember well. If exercise is done regularly, both brain hemispheres function optimally (Noufi & Zeev-Wolf, 2021).

### The Effect of Learning Media Interaction and Interpersonal Intelligence on Early Reading Ability

In addition to learning media, children's early reading ability is also influenced by interpersonal intelligence. Based on the results of the two-way analysis of variance, it was found that the significance value was  $0.015 < 0.05$  (Table 6). It means that there is a very significant interaction effect between learning media and interpersonal intelligence. The results of the Tuckey test in children who have high interpersonal intelligence, the significance



value is  $0.000 < 0.05$  (Table 7). It means there are differences in reading ability. It can be concluded that children with high interpersonal intelligence and early reading abilities on Fun Thinkers were higher than in the Big Books media. In the group of low interpersonal intelligence children, the value is  $0.000 < 0.05$  (Table 7). It means differences in the reading ability of the Fun Thinkers media group and the Big Books media group for low interpersonal intelligence children. It can be concluded that in the group of low interpersonal intelligence children, the reading ability of the Big Books media group is lower than the Fun Thinkers media group.

Learning activities in kindergarten in the early stages are more dominant than individual activities than group activities (Bubikova-Moan et al., 2019; Veldman et al., 2020). However, small group activities and classical are also essential to introduce to children. By interacting with other children, children begin to recognize the differences in the mindset and desires of other children. It makes his egocentrism less and less, develops a sense of empathy, and trains cooperation. At the age of five, children can play cooperatively as in the learning techniques to read for beginners, namely, word search, crossword puzzles, action games (Fun Thinkers), class management, alphabet games, cake contest games, monopoly games, anticipation/prediction, skimming, scanning and simple gaps (Abdul Jabbar & Felicia, 2015). Through experimentation in play, children discover that designing something new and different can lead to satisfaction. Furthermore, they can shift their creative interest to situations outside the play world (Wulansari et al., 2020). From relationships with members of their peer group at play, children learn to cooperate, be generous, honest, sporting, and well-liked by people. The group of children is related to how children get along and interact with friends, teachers, and others.

### **High Interpersonal Intelligence Children Get Higher Early Reading Ability by Using Media Fun Thinkers than by Using Media Big Books.**

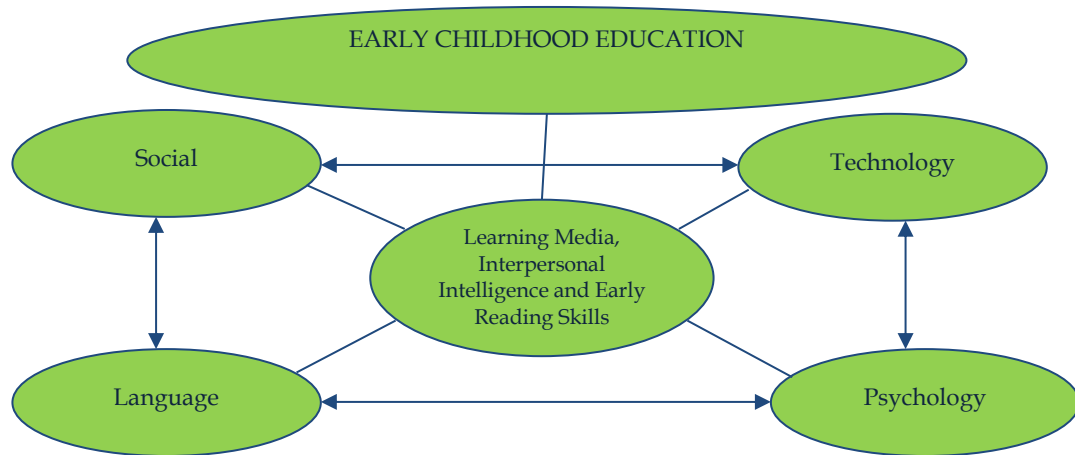
The Tuckey test results in high interpersonal intelligence got a significance value is  $0.000 < 0.05$ . It means that there are differences in the reading ability of the Fun Thinkers and the Big Books for high interpersonal intelligence children. It can be concluded that the children's early reading ability in the Fun Thinkers media was higher than the Big Books media group.

The Fun Thinkers media uses words, images, and symbols as well as colors attached to the media, thus making learning meaningful. Piaget & Inhelder (2019) states that if a child can classify a set of objects in different ways before the child can classify them, then cognitive development can be explained as having occurred before they could. A child learns everything about the world through his behavior and actions and only through language (Mohamad Nor & Rashid, 2018). Moreover, the above activities can be carried out on Fun Thinkers media by playing individually, in small groups, or classically. Meanwhile, in Big Books media, children are introduced to reading using a sentence approach or illustrated story whose movement starts from looking at books containing long pictures and writings that can make children feel difficult and bored. High interpersonal intelligence Children's characteristics will prefer to learn to read together with Fun Thinkers media because there are games in the form of match-frames that can increase enthusiasm for playing together in groups or individually.

### **Low Interpersonal Intelligence Children Get Higher Early Reading Ability by Using Big Books Media than Fun Thinkers Media.**

The Tuckey test results in the low interpersonal intelligence group obtained a sig value of  $0.000 < 0.05$ . It means there is a difference in the reading ability of the Fun Thinkers media group and the Big Books media group for low interpersonal intelligence. Groups of low levels of interpersonal intelligence children will find it challenging to participate in games that interact with other people and high activities in a game such as the Fun Thinkers media. On the other hand, it is more appropriate to use the Big Books media because learning to read

together can lead to more significant curiosity and can find out from friends who already know and understand beforehand. Big Books media also uses a sentence/picture story approach so that children can understand the stories the teacher conveys before learning words and other parts, as in the SAS (Structure-Analytic-Synthesis) approach. The study results of the interrelationship of disciplines are as figure 2.



**Figure 2. The Interrelationship of Disciplines**

The chart above explains that: the learning media under the Kindergarten children characteristics in group B are in the development of children aged 5-6 years, which is a continuation of development at the last age. According to (Piaget & Inhelder, 2019), children's cognitive development at the age of 2-7 years is in the concrete preoperational stage. At this stage, the child begins to describe the world with words and pictures. In technology, words and pictures are part of the introduction of learning in early childhood through Fun Thinkers and Big Books media that use books made by teachers. According to Sanjaya (2014), learning media streamline communication and interaction between teachers and children in the teaching and learning process. According to (Diaz & Eppes, 2018), language, symbols and colors can be remembered well by the brain's right hemisphere. In comparison, the analysis of logic and sequence of events can be remembered well by the left hemisphere. If the exercise is done regularly and both brain hemispheres are functioning optimally.

According to (Beard, 2021), in terms of language science, reading is absorbing letters, and graphic symbols, which are then converted into speech or understanding processes in the brain. What graphic symbols mean are letters or numbers (Latin, Arabic, Roman). Meanwhile, Jimenez & Meyer (2016) said that reading is not only a visual perception but also the ability to absorb the meaning of graphic symbols and the ability to react to these graphic symbols.

Furthermore, if viewed from the social sciences, Pratiwi & Ayriza (2018) explained that interpersonal intelligence can be seen when a person communicates and interacts with others and generally has the following characteristics: (a) Enjoys interacting with other people. (b) always maintain relationships with others. (c) recognize various ways to relate to others. (d) often influences others' views. (e) always involved in collaborative activities. (f) able to communicate verbally and non-verbally. (g) often express interest in careers and good interpersonal jobs, including evangelists, management, teachers, traders, politicians, and social workers who are successful and have high interpersonal intelligence.

## Conclusion

The research results are as follows: (1) Fun Thinkers media is more effective in improving early reading. (2) Fun Thinkers media can enhance early reading skills for children with high interpersonal intelligence. Big Books media can improve early reading skills for children with low interpersonal intelligence. (3) Fun Thinkers media is more effective in

improving early reading ability with high interpersonal intelligence. (4) Big Books media is more effective in improving the early reading ability who have low interpersonal intelligence.

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