



The Effectiveness of Ethno-Pedagogy-Based Role Playing Models in Improving Language and Reading Skills in Early Childhood

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Abstract

This study aims to determine the effectiveness of the role playing model with an ethno-pedagogical approach to early childhood language and reading skills. This study is a meta-analysis study. The inclusion criteria in this study are 1) the research must be relevant; 2) data is obtained from national or international journals indexed by SINTA or Scopus; 3) the study was published in the 2022-2024 time frame; and 4) the study must report complete data to calculate the effect size value. Analyze data with the help of JASP and Microsoft Excel applications. The results concluded that the 19 studies analyzed showed that the ethno-pedagogy-based role playing model had a significant influence on early childhood language and reading skills with a score of ($g = 0.895$; 95% CI 0.706-1.084; $P < 0.001$) high effect size category. These findings explain that the ethno-pedagogical role playing model effectively improves early childhood language and writing skills in the learning process.

Keywords: *Role Playing Model; ethno-pedagogy; Language and Reading Skills*

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Introduction

Language and reading skills at an early age are important foundations for a child's cognitive, social, and emotional development. During this time, the child's brain has an extraordinary ability to absorb information, so proper stimulation is necessary (Melekoğlu & Diken, 2022); Majcen & Drvodelić, 2022). Language is the main tool for children to communicate, express themselves, and understand the world around them. Meanwhile, reading helps expand children's knowledge and imagination, while building early literacy skills that will support them in the formal learning process in the future (Sillanpää et al., 2022). With good language skills, children can establish positive social relationships, while reading skills will increase their confidence in exploring new information.

Not only does it have an impact on the academic aspect, language and reading skills at an early age also affect the development of children's character and creativity (Alabsi, 2016). Children who are used to listening to stories, speaking, and reading from an early age tend to have a critical mindset, good memory, and more honed logical thinking skills (Sulistiyani et al., 2020; Chelysheva & Mikhaleva, 2020). In addition, this skill also trains children to understand and appreciate the culture and values that exist around them. Therefore, it is important for parents, teachers, and educational environments to provide attractive and relevant stimuli for early childhood to develop their language and reading skills optimally (Ackah-Jnr et al., 2020).

Language and reading skills are important foundations in early childhood development that play a major role in supporting future academic success (Arsaliev, 2021). Language is a child's primary tool for communicating, expressing thoughts, and understanding the world around them, while reading helps them expand their knowledge, train their memory, and develop their imagination. Children who have good language skills from an early age are more likely to understand instructions, participate in learning activities, and establish positive social interactions (Hofmeyr, 2023; Xavier, 2024). In addition, reading skills that develop from the beginning provide an advantage in mastering complex literacy at the next level of education. By providing appropriate stimulation at an early age, such as storytelling, reading together, and wordplay, children can have a solid foundation for facing future academic and life challenges (Khasu & Henning, 2024).

The gap in teaching language and reading skills at an early age is still a challenge in the world of education (Wright et al., 2024). Many educational institutions tend to use conventional learning approaches that are less attractive to children, such as memorization methods or giving monotonous assignments. As a result, children often lose interest and motivation to learn a language or read (Orozco Cazco et al., 2024; Masdul et al., 2024). In addition, the lack of an approach that suits the needs of children's development and the local cultural context makes the learning material feel less relevant. This is exacerbated by the limited training of teachers in implementing innovative and effective learning methods to improve literacy skills at an early age (Sim et al., 2024).

This gap is also seen in children who have limited access to learning resources, such as storybooks, interactive media, or technology-based literacy activities (Bachiri et al., 2024). Children from less supportive literacy environments tend to lag behind in language and reading proficiency compared to those who receive adequate literacy stimuli at home and at school. In fact, literacy at an early age not only determines a child's academic success in the future but also affects their cognitive and social-emotional development (Denee & Cherrington, 2023). Therefore, innovation in learning methods and greater support for the development of inclusive and child-based literacy programs is needed. Therefore, there is a need for a learning model that can encourage language skills and early childhood reading, one of which is through the role playing model (Orozco Cazco et al., 2024).

The role playing model is a learning model that involves students in playing certain roles to simulate real or imaginary situations. This approach is designed to create an active, interactive, and contextual learning experience, so that students can better understand the concepts taught through hands-on practice (Di Graziano et al., 2023). In role playing, students are not only invited to participate physically but also emotionally and intellectually, which can improve critical thinking skills, creativity, and communication skills (Masdul et al., 2024; Sim et al., 2024). Additionally, this model provides space for students to explore and express their ideas in a safe and supportive environment. Thus, role playing is one of the effective methods in encouraging experiential learning, especially for social, language, and problem-solving skills. The role playing learning model can be collaborated with an ethno-pedagogical approach (Sulistiyani et al., 2020).

The ethno-pedagogical approach is a learning approach that integrates local cultural values into the educational process to create relevant and meaningful learning experiences for students (Sulistiyani et al., 2020). This approach aims to connect the subject matter with students' daily lives, so that they can more easily understand the concepts taught through a cultural context that is familiar to them. By utilizing local wisdom, ethno-pedagogy not only enriches learning but also plays a role in preserving traditions and cultural identity (Alabsi, 2016; Herut, 2024). This approach is very effective in building a sense of pride in one's own culture, increasing student participation, and supporting the development of critical thinking skills and creativity. Ethno-pedagogy also provides an opportunity for students to see the relationship between classroom lessons and their cultural values, making learning more inclusive and holistic (Masdul et al., 2024).

Previous research by Smith et al. (2020) found that role playing activities encourage children to actively use language in meaningful contexts, thereby enriching their vocabulary and improving speaking skills. In another study, Jones and Taylor (2018) revealed that role playing gives children the opportunity to understand the concept of a story through direct interaction, which not only improves their reading skills but also helps them develop narrative understanding. This model has proven to be effective in creating a fun, collaborative, and experiential learning atmosphere, which is appropriate for early childhood development. Research by Dewi (2021) shows that local culture-based learning increases students' interest and motivation, because they feel more connected to the material being taught. In addition, research by Rahayu (2019) found that the integration of local wisdom in learning helps children understand their cultural values while strengthening cultural identity. When combined, role playing and ethno-pedagogical approaches create an effective synergy in improving language and reading skills. Many studies related to the role playing model in language learning, but there has not been a single study related to the effect size of the effect size of the role playing model with an ethno-pedagogical approach on language and early childhood reading skills. Therefore, a meta-analysis is needed to reach in-depth conclusions regarding the application of the model. Based on this, this researcher aims to evaluate the effectiveness of the role playing model with an ethno-pedagogical approach to early childhood language and reading skills through meta-analysis.

Methodology

This study uses a meta-analysis approach to determine the effect size of effectiveness of the role playing model with an ethno-pedagogical approach to early childhood language and reading skills. Meta-analysis is a research approach that evaluates previous research statistically to reach a conclusion (Wantu et al., 2024; Tamur et al., 2020; Badawi et al., 2023; Nurtamam et al., 2023; Zulyusri et al., 2023); (Asnur et al., 2024; Oktarina et al., 2021). The meta-analysis research procedure is 1) determining the research inclusion criteria, 2) collecting data and coding, 3) analyzing the data statistically which can be seen in figure 1.

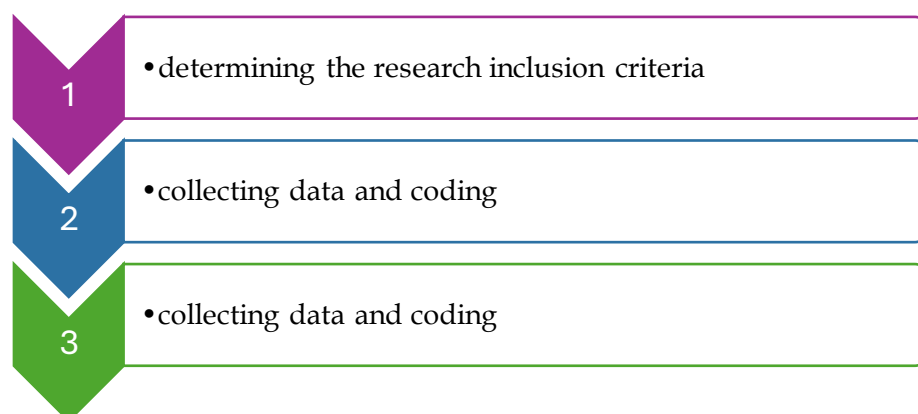


Figure 1. Borensteins Meta-analysis Research Procedure

Eligibility Criteria

In the process of searching for data through the Google Scholar, ScienceDirect, Wiley, ERIC, ProQuest, Fronteins and Web of Science databases, the research must meet several inclusion criteria, namely 1) the research must be relevant; 2) data is obtained from national or international journals indexed by SINTA or Scopus; 3) the study was published in the 2022-2024 time frame and 4) the study must report complete data to calculate the effect size value. From the data search, 19 studies were obtained that met the inclusion criteria published in 2022-2024 which can be seen in Table 2.

Data Collection

To obtain valid research data related to effectiveness of the role playing model with an ethno-pedagogical approach to early childhood language and reading skills collected from Google Scholar, ProQuest; ScienceDirect, Wiley, ERIC, Sage Journal, Fronteins and Web of Science databases and frontenis's. The keywords for data search are "Model Role Playing"; "The Influence of Role Playing Models with an ethno-pedagogical approach"; "Ethno-Pedagogical Approach"; "The effectiveness of the Role playing model with an ethno-pedagogical approach to language and early childhood reading skills".

Statistical Analysis

Data analysis in this study calculates the effect size value of each study analyzed. The effect size value in this study is to calculate the effectiveness of the role playing model with an ethno-pedagogical approach to early childhood language and reading skills. According to (Borenstein et al., 2007) The stages of data analysis in the meta-analysis can be seen in (Figure 1.). Furthermore, the criteria for the effect size value in the study can be seen in Table 1.

Table 1. Category Effect Size Value

Effect Size	Category
$0.0 \leq ES \leq 0.2$	Low
$0.2 \leq ES \leq 0.8$	Medium
$ES \geq 0.8$	High

Source: (Borenstein et al., 2007; Bachtiar et al., 2023; Tamur et al., 2020; (Zulkifli et al., 2022)

Result and Discussion

Based on the results of data search through the database, 19 studies/articles met the inclusion criteria. The effect size and error standard can be seen in Table 2.

Based on Table 2, the effect size value of the 24 studies ranged from 0.49 to 2.91. According to Borenstein et al., (2007) Of the 24 effect sizes, 5 studies had medium criteria effect sizes and 14 studies had high criteria effect size values. Furthermore, 19 studies were analyzed to determine an estimation model to calculate the mean effect size. The analysis of the fixed and random effect model estimation models can be seen in Table 3.

Based on Table 3, a Q value of 105.810 was obtained higher than the value of 85, 082 with a coefficient interval of 95% and a p value of < 0.001 . The findings can be concluded that the value of 19 effect sizes analyzed is heterogeneously distributed. Therefore, the model used to calculate the mean effect size is a random effect model. Furthermore, checking publication bias through funnel plot analysis and Rosenthal fail safe N (FSN) test (Tamura et al., 2020; Badawi et al., 2022; Ichsan et al., 2023b; Borenstein et al., 2007; Uluk et al., 2024). The results of checking publication bias with funnel plot can be seen in Figure 2.

Based on Figure 2, the analysis of the funnel plot is not yet known whether it is symmetrical or asymmetrical, so it is necessary to conduct a Rosenthal Fail Safe N (FSN) test. The results of the Rosenthal Fail Safe N calculation can be seen in Table 4.

Table 2. Effect Size and Standard Error Every Research

Journal Code	Years	Effect Size	Standard Error
AV 1	2022	0.81	0.32
AV 2	2024	1.20	0.38
AV 3	2023	2.10	0.44
AV 4	2023	0.73	0.29
AV 5	2023	0.79	0.20
AV 6	2024	1.07	0.42
AV 7	2024	1.92	0.36
AV 8	2022	0.91	0.20
AV 9	2022	0.44	0.18
AV 10	2022	0.32	0.15
AV 11	2022	0.92	0.38
AV 12	2024	1.17	0.34
AV 13	2024	0.89	0.32
AV 14	2024	0.84	0.29
AV 15	2024	1.10	0.39
AV 16	2023	0.95	0.44
AV 17	2022	1.03	0.40
AV 18	2023	0.52	0.22
AV 19	2022	0.96	0.31

Table 3. Fixed and Random Effect Model

	Q	df	p
Omnibus test of Coefficients Model	85.082	1	< 0.001
Test of Residual Heterogeneity	105.810	18	< 0.001

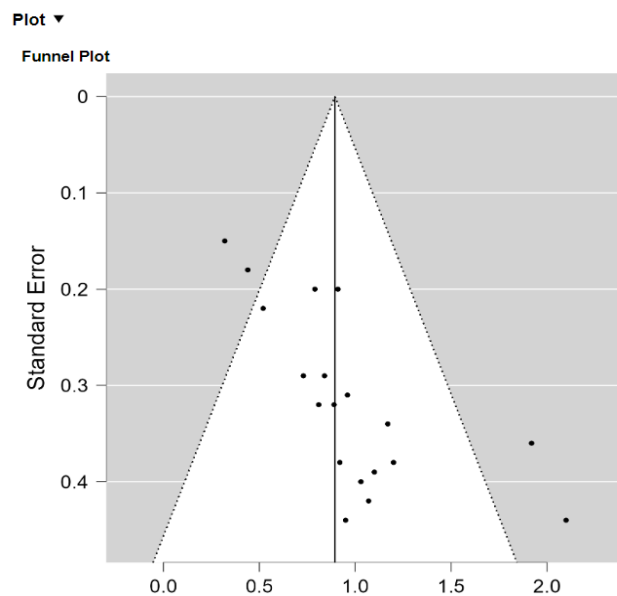


Figure 2. Funnel Plot

Tabel 4. Fail Safe N

File Drawer Analysis			
	Fail Safe N	Target Significance	Observed Significance
Rosenthal	1246	0.050	< 0.001

Based on Table 4, the Fail Safe N value of 1246 is greater than the value of $5k + 10 = 5(19) + 10 = 105$, so it can be concluded that the analysis of 19 effect sizes in this data is not biased by publication and can be scientifically accounted for. Next, calculate the p-value to test the hypothesis through the random effect model. The results of the summary effect model analysis with the random effect model can be seen in Table 5.

Table 5. Summary/ Mean Effect Size

Coefficient	Effect Size (g)	Standard Error	z	p	Coefficient Interval	
					Lower	Upper
Intercept	0.895	0.192	9.276	< 0.01	0.706	1.084

Based on Table 5, the results of the analysis of the summary effect size value ($g = 0.895$; Standard error = 0.192) with a 95% CI of lower 0.706 and upper 1.084. These findings explain that the role playing model with an ethno-pedagogical approach has a significant influence on early childhood language and reading skills ($z = 9.276$; $p < 0.001$) with a high effect size category. The application of the role playing model with an ethnopedagogical approach is effective in improving early childhood language and reading skills in the learning process. The role playing learning model with an ethno-pedagogical approach offers innovative solutions to achieve this goal (Chelysheva & Mikhaleva, 2020). This model not only introduces children to an active and enjoyable learning process, but also integrates local cultural values that are relevant to their lives. In this context, the research discussion focuses on the effectiveness of the combination of these two approaches in improving language and early childhood reading skills (Herut, 2024; Toleuzhan et al., 2023).

Role playing allows children to learn through simulations of real situations, which is very effective for developing language skills. In this activity, children are encouraged to communicate, interact, and act out characters, which in turn helps them expand their vocabulary, improve their speaking fluency, as well as understand language structures. In addition, children's active role in role-playing helps them relate the learning experience to narratives or stories that can strengthen reading skills (Arsaliev, 2021; Ichsan et al., 2023). The results of this study show that role-playing-based learning creates an environment that is conducive to the development of children's literacy skills. Furthermore, the ethno-pedagogical approach enriches learning by incorporating elements of local culture, such as folklore, traditions, and community values (Phillips et al., 2022). Through this integration, children not only learn languages and read but also understand their cultural identity. For example, when role playing is adapted to tell local legends, children can connect emotionally with the learning content. This approach creates relevant and meaningful learning experiences, while also reinforcing the connection between formal knowledge and their daily lives (Krebt, 2017; Dewanto et al., 2023).

Children who engage in this learning show significant improvements in the use of new vocabulary, text comprehension, and the ability to retell stories. In addition, role-playing activities that are connected to local culture also increase children's motivation and participation in the learning process. This confirms that this approach is not only effective but also relevant in supporting holistic learning at an early age (Luen, 2021). The role playing model with ethno-pedagogy provides innovation in early childhood learning. Teachers have an important role in designing role playing scenarios that are interesting and loaded with cultural values. By using this approach, teachers can overcome the challenges in language teaching and reading that are often monotonous and uninteresting (Sillanpää et al., 2022; Denee & Cherrington, 2023). Furthermore, the integration of local cultures can also help to

strengthen social bonds and a sense of community among children, which is essential for building social skills early on.

Conclusion

From the meta-analysis, it can be concluded that the 19 studies analyzed showed that the ethno-pedagogy-based role playing model provided a significant influence on language and early childhood reading skills with a score of ($g = 0.895$; 95% CI 0.706-1.084; $P < 0.001$) high effect size category. These findings explain that the ethno-pedagogy-based role playing model is effective for improving early childhood language and writing skills in the early childhood learning process. The ethno-pedagogical role playing model has proven itself to be an effective approach to improving language and reading skills in early childhood. This combination of active and contextual methods not only improves children's literacy but also provides appreciation for their local culture. The findings of this study are the basis for the development of a more inclusive and relevant curriculum, as well as encouraging innovation in educational practices in early childhood education to create a generation that is culturally insightful and literately skilled.

Further research can be focused on testing the effectiveness of the Ethno-Pedagogy-Based Role Playing model in different cultural contexts to understand its flexibility and sustainability in a multicultural environment. In addition, longitudinal studies are needed to assess the long-term impact of this model on the development of language, reading, and non-academic aspects such as cultural awareness and social skills. The integration of technologies such as augmented reality can also be explored to increase the appeal and effectiveness of these methods. Research on the adaptation of this model for children with special needs or in the context of multilingual learning is also important to expand accessibility and the application of methods in an inclusive manner. That way, the findings produced can support the development of more innovative and relevant curricula for early childhood education.

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