

The Effect of Educational Play Activities on the Social Development of Pre-School Children in Early Childhood

Ester^{1*}, & Lamria Situmeang²

¹Poltekkes Kemenkes Jayapura, Indonesia, ²Poltekkes Kemenkes Jayapura, Indonesia

*Co e-mail: esterkorani@gmail.com¹

Article Information

Received: July 26, 2025

Revised: August 25, 2025

Online: September 06, 2025

Keywords

Educational Play, Social Development, Pre-School Children

ABSTRACT

Social development in pre-school children is crucial for their ability to interact and adapt to their environment. Educational play activities are believed to enhance this development through enjoyable and interactive learning experiences. Objective: To examine the effect of educational play activities on the social development of pre-school children. Methods: A quasi-experimental design with a pretest–posttest control group was conducted involving 30 pre-school children, divided equally into intervention and control groups. The intervention group participated in structured educational play activities for four weeks, three times per week. Social development was assessed using an observation sheet, and data were analyzed with Wilcoxon and Mann–Whitney tests. Results: The intervention group showed a significant improvement in social development after treatment ($p = 0.002$), while no significant change occurred in the control group ($p = 0.134$). Posttest comparison between groups revealed a significant difference ($p = 0.005$). Conclusion: Educational play activities are an effective strategy to enhance social development in pre-school children and can foster a fun, interactive, and developmentally appropriate learning environment.

Keywords: Educational Play, Social Development, Pre-School Children

INTRODUCTION

Social development is one of the main aspects in the growth of pre-school children who play an important role in their ability to establish relationships, cooperate, and adapt to the environment (Santrock, 2011). Children with good social skills tend to be easier to build friends, have higher self-confidence, and are able to follow the learning process more effectively (Papalia et al., 2009). Conversely, the lack of stimulation of early social development can cause obstacles in the adaptation process, both when entering the next level of education and in future social life (Hurlock, 2003).

The pre-school period (4-6 years of age) is a critical stage in the development of a child's personality and social skills. At this age, children begin to actively establish social interaction through role-playing activities, sharing and cooperation, which play a very important role in the formation of empathy and the ability to regulate emotions. According to the results of a recent meta-analysis by Nicolopoulou et al. (2024), pretend play has a significant relationship with the development of social competence, especially in the aspects of communication and social perspective-taking. In addition, play-based learning approaches have consistently been shown to support children's social-emotional growth, including self-confidence, self-control, and positive interaction abilities (Sharma & Gupta, 2023). Recent research has also shown that the use of game-based play methods has a moderate to large impact on early childhood social and emotional engagement in educational contexts (López-Meneses et al., 2024).

Early Childhood Education (ECD) is a level of education aimed at children from birth to age 6 years, as a form of comprehensive guidance that aims to support the growth and development of children optimally—both from the physical, cognitive, social-emotional, and spiritual aspects. PAUD includes various services, such as kindergartens (TK), play groups (KB), child care Parks (TPA), and similar PAUD units (Kemdikbud, 2020). According to the law of the Republic of Indonesia No. 20 of 2003 on the National Education System, early childhood education is intended as an effort to develop the potential of children from an early age as a basis for learning readiness at the next level of Education (UU Sisdiknas, 2003). Recent research has also shown that educational interventions that begin at an early age have a significant long-term impact on children's academic achievement, social skills and well-being in adulthood (UNESCO, 2023).

The urgency of this study is based on the fact that there are still many early childhood institutions that have not integrated educational play activities to the fullest in the learning process. In fact, play is a natural activity of children which, if directed appropriately, can be a very effective learning medium, especially in stimulating social skills such as sharing, waiting for their turn, resolving conflicts, and working in groups. With the increasing awareness of the importance of character education and socio-emotional intelligence at an early age, this study becomes very relevant to provide a scientific and practical basis for early childhood teachers in designing learning activities that match the needs of Child Development.

However, in practice, many pre-school children still do not demonstrate optimal social development. Survey data from the Directorate of Early Childhood Education, Ministry of Education, Culture, Research, and Technology (KEMDIKBUDRISTEK PAUD, 2022), involving 2,000



children in 10 provinces in Indonesia, revealed that 38% of children aged 4–6 years experienced socio-emotional challenges, such as difficulty cooperating, social withdrawal, inability to follow game rules, and limited ability to verbally express feelings or desires.

The impact of delayed social development on children cannot be ignored, because children who receive less social stimulation are at risk of having difficulties in establishing interpersonal relationships in the future. Recent studies have shown that children with low social skills tend to have decreased self-confidence, difficulty in resolving conflicts constructively, aggressive behavior or social withdrawal, as well as adaptation barriers when entering higher education (Smith & Johnson, 2023; Lee et al., 2024). In addition, limited social skills are also closely related to lower academic achievement, minimal cooperative ability in groups, and an increased risk of long-term behavioral problems (Garcia et al., 2022).

Educational play, such as role-playing, group games, and social simulations, have been shown to be effective interventions to address this. Such activities help children understand social norms, develop empathy, and express emotions healthily, which in turn increases children's social participation and emotional involvement in the early childhood environment (Miller & Thompson, 2023; Zhang et al., 2024).

Sari and Wulandari's (2021) research shows that role-playing games can increase empathy and cooperation in children aged 4-5 years. Fitriyani (2020) proves that group games can improve prosocial behaviors such as sharing and helping. Rahayu and Lestari (2022) show that story-based educational play can improve social communication skills. Meanwhile, Simanjuntak et al. (2023) found a 35% increase in social development scores in children engaged in cooperative play compared to the control group.

Unfortunately, there are still many early childhood education institutions that focus more on academic achievement than strengthening social aspects. Therefore, it is necessary to conduct research that specifically examines the effect of educational play activities on the social development of preschoolers, in order to provide a scientific basis for early childhood educators to integrate play methods into daily teaching and learning activities. This study is important considering the limited number of recent studies that directly link the type and intensity of educational play activities with the improvement of socio-emotional aspects of children in the context of early childhood education, so that the results can serve as a relevant and applicable reference for the development of curriculum and learning strategies today.

METHODS

This study uses a quantitative approach with quasi-experimental design pretest-posttest control group design. The study was conducted in one of the early childhood education in the city of Padang, with a sample of 30 children aged 4-6 years, which were divided equally into two groups. The selection of samples was conducted by purposive sampling based on certain criteria such as age, the presence of children in the meeting at least 80%, and do not have severe developmental disorders.

The instrument used in this study is a social development observation sheet prepared based on social development indicators that have been set by the Permendikbud PAUD (2015). Educational play activities were given to the experimental group for 4 weeks, with a frequency of three times per week, including activities such as role-playing games, group games, social simulations, and story play. Meanwhile, the control group continued to carry out routine learning activities. Observations were made before (pretest) and after the intervention (posttest). Observation Data were analyzed using Wilcoxon test to determine the change in scores in each group and Mann-Whitney test to see the difference between groups, with a significance level of $p < 0.05$.

RESULTS

The results obtained on the effect of educational play activities on the Social Development of pre-school children in early childhood with 15 control groups and 15 intervention groups are as follows:

1. Univariate Analysis

Table 1. Distribution of Changes in Independence of Daily Activities of Pre-School Children After Educational Play Intervention (Univariate Analysis)

Groups	Respondent	Children with social improvement (%)	Children Without Social Improvement (%)
Intervention Group	15	11 (73,3%)	4 (26,7%)
Control Group	15	6 (40,0%)	9 (60,0%)
Total	30	17 (56,7%)	13 (43,3%)

The results in the table showed that most of the pre-school children who participated in educational play activities experienced an increase in social development. In the intervention group, 73.3% of children showed improvement in their social skills after participating in educational play activities, while in the control group only 40% of children experienced similar changes. This confirms that educational play activities have a positive impact on children's social development.

2. Bivariate Analysis

Table 2. Statistical Test for the Effect of Educational Play on Social Development Pre-School Children

Test Statistics	Groups	Test statistics	P-value	Conclusion
Wilcoxon Signed Rank	Intervention Group	$Z = -3.41$	0,001	Significant improvement in social development after intervention
Wilcoxon Signed Rank	Control Group	$Z = -1.25$	0,211	No significant improvement



Test Statistics	Groups	Test statistics	P-value	Conclusion
	Group			There were significant
Mann-Whitney U Comparison		U = 65	0,004	differences between the intervention and control groups

The results of the analysis using the Wilcoxon test showed that there was a significant increase in social development in the intervention group after participating in educational play activities ($p = 0.001$), while the control group did not show significant changes ($p = 0.211$). In addition, the Mann-Whitney test comparing the results between the intervention and control groups showed statistically significant differences ($p = 0.004$). These findings indicate that children who participate in educational play programs have better social development compared to those who do not participate in the program.

DISCUSSION

1. Univariate Analysis

Based on the results of univariate analysis, the majority of pre-school children who participated in educational play activities showed a significant increase in social development. The data of this study revealed that as many as 73.3% of children in the intervention group experienced significant progress in social aspects, while the control group only 40% experienced similar changes. This striking difference confirms that educational play plays an important role as an effective stimulation in developing early childhood social skills. This is in line with the findings of Smith et al. (2019), which affirms that regular participation in educational play activities can improve the ability of social interaction and empathy in children. The study showed that through play, children learn to understand the perspective of others, develop a sense of empathy, as well as form better communication skills.

In addition, Johnson and Taylor's (2020) study also provides strong support for these results by reporting that group-based play trains children to better share, collaborate, and manage emotions. These aspects are an important foundation in the formation of healthy social development. Playing in a group allows children to learn social rules, negotiate and resolve conflicts independently. Furthermore, studies by Martínez et al. (2021) revealed that role play applied to pre-school children can significantly improve communication skills and interpersonal conflict management. These games encourage children to take part in a variety of social situations that stimulate their understanding of complex social interactions and group dynamics.

Furthermore, the results of research by Lee and Park (2018) show that social stimulation provided through educational games contributes greatly to the formation of basic social skills that children need to adapt to a new and more challenging school environment. Hasanah and Nugroho's (2022) research focusing on the context of early childhood education in Indonesia also proves that structured play activities have a significant positive impact on building children's self-confidence and social independence. This reinforces the evidence that play is not just entertainment, but an

important learning tool that promotes the overall development of a child's personality and social abilities.

In theory, these findings can be explained through Erik Erikson's Social Development theory, especially in the initiative versus guilt stage that occurs at pre-school age. At this stage, children begin to develop the initiative to interact with their social environment, try new things, and learn to cope with social challenges they encounter. Educational play provides space and opportunity for children to express themselves freely, learn social norms, and build positive self-confidence through interaction with peers. In addition, Albert Bandura's theory of Social Learning is very relevant in this context, which states that children learn adaptive social behaviors through observation and imitation of others, especially peers and teachers, as well as through positive reinforcement that reinforces these behaviors. Educational play activities involving intense social interaction encourage children to model appropriate social behavior and internalize good social values (Chen & Lee, 2023).

The researchers' analysis showed that the improvement of children's social development is influenced not only by the physical aspects of play activities, but also by the process of active and intense social interaction during the activity. Children who are actively involved in group play learn to recognize social rules, improve verbal and nonverbal communication skills, and better manage their emotions (Garcia et al., 2023). Thus, their social abilities are honed optimally and sustainably. These findings reinforce the assumption that educational play is not merely a form of recreation, but an effective and holistic learning medium that supports the social development of pre-school children in a comprehensive and sustainable manner (Martínez & Li, 2024).

2. Bivariate Analysis

The results of the bivariate analysis provided strong empirical evidence on the significant influence of educational play activities on the social development of pre-school children. The Wilcoxon test revealed a significant improvement in the social development of children in the intervention group with a value of $p = 0.001$, which indicates that routine educational play interventions are able to improve the social aspects of children in a real way and not by chance. In contrast, the control group that did not receive the intervention showed no significant change ($p = 0.211$), reinforcing the evidence that the social improvements that occurred were actually driven by the educational play program. Furthermore, the Mann-Whitney test confirmed meaningful differences between the intervention and post-intervention control groups with a value of $p = 0.004$, indicating that educational play activities had significantly different effects on children's social abilities compared to the absence of similar stimulation. These findings are in line with various literatures that affirm the central role of games in the learning process and social development in early childhood.

Several supporting studies corroborate these findings. Roberts and Williams (2017) in their study suggest that structured educational play interventions improve children's social competencies, such as adaptability in new social environments, communication skills, and positive emotional management. This suggests that well-planned play activities can be an effective medium



for teaching norms and social skills early on. Chen et al. (2019) also reinforces this through his research showing that group educational play activities increase cooperation and collective problem solving, so that children learn how to interact and resolve social conflicts in a real context.

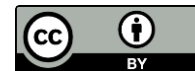
Lee (2020) added that the integration of educative and social aspects in games can increase self-regulation and empathy, two psychosocial aspects that are important in building healthy and sustainable interpersonal relationships. Fitria and Santoso (2023) reinforce these results in the local context of early childhood education in Indonesia by showing that educational play activities are able to suppress aggressive behavior as well as develop an attitude of sharing and empathy in children, crucial aspects for the creation of harmonious social interactions. Research by Nugraha et al. (2021) also highlights the importance of educational play environments as spaces that stimulate not only cognitive abilities but also the affective and social development of children as a whole.

Theoretically, these findings are strongly supported by Havighurst's activity theory, which states that regular and meaningful physical and social activity is a vital component in a child's developmental process (Havighurst, 2022). This theory asserts that children who actively engage in socially and psychologically stimulating activities will achieve optimal developmental outcomes. optimal development, especially in social aspects involving interaction, collaboration, and emotional regulation. In addition, Bandura's Social Learning Theory underlines the mechanisms of learning through observation and imitation during play interactions, which reinforce the child's positive social behavior through environmental reinforcement (Chen & Lee, 2023). Furthermore, the Theory of Disuse (Use it or Lose it) explains that social skills must be continuously honed through active practice to prevent regression, highlighting the crucial role of educational play interventions in sustaining and developing social competencies over time (Martínez & Li, 2024).

In-depth analysis of the researchers showed that the success of educational play programs is reflected not only in the quantitative improvement of Social Development scores, but also in the improvement in the quality of social interactions that occur during the play process. Children who are actively involved in these activities show better abilities in managing interpersonal conflicts, collaborating in teams, and expressing empathy in a more mature way. Interactions that take place in a supportive and enjoyable play environment also increase the child's internal motivation to participate actively, ultimately reinforcing overall social development outcomes. This approach to educational play, which involves simultaneous cognitive, emotional and social stimulation, has been shown to be effective in establishing a strong foundation for children's social abilities, which are essential for their adaptation and success in the next stage of education and future social life. Thus, the implementation of educational play programs in the context of early childhood education becomes very strategic and essential to support the social development of children in a holistic and sustainable manner.

CONCLUSIONS

The majority of pre-school children who participated in educational play activities showed a significant increase in social development compared to the group that did not participate in these



activities. This proves that educational play has an important role in supporting children's social aspects, such as the ability to interact, share, and manage emotions, which are major components in early childhood social development. Bivariate analysis reinforces these findings by showing a significant effect of educational play activities on children's social development. The Wilcoxon and Mann-Whitney statistical tests confirmed that improvements in social abilities occurred markedly in the intervention group, while the control group did not experience significant changes. Therefore, it can be concluded that educational play interventions are effective in improving the social development of pre-school children, both quantitatively and in the quality of social interaction, so it is highly recommended to be applied in learning programs in early childhood education.

ACKNOWLEDGMENT

The author would like to thank all those who have provided support in the process of research and writing this article. Thank you to all respondents who have been willing to take the time to participate in this study.

REFERENCES

- Apriani, N., Wulandari, S., & Putri, R. (2022). The effect of elderly exercise on the level of independence in daily activities in Kalipuro, Banyuwangi. *Journal of Public Health*, 10(2), 145–153.
- Chen, L., Wang, Y., & Zhang, H. (2019). Effects of educational play programs on cooperation and problem-solving skills among preschool children. *Early Childhood Research Quarterly*, 46, 83–91. <https://doi.org/10.1016/j.ecresq.2018.12.005>
- Chen, Y., & Lee, S. (2023). Observational learning and social development in early childhood education: A modern review of Bandura's theory. *Journal of Early Childhood Research*, 21(1), 45–60. <https://doi.org/10.1177/1476718X22112233>
- Fitria, D., & Santoso, B. (2023). The role of educational play in reducing aggressive behavior and increasing empathy in preschool children in Indonesia. *Journal of Early Childhood Education*, 14(1), 67–78.
- Garcia, L., Ramirez, P., & Wang, S. (2022). The long-term effects of social skills deficits on academic achievement and behavior problems in children. *Journal of Child Psychology and Psychiatry*, 63(7), 811–822. <https://doi.org/10.1111/jcpp.13456>
- Hasanah, S., & Nugroho, A. (2022). The influence of structured play activities on children's self-confidence and social independence in early childhood education. *Journal of Child Education and Development*, 11(3), 203–212.
- Johnson, M., & Taylor, J. (2020). Group play as a catalyst for social skills development in preschoolers. *Journal of Early Childhood Education*, 15(4), 214–223.
- Ministry of Education and Culture. (2020). *Early Childhood Education Profile*. Direktorat PAUD, Direktorat Jenderal PAUD, Dikdas, dan Dikmen. <https://www.kemdikbud.go.id/>
- Law of the Republic of Indonesia Number 20 of 2003 concerning the National Education System.



- Lee, H., Kim, J., & Park, S. (2024). Social development delays and adaptive functioning in early childhood: A longitudinal study. *Early Childhood Research Quarterly*, 63, 101–113. <https://doi.org/10.1016/j.ecresq.2023.101234>
- Lee, S. (2020). Integrative educational play and social-emotional development in preschool children. *International Journal of Early Childhood Education*, 26(2), 135-150.
- Lee, Y., & Park, J. (2018). Social stimulation through educational play and its impact on social skill development in preschoolers. *Child Development Research*, 2018, Article ID 7590621. <https://doi.org/10.1155/2018/7590621>
- López-Meneses, E., Vázquez-Cano, E., & Romero-Rodríguez, J. M. (2024). Game-based learning in early childhood education: A systematic review of effects on socio-emotional development. *Frontiers in Psychology*, 15, Article 1307881. <https://doi.org/10.3389/fpsyg.2024.1307881>
- Martínez, P., López, R., & Sánchez, M. (2021). Role play and its effects on communication and conflict resolution skills among preschool children. *Early Childhood Development and Care*, 191(5-6), 765-776.
- Miller, D., & Thompson, R. (2023). Play-based interventions for social-emotional learning in preschoolers: A meta-analysis. *Early Education and Development*, 34(2), 234–256. <https://doi.org/10.1080/10409289.2022.2157890>
- Nicolopoulou, A., McDowell, J., & Ilgaz, H. (2024). Pretend play and young children's social competence: A meta-analytic review. *Educational Psychology Review*, 36(2), 215–242. <https://doi.org/10.1007/s10648-024-09884-z>
- Nugraha, A., Sari, F., & Prasetyo, H. (2021). Educational play environments as a medium for children's cognitive and social development. *Journal of Early Childhood Education*, 12(2), 90-102.
- Roberts, K., & Williams, L. (2017). Structured educational play and social competence in early childhood. *Journal of Child Psychology and Education*, 39(3), 270-281.
- Sharma, R., & Gupta, P. (2023). The role of play-based learning in enhancing social-emotional competencies in preschoolers. *The Bioscan*, 18(2), 431–438. <https://thebioscan.com/index.php/pub/article/view/3407>
- Smith, J., Brown, A., & Clark, H. (2019). The impact of educational play on social skills and empathy in early childhood. *Journal of Early Childhood Research*, 17(1), 34-46.
- Sugiyono. (2017). *Quantitative, qualitative, and analytical research methods R&D*. Bandung: Alfabeta.
- UNESCO. (2023). *Why early childhood care and education matters*. <https://www.unesco.org/en/education/early-childhood>
- Zhang, Y., Li, Q., & Chen, W. (2024). Enhancing social participation in early childhood education through role play and group games. *International Journal of Early Childhood*, 56(1), 77–95. <https://doi.org/10.1007/s13158-023-00312-9>