

The Role of Early Childhood Education in Optimizing Social and Cognitive Development

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ABSTRACT

Early Childhood Education (ECE) plays a crucial role in optimizing both social and cognitive development in young children. During early childhood, brain development occurs at a rapid pace, and the educational experiences children receive during this period have a long-lasting impact on their social and cognitive abilities. This study aims to examine the role of ECE in supporting both aspects of development, with a focus on the importance of quality education to foster positive social interactions and cognitive skills in children. Through a literature review, this research identifies various effective teaching strategies, such as play-based learning, interactive learning approaches, and emotional support from educators. The findings reveal that ECE programs that provide engaging and stimulating learning experiences enhance children's social skills, including communication, sharing, and collaboration, as well as cognitive abilities like problem-solving and language acquisition. The study also emphasizes the importance of policies that support the development of inclusive and high-quality ECE programs, ensuring all children have access to education that can optimally support their development.

ABSTRAK

Pendidikan Anak Usia Dini (PAUD) memiliki peran yang sangat penting dalam mengoptimalkan perkembangan sosial dan kognitif anak. Pada masa usia dini, perkembangan otak anak berlangsung sangat pesat, dan pengalaman pendidikan yang diterima pada tahap ini akan memberikan dampak jangka panjang terhadap kemampuan sosial dan kognitif mereka. Penelitian ini bertujuan untuk mengkaji peran PAUD dalam mendukung kedua aspek perkembangan tersebut, dengan fokus pada pentingnya pendidikan yang berkualitas untuk mendukung interaksi sosial yang positif dan kemampuan berpikir anak. Melalui tinjauan literatur, penelitian ini mengidentifikasi berbagai strategi pembelajaran yang efektif, seperti pendekatan berbasis permainan, pembelajaran interaktif, serta dukungan emosional dari pendidik. Hasil penelitian menunjukkan bahwa PAUD yang memfasilitasi pembelajaran yang menyenangkan dan stimulatif dapat meningkatkan keterampilan sosial anak, seperti kemampuan berkomunikasi, berbagi, dan bekerja sama, serta mengembangkan kemampuan kognitif, seperti pemecahan masalah dan penguasaan bahasa. Temuan ini juga menekankan pentingnya kebijakan yang mendukung pengembangan program PAUD yang inklusif dan berkualitas, guna memastikan semua anak memiliki akses terhadap pendidikan yang dapat mendukung perkembangan mereka secara optimal.

Kata Kunci : Pendidikan Anak Usia Dini; Perkembangan Sosial; Perkembangan Kognitif

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Introduction

Early Childhood Education (PAUD) has a very important role in forming the foundation for a child's social and cognitive development. From the age of 0 to 6 years, a child's brain experiences very rapid development, reaching almost 90% of the adult brain capacity. In this critical period, children are in a phase called the "sensitive period" where they are very receptive to stimulation from the surrounding environment, both in the form of social interaction and structured learning experiences. Therefore, PAUD serves as a foundation for a child's future development that includes not only academic aspects, but also social and emotional aspects.

Early childhood social development is related to their ability to interact with others, recognize and manage their own emotions, and build healthy relationships with peers and adults. During this period, children begin to learn to share, communicate effectively, and recognize their own and others' feelings. Group activities, joint games, and teaching moral and ethical values in PAUD can optimize children's social skills. For example, research by Li et al., (2018) shows that positive social experiences at an early age can strengthen children's ability to empathize and build supportive relationships throughout their lives.

Children's cognitive development includes their ability to understand the world around them, think critically, solve problems, and learn basic concepts such as numbers, colors, and shapes. Engaging children in activities that stimulate their thinking skills, such as playing puzzles, recognizing patterns, and talking about their experiences, helps build a strong foundation for future learning. Research by Cheung et al., (2022) shows that children learn through direct experience and interaction with their environment. Therefore, an educational environment that is rich in stimulation and provides various opportunities for exploration is essential for children's cognitive development.

Despite a wealth of research demonstrating the importance of early childhood education in supporting children's social and cognitive development, there is a gap in understanding how different educational strategies can be implemented effectively. Different approaches to early childhood education, such as play-based approaches, project-based learning, and arts-based learning, have the potential to support children's social and cognitive development, but their effectiveness often depends on the context and implementation in the field. This suggests the need for further research to identify which strategies are most effective and how education policies can be adjusted to support optimal implementation of these strategies.

This study aims to provide an in-depth analysis of the role of PAUD in supporting children's social and cognitive development through the Systematic Literature Review (SLR) approach. By reviewing various relevant literature, this study will identify and evaluate effective learning strategies in PAUD and assess the relationship between the quality of education provided and the results of children's social and cognitive development. The results of this study are expected to provide a deeper understanding of how PAUD can contribute to children's overall growth, as well as provide recommendations for the development of educational policies and practices that better support optimal child development at an early age. In addition, this study also aims to enrich the discussion on the quality of PAUD and its impact on children's long-term lives, which can be a reference for educators, policy makers, and parents in designing beneficial educational programs.

Method

This study uses the Systematic Literature Review (SLR) approach to explore the role of Early Childhood Education (PAUD) in optimizing children's social and cognitive development. This method was chosen because it can provide a comprehensive and objective

analysis of literature relevant to the research topic, as well as compile existing findings based on systematic and transparent criteria.

1. Data Sources

This study collected data from various literature sources published in scientific journals, books, and policy reports relevant to the topics of PAUD, social development, and cognitive development. Articles were selected based on strict inclusion criteria, namely research published in the last five years (2018-2023), and that focused on the effects of PAUD on the social and cognitive development of early childhood. Articles that were not available in English or Indonesian, and that did not match the focus of the study, were excluded from the analysis.

2. Inclusion and Exclusion Criteria

- Inclusion :** Research that focuses on early childhood education, social and cognitive development, and the use of various educational strategies for young children. Studies must be based on empirical data and can be published in peer-reviewed journals or credible scientific publications.
- Exclusions :** Articles discussing PAUD for age groups over 6 years, non-empirical articles (e.g., reviews without data), and research not relevant to a social or cognitive focus.

3. Data Collection Process

The data collection process was carried out through a literature search using academic databases such as Google Scholar, JSTOR, ERIC, and ScienceDirect. Keywords used in the search include: "Early Childhood Education," "Social Development," "Cognitive Development," "Impact of ECE," and "Effective Teaching Strategies in ECE." The researcher also checked relevant references from the selected articles to ensure that no important literature was missed.

4. Data analysis

The collected data were then analyzed using thematic analysis techniques. Researchers will identify key themes that emerge related to the impact of PAUD on children's social and cognitive development. The findings will be categorized into various sub-topics, such as effective learning strategies, the positive impact of PAUD on children's social skills, and the relationship between education quality and cognitive development. The results of this analysis will help to formulate deeper conclusions regarding the role of PAUD in early childhood development.

5. Reliability and Validity

To ensure the reliability and validity of the research results, researchers will cross-check the selected articles and compile an objective summary based on the existing findings. Only research with a strong and accountable methodology will be used in the analysis.

Results and Discussion

Result

This study aims to explore and analyze the role of Early Childhood Education (PAUD) in optimizing children's social and cognitive development, using the *Systematic Literature Review* (SLR) approach. The SLR process is carried out by identifying, evaluating, and analyzing various relevant literature that has been published related to this topic.

1. Literature Selection Process

- Inclusion Criteria :** Articles included in this analysis were articles published between 2000 and 2024, which discussed PAUD, children's social and cognitive development,

and the relationship between the two. In addition, the articles used included quantitative, qualitative, and mixed studies that provided relevant data.

- b. Exclusion Criteria : Articles that discussed PAUD irrelevantly, or that only focused on aspects of children's physical or motor development, were excluded from this analysis.
- c. Number of Literature Selected : After selection, 45 articles were found that met the inclusion and exclusion criteria for further analysis.

2. The Role of PAUD in Children's Social Development

- a. Social Skills Improvement : The results of this SLR show that PAUD has a very important role in helping children develop basic social skills, such as sharing, cooperating, interacting with peers, and managing emotions. Many studies have shown that children who are involved in PAUD tend to have better social skills compared to those who do not attend this education (Keller, 2018)
- b. Social Interaction in Groups : Various studies analyzed revealed that group interactions in PAUD provide opportunities for children to learn about social rules and group dynamics. Group-based activities such as playing together, group discussions, or collaborative projects help children understand their roles in the group and form more adaptive social behaviors (Christina et al., 2021)
- c. Empathy Development and Emotional Management : Studies show that ECD helps children develop empathy, which is the ability to understand and feel the feelings of others. ECD that provides a safe and supportive environment allows children to learn to manage conflict, regulate emotions, and show positive attitudes towards others (Mortazavizadeh et al., 2022)

3. The Role of PAUD in Children's Cognitive Development

- a. Improved Language Skills : One of the main findings in this SLR is that PAUD has a significant impact on children's language development. The studies reviewed show that children involved in PAUD develop speaking skills, understand new vocabulary, and participate in conversations more quickly (Yafie & Sutama, 2019) (Ramadhan & Fauziah, 2020)
- b. Mastery of Basic Concepts : This study also found that PAUD can accelerate children's understanding of basic concepts such as numbers, shapes, and colors. Activities involving props and practical activities help children understand cause-and-effect relationships, as well as strengthen problem-solving and logical thinking skills (Perdina et al., 2019)
- c. Creativity and Problem Solving : PAUD that presents various creative learning experiences, such as drawing, singing, or science experiments, can help children develop critical thinking skills and creativity. These activities stimulate children's brains to think more complexly and find solutions to existing problems (Ramadhan & Fauziah, 2020)

4. Factors that Influence the Effectiveness of PAUD

- a. Teaching Quality : Based on literature analysis, teaching quality greatly influences the impact of PAUD on children's social and cognitive development. Well-trained teachers, who are sensitive to children's needs, and able to apply appropriate methods can create a conducive environment for children to develop optimally (Tatminingsih, 2019)

- b. Parental Involvement : Research also shows that parental involvement in early childhood education can accelerate children's social and cognitive development. Parents who support their children's learning at home by reading together, talking about activities in the preschool, and making time for educational play, strengthen children's learning experiences (McDonnell et al., 2022)
- c. Facilities and Infrastructure : Adequate facilities, such as child-friendly classrooms, varied educational props, and a safe and stimulating environment, make a major contribution to the quality of PAUD and the development of the children involved (Ong et al., 2018)

5. Challenges in the Implementation of PAUD

- a. Limited Access : One of the main challenges identified in this study is the limited access to ECD in remote areas or areas with limited resources. Although ECD has many benefits, many children still cannot access early childhood education due to limited facilities or costs (Murray et al., 2018)
- b. Diverse Teacher Quality : The quality of early childhood education varies widely depending on the level of teacher training and qualifications. In many areas, early childhood education teachers still lack adequate training, which can affect the quality of learning provided to children (Dunbar et al., 2017)
- c. Low Public Awareness : Although PAUD is increasingly seen as an important component in children's education, public awareness, especially in certain areas, is still low. Some parents are not yet aware of the importance of early childhood education, which affects children's participation in PAUD (Arace et al., 2021).

Discussion

This study aims to identify and evaluate various literature related to the role of Early Childhood Education (PAUD) in optimizing children's social and cognitive development. Based on the literature analysis conducted, various interesting findings emerged, which will be discussed further to provide a clearer understanding of how PAUD can affect these two aspects of child development.

1. *The Role of PAUD in Children's Social Development*

PAUD has been shown to play a very important role in children's social development. Based on the analysis of various studies, PAUD can provide opportunities for children to learn and interact with peers, which is very crucial in the formation of social skills. At an early age, children learn how to collaborate, share, and empathize. Many studies, such as those conducted by Perdina et al., (2019), show that children who are involved in PAUD have better social skills compared to children who do not attend early childhood education.

In addition, social interactions that occur in PAUD also help children learn to manage their emotions, such as overcoming frustration, regulating impulses, and adapting to various social situations. Ramadhani & Fauziah (2020) showed that PAUD that provides a supportive and safe environment can improve children's ability to understand and feel the feelings of others (empathy), and manage their emotions better.

However, despite many studies showing positive results, several studies also noted that not all PAUD programs provide optimal results in children's social development. The quality of teaching, teacher interaction with children, and the approach applied in PAUD can affect the level of success in improving children's social skills. Therefore, it is very important to ensure that PAUD not only provides opportunities for

social interaction, but also ensures that these interactions are carried out in an educational context and support positive social development.

2. *The Role of PAUD in Children's Cognitive Development*

In terms of cognitive development, the results of the analysis show that PAUD has a very positive impact in supporting the development of children's cognitive abilities, especially in mastering language and basic concepts such as numbers, shapes, and colors. Many studies, such as those conducted by Karaer & Akdemir, (2019) show that children who attend PAUD develop speaking skills, vocabulary understanding, and communication skills faster than children who do not attend.

PAUD also plays an important role in building children's cognitive foundations in terms of problem solving, logical thinking, and critical thinking skills. Various activities carried out in PAUD, such as playing with props, science experiments, drawing, and singing, all help children to develop creative and logical thinking skills. Hammer et al., (2017) explained that these activities stimulate children's brain development and prepare them for future educational challenges.

In addition, in the context of language development, PAUD helps children learn how to speak clearly, understand sentence structures, and convey their ideas well. This is very important because strong language skills will affect children's ability to learn in the future, both in reading, writing, and speaking.

However, although PAUD has many benefits in children's cognitive development, the quality of teaching provided by teachers also greatly affects the results obtained by children. PAUD teachers who are well trained and have the appropriate approach will be better able to provide the right stimulation to develop children's cognitive potential.

3. *Factors that Influence the Effectiveness of PAUD*

There are several factors that influence the effectiveness of PAUD in optimizing children's social and cognitive development. The first factor is **the quality of teaching**. Most of the studies in this SLR show that PAUD teachers who are well-trained and have a sensitive approach to children's developmental needs can create a more supportive learning environment. Teachers who are able to adjust their teaching methods to the needs of each child will be more effective in developing their social and cognitive skills.

The second factor is **parental involvement**. Several studies have shown that parental involvement in early childhood education greatly influences children's development. Parents who actively support their children's learning activities at home, such as reading books together or talking about experiences in PAUD, can strengthen the learning that children receive at school and accelerate their social and cognitive development (Zinsser et al., 2016).

The third factor is **PAUD facilities and infrastructure**. PAUDs that have adequate facilities, such as child-friendly classrooms, varied teaching aids, and a safe and stimulating environment, can create an optimal learning atmosphere. The quality of facilities and infrastructure in PAUD greatly influences how effectively learning activities can be carried out, and this contributes greatly to the social and cognitive development of children.

4. *Challenges in the Implementation of PAUD*

Although PAUD has a significant positive impact on child development, its implementation in some areas faces various challenges. **Limited access** is one of the main challenges, especially in remote areas or areas with limited resources. Many children

cannot access early childhood education due to geographical, economic, or lack of adequate facilities. This has an impact on the inequality in the quality of education received by children.

Teacher quality is also a major challenge in implementing PAUD. In many areas, especially in rural areas, there is still a shortage of well-trained teachers. Poorly trained teachers may struggle to implement methods that are appropriate to the child's social and cognitive development, which ultimately affects the effectiveness of learning.

In addition, **public awareness** of the importance of PAUD is still low in some areas. Some parents still think that early childhood education is not very important and prefer to wait for their children to enter formal education. Therefore, further efforts are needed to increase public awareness of the importance of PAUD as a foundation for children's education.

5. *Implications for Education Policy*

Based on the findings obtained, this study suggests that education policies should focus more on strengthening and expanding access to PAUD throughout Indonesia, especially in areas that still lack facilities. **Improving the quality of teaching** through training and professional education for PAUD teachers is also very important. By improving the skills and knowledge of PAUD teachers, the quality of early childhood education can be improved, which in turn will accelerate children's social and cognitive development.

In addition, **collaboration between parents, teachers, and the community** also needs to be strengthened to create an environment that supports holistic child development. Parents need to be more aware of the importance of their role in supporting early childhood education, both at home and in PAUD.

Conclusion

Early Childhood Education (PAUD) plays a very important role in optimizing children's social and cognitive development. A quality PAUD program can help children develop social skills such as communicating, working together, and understanding their own and other people's feelings. In addition, PAUD also supports children's cognitive development, such as the ability to think, solve problems, and learn basic concepts that will support academic abilities in the future.

Through structured interactions and appropriate stimulation, PAUD helps children learn in a safe and supportive environment, strengthening the foundation for further development. Therefore, investment in quality PAUD can have a long-term impact on children's educational success and social life. In other words, PAUD is not only focused on academic aspects, but is also important for forming a good foundation of social skills, which greatly influences the formation of personality and success in various aspects of life.

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