

The Impact Of The Montessori Method On The Socio-Emotional Development Of Children Aged 4-6 Years At Kindy House Kindergarten

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ABSTRACT

Early childhood social-emotional development is crucial but often suboptimal in Indonesian early childhood education (PAUD) due to excessive academic priorities. This study aims to analyze the impact of the Montessori method on the social-emotional development of children aged 4-6 years at Kindy House Kindergarten based on STTPA. Using a qualitative descriptive case study approach, the population was children aged 4-6 years at the kindergarten; a purposive sample of 52 active children and 8 teachers. Instruments included STTPA observation guidelines, semi-structured interviews, and documentation; inductive analysis with thematic triangulation. Observation results showed high achievement: self-awareness 91.8%, responsibility 87.6%, prosocial 91.6%, with >80% success indicators. The conclusion states that the Montessori method is effective in developing independence, emotional regulation, and empathy through a structured environment, recommending its widespread adoption in PAUD for optimal STTPA.

INTRODUCTION

Early childhood education (PAUD) forms the foundation of a child's holistic development, encompassing cognitive, language, physical-motor, religious-moral, and socio-emotional aspects that are closely interrelated (Shonkoff & Phillips, 2000). Socio-emotional development in this phase is the main key in building social relations, emotional regulation, and children's adaptation to the learning environment and future life (Denham, 2006). The National PAUD Standards through the Minister of Education and Culture Regulation Number 137 of 2014 emphasize socio-emotional as an essential element, with the Child Development Achievement Level Standards (STTPA) that include self-awareness, responsibility for oneself and others, and prosocial behavior such as empathy, cooperation, and tolerance (Ministry of Education and Culture of the Republic of Indonesia, 2014). A meaningful and contextual learning approach is essential to achieve this STTPA, as outlined in the framework of

children's learning experiences (Suyanto, 2015). Recent research shows that optimal social-emotional stimulation at an early age improves overall school readiness (Rentzou et al., 2021).

The Montessori method emerged as a holistic approach that views children as active agents in developing independence, self-control, and social skills through a structured learning environment (Montessori, 1964; Lillard, 2017). This environment allows children to consciously choose materials, practice structured work with freedom and responsibility, and supports self-regulation and social interaction (Lillard & Else-Quest, 2006; Ningsih et al., 2021). Practical life activities build patience, perseverance, and independent conflict resolution, while mixed-age classes encourage collaboration, empathy, and appreciation of differences (Isaacs, 2018; Hanifah, 2005). Contemporary studies confirm that Montessori children demonstrate better readiness for the transition to higher education, with superior time management skills and resilience to failure (Lapon, 2020; Aras, 2022).

However, early childhood education practices still tend to prioritize early academic aspects such as literacy and numeracy, often resulting in suboptimal social-emotional stimulation for children (OECD, 2015). Parents also often prioritize cognitive skills such as reading, writing, and arithmetic, neglecting the social-emotional foundations crucial for the transition to primary school (Istanti, 2018). This creates developmental gaps, including deficits in emotional regulation, empathy, and cooperation (Kurniawan et al., 2023).

This gap is increasingly apparent in inclusive early childhood education institutions like Kindy House Kindergarten, where varying child characteristics require specific adaptations. However, Montessori implementation has not been thoroughly evaluated against social-emotional developmental skills (Sumitra, 2014). Previous research has focused more on cognitive or general independence, with less attention to the specific impact on inclusive interactions and prosocial behavior in the Indonesian context (Muftisany, 2023; Sari et al., 2024).

This study aims to analyze the impact of the Montessori method on the social-emotional development of children aged 4-6 years at Kindy House Kindergarten, with a focus on self-awareness, responsibility, and prosocial behavior based on STTPA. The urgency lies in the need to support the quality of Indonesian early childhood education amidst the national priority of STTPA, addressing the gap in social-emotional stimulation that hinders children's educational transition. Its novelty lies in the contextual qualitative approach in local inclusive institutions, complementing global studies with Indonesian empirical evidence that highlights the role of the Montessori environment in social-emotional inclusivity.

METHODS

Types and Methods of Research

This research adopted a qualitative approach with an in-depth descriptive case study design, in accordance with the title "The Impact of the Montessori Method on the Social-Emotional Development of Children Aged 4-6 Years at Kindy House Kindergarten," to explore the phenomenon of children's social-emotional development contextually and holistically as emphasized in the introduction (Sugiyono, 2019). This approach allows researchers to capture the natural dynamics of children's interactions in a Montessori environment, as recommended for early childhood education studies that emphasize meaningful learning processes (Creswell & Poth, 2022). The main focus refers to the Standards for Child Development Achievement Levels (STTPA) for social-emotional aspects, including self-awareness, responsibility for oneself and others, and prosocial behavior (Kemendikbud RI, 2014). The qualitative method was chosen because of its ability to reveal in-depth behavioral patterns through direct observation, rather than simply quantitative data, thus aligning with the holistic Montessori principles (Emzir, 2021).

Data Analysis Instruments and Techniques

The primary instrument was the researcher herself as a non-intrusive participant observer, supported by open-ended observation guidelines developed based on STTPA indicators to systematically record social-emotional behaviors, such as emotional expression, independence, and prosocial interactions (Sudaryono, 2020). These guidelines included an observation rubric with observable behavioral indicators, complemented by semi-structured interviews with teachers as key informants and supporting documentation such as portfolios, photographs, and videos of learning activities. Triangulation data collection techniques—observation, interviews, and documentation—ensured validity through cross-confirmation, as is the principle of verification in qualitative research (Sugiyono, 2019; Creswell & Poth, 2022). Data analysis was conducted inductively with the following steps: (1) data reduction through categorization of behavioral patterns; (2) data presentation in descriptive and tabular forms; and (3) drawing conclusions through reflective thematic interpretation, with an emphasis on the Montessori environmental context to avoid subjective bias (Emzir, 2021).

Population and Sample

The study population consisted of all children aged 4-6 years at Kindy House Mataram Kindergarten, which fully implements the Montessori method, representing the inclusive early childhood education context as outlined in the introduction. The sample was purposively selected based on the criteria of children actively engaged in daily learning activities, resulting in a representative group of approximately 52 children for intensive observation, ensuring data saturation without researcher intervention in the learning process (Sudaryono, 2020). This purposive selection is appropriate for qualitative case studies where the sample focuses on a specific, information-rich case, such as the social-emotional dynamics in a mixed-age classroom (Creswell & Poth, 2022). Class teachers (8) were recruited as supporting informants through interviews to provide pedagogical perspectives.

Research Procedures

The procedure begins with preparation, including obtaining ethical clearance from the institution and validating the observation instrument through a pilot test. Primary observations are conducted over 4–6 weeks during regular school hours, recording children's natural interaction patterns without interruption. This is followed by semi-structured interviews (20–30 minutes per teacher) and collecting relevant documentation (Sugiyono, 2019). Raw data are transcribed and thematically coded daily to monitor progress, with iterative triangulation for validation—for example, comparing observation notes with interviews to confirm STTPA findings (Emzir, 2021). The process concludes with reflective analysis and descriptive reporting, maintaining the confidentiality of children's data in accordance with qualitative research ethics (Creswell & Poth, 2022; Ministry of Education and Culture, 2014).

RESULTS

Based on the results of observations conducted at Kindy House Kindergarten, the Montessori method shows a strong impact on the social-emotional development of children aged 4-6 years. This is demonstrated by the various behaviors consistently demonstrated by children during learning and instructional activities. Structured observations were conducted throughout the research process, paying attention to the children's interaction patterns with their environment, peers, and teachers during the Montessori learning process, enabling researchers to obtain a comprehensive picture of children's social and emotional development within a natural learning context.

The observation instrument was developed based on the Montessori Educational Framework (STTPA), with reference to the socio-emotional aspects, which encompass three main aspects: self-awareness, responsibility for self and others, and prosocial behavior. Each aspect is described in

behavioral indicators that can be observed during daily learning activities. The following table shows the results of observations using the Montessori method in the socio-emotional development of children aged 4-6 years.

Table 1. Observation Results of Social-Emotional Development of Children Aged 4-6 Years based on STTPA

| STTPA Aspects | Indicator | Observed Behavior | Observation result |
|------------------------------------|---|--|---|
| Self-awareness | Children are able to recognize and express feelings naturally | Children express feelings of happiness, sadness, anger or disappointment verbally and nonverbally. | 96.15% of children are able to express their feelings verbally and nonverbally |
| | Children show self-confidence | Children choose activities independently and show confidence when carrying out activities. | 80.76% of children are able to choose activities independently |
| | Children are able to control emotions | Children calm themselves down after experiencing conflict or disappointment with minimal assistance. | 92% of children are able to regulate their emotions positively |
| | Children are able to obey the rules | Children follow class rules and discipline during activities. | 90% of children are able to follow class rules |
| | Children are able to adapt to situations | Children adapt their behavior according to the context of activities and the environment. | 82% of children are able to adapt to new situations |
| Responsibility for self and others | Children obey class rules | Children follow the rules of play and learning without needing constant reminders. | 86% of children are able to follow play rules with minimal interruption |
| | Children are able to manage themselves | Children manage their behavior and learning activities independently | 80% of children are able to manage their behavior and learning activities independently |
| | Children want to share and provide help | Children share play equipment and help friends in need. | 96% are able to share materials or toys |
| | Children patiently wait their turn | Children wait their turn when playing or talking. | 96% of children are able to control themselves, especially when queuing. |

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|--------------------|---|---|---|
| | Children are responsible for their behavior | Children receive simple consequences for their behavior. | 80% of children are able to accept simple consequences |
| Prosocial behavior | Children are able to work together | Children are actively involved in group activities and share roles. | 96% of children are able to actively participate in group activities |
| | Children show empathy | Children respond to friends' feelings by comforting, helping, or showing concern. | 80% of children are able to show empathy for others |
| | Children play with their peers | Children interact positively and play with their peers | 94% of children are able to behave cooperatively when playing with or without peers. |
| | Children share with others | Children lend or use play equipment in turns | 90% of children are able to use materials and toys together |
| | Children appreciate differences | Children accept differences in abilities, characters and backgrounds. | 98% of children are able to accept differences in abilities, character and background |

Based on the observation results table above, in general the children showed good social-emotional development in all observed aspects, including self-awareness, responsibility towards themselves and others, and prosocial behavior.

In terms of self-awareness, the majority of children were able to recognize, identify, and express emotions appropriately. 96.15% of children were able to express feelings of happiness, sadness, anger, and disappointment, both verbally and nonverbally. Furthermore, 80.70% of children demonstrated self-confidence by choosing activities independently and demonstrating confidence in those choices. Children's emotional regulation skills also appeared to be developing, as evidenced by the fact that 92% of children were able to calm themselves down after experiencing conflict with peers with minimal assistance. In addition, children also demonstrated the ability to follow rules and adapt to new situations with percentages of 90% and 82% respectively.

Regarding responsibility for self and others, observations showed that most children demonstrated positive behavior. Ninety-six percent of children demonstrated social sensitivity by sharing and providing assistance to those in need. The ability to wait one's turn achieved a 96% score, indicating children's ability to control themselves when queuing or waiting their turn for various activities. Furthermore, 80% of children demonstrated a sense of responsibility for their behavior by accepting simple consequences for their actions.

In terms of prosocial behavior, children demonstrated active engagement with both peers and non-peers. Ninety-six percent of children demonstrated cooperative behavior, working together in both large and small groups. Eighty-six percent of children also demonstrated empathy. Responding to friends' feelings by helping and showing concern when they need help. In social interactions, children are able to play cooperatively together, as demonstrated by a percentage of 94%. Furthermore, 90% of

children are able to share and use toys interchangeably, and 98% of children are able to appreciate differences in abilities, character, and background, demonstrated by a high level of tolerance.

DISCUSSION

Emotional Awareness and Management

The Montessori method provides ample opportunities for children to recognize, manage, and develop emotions naturally. This is because one of the principles of the Montessori method is a prepared learning environment. Montessori classrooms are designed to support structured, independent, and exploratory learning. This environment includes a variety of learning materials organized in a structured manner, allowing children to choose activities that suit their interests and developmental stage and are child-friendly in size. Furthermore, the classroom or learning environment is arranged with an open shelving model, so that all Montessori-based materials, apparatus, and equipment are displayed, which encourages children's curiosity about their environment. Lillard et al. (2017) emphasized that Montessori education improves the performance of all children in several measures, and makes the performance of groups that are typically underachieving more equal.

The Montessori method emphasizes exploration not only in the classroom but also in outdoor environments, incorporating natural elements such as real plants and pets that children can care for themselves. This fosters the experience and self-awareness of caring for the natural world around them. Although children are given the freedom to choose activities based on their interests and needs, they remain within certain limits. Therefore, children not only learn about the material but also learn to make decisions, take responsibility for their choices, and develop discipline. In this process, the teacher acts solely as a companion or facilitator, guiding the children throughout the learning process (Hadrianti et al., 2025). Consequently, children who learn using this method demonstrate better social skills, develop empathy, and are able to collaborate with their peers (Sumitra, 2014).

Children's Social Interactions with Peers

In addition to a well-prepared environment, one of the key successes of the Montessori approach in fostering children's peer interaction is the mixed-age classroom design. This allows children to interact more broadly, not only with their peers but also with peers of a younger and older age. Montessori classrooms consist of children of varying ages (usually three years old). This allows children aged 5-6 to serve as peer tutors for children aged 3-4, and children aged 3-4 to observe children older than them (Tiryaki et al. 2021). This creates a reciprocal interaction that allows for the exchange of skills and abilities in problem-solving and leads to the development of not only social-emotional skills but also independence in children.

Compliance with Rules and Social Responsibility

The Montessori approach supports the development of children's social responsibility, in accordance with the National Standards for Childhood Education (STTPA). Consistently applied rules explained through hands-on practice help children internalize social values. Children learn that rules are not merely obligations, but rather a part of communal life that must be respected. Teachers act as role models and reminders, rather than as primary controllers, encouraging children to take responsibility for their own behavior. Mumtazah et al., (2020) revealed that Montessori principles encourage the development of independence and a sense of responsibility in children from an early age.

Children's Independence and Self-Confidence

A Montessori environment that values children's learning allows them to feel valued and trusted. When children are given the opportunity to try, fail, and correct mistakes independently, they learn to

recognize their own abilities. This strengthens their confidence in interacting with their social environment and facing new challenges, as emphasized in the STTPA.

The Montessori approach provides children with the freedom to determine and carry out their own learning activities in a structured and orderly environment. Montessori education emphasizes hands-on experience, where children play an active role as learners and are trained to develop independence. Through hands-on activities and collaborative play, children gain a concrete understanding of concepts based on direct experience. This approach is aimed at supporting the development of independence, creativity, and a sense of responsibility in children as a whole (Muftisany, 2023).

CONCLUSION

This study found that the implementation of the Montessori method in Kindy House Kindergarten had a significant impact on the social-emotional development of children aged 4-6 years, with high achievements in self-awareness (average 91.8%), responsibility for self and others (average 87.6%), and prosocial behavior (average 91.6%) based on the STTPA indicators. A structured learning environment with freedom and responsibility, mixed-age classes, and the role of teachers as facilitators successfully formed children's independence, emotional regulation, empathy, and cooperation holistically. These findings confirm the effectiveness of Montessori in addressing the gap in social-emotional stimulation in Indonesian early childhood education, as observed from natural interaction patterns and achievement percentages above 80% in almost all indicators.

However, limitations of this study lie in its single-case study design at a single inclusive institution, which limits generalizability to other early childhood education contexts, and its reliance on subjective observations without a control group. Suggestions for future research include a mixed-methods approach with multi-school samples, pre-post-intervention comparisons, and moderator variables such as children's socioeconomic background. Practically, these results recommend optimizing Montessori in early childhood education nationwide through teacher facilitator training, child-sized environment design, and parent collaboration to strengthen STTPA, thereby supporting children's transition to a more adaptive and inclusive primary education.

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