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# Fostering Independent Learning in Early Childhood: A Case Study on Montessori Pedagogy at PAUD Montessori Futura Indonesia

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## Abstract

The primary objective of this research is to assess the effectiveness of Montessori pedagogy in nurturing independent learning in early childhood education, specifically at PAUD Montessori Futura Indonesia. Utilizing a descriptive case study approach, the study examines daily routines, learning activities, and the role of educators in fostering independence. The findings indicate that children consistently engage in independent behaviors, such as choosing activities autonomously and requiring minimal teacher intervention. Educators are instrumental in crafting activities that bolster independent learning, and the learning facilities are strategically organized to facilitate this objective. The practice of age grouping within the institution further enriches the learning environment by instilling a sense of responsibility among older children. These outcomes have considerable implications for both research and practice in early childhood education, suggesting that Montessori pedagogy can effectively promote independent learning. However, the study is confined to a single educational setting and does not explore the Montessori approach's long-term effects or adaptability in diverse socio-cultural contexts. Future research is recommended to investigate these areas for a more holistic understanding of the efficacy of Montessori pedagogy in promoting independent learning.

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## Introduction

Fostering independent learning in children is a shared aspiration of both teachers and parents and should be initiated at an early age. Independent learning habits permeate children's daily activities at home and are reciprocal (Bronson, 2000). When children demonstrate independence in learning, they reap multiple benefits, including improved academic performance (Siagian et al., 2020; Fatimah, 2016) and increasing motivation and self-confidence (Meyer et al., 2008). Regrettably, not all early childhood educators understand the importance of instilling independence in children and its long-term implications, often resulting in a teacher-centered rather than a child-centered approach to learning.

Children's growth of independent learning is not spontaneous but must be carefully planned and facilitated by teachers. Teachers prepare various rules for learning activities, provide appropriate facilities based on the children's needs, and offer guidance, examples, and familiarization exercises that are first followed by the children and later internalized as habits. Once these habits are formed, independence in learning activities naturally emerges (Denansa et al., 2023; Wahyuni & Al Rasyid, 2022). After that, the teacher's role shifts to that of a facilitator

who minimally intervenes, allowing children the autonomy to engage in various activities independently.

The assertion that parents play a dual role as both enablers and barriers in their children's independent learning journey is indeed a crucial consideration. Research corroborates that collaborative efforts between teachers and parents are vital in nurturing an independent learning environment (Qadafi, 2019; Wahyuni & Al Rasyid, 2022; Hidayah et al., 2021). This partnership should involve open communication channels to discuss learning objectives, methods, and assessment criteria. However, there exists a fine line between fostering independence and inhibiting it through excessive involvement. Parents who micromanage their children's learning activities may inadvertently hamper the development of self-regulated learning skills, negating educational settings' advantages.

In the specific context of Lombok, Montessori-based schools have garnered attention for their demonstrable success in cultivating learning independence among students. The diversity in students' backgrounds, particularly with parents having varied educational qualifications, adds a layer of complexity to the issue of learning independence. Different parenting styles may result in students either flourishing in their independent learning journey or becoming increasingly reliant on adult supervision. The Montessori method, focusing on self-directed activity and hands-on learning, is a practical case study for how schools can engender a culture of independent learning. Thus, aligning parenting practices with the pedagogical approaches of these Montessori schools could create a more harmonized and effective ecosystem for fostering learning independence.

Given this backdrop, Montessori-based early childhood education (PAUD) schools specifically focus on child-centered learning approaches that minimize teacher intervention to foster independent learning. Teachers mainly observe, guide, reinforce, or mediate when issues arise among children during activities (Starkey, 2019; Andiema, 2016). This way, the emphasis is not on achieving academic targets but on nurturing independence, which ultimately leads to academic and non-academic achievements. Such approaches are also called flexible, experiential, and self-directed learning (O'Neill & McMahon, 2005).

The Montessori method has been extensively researched in early childhood education. Various studies have explored its impact on children's physical activities (Pate et al., 2014), academic, cognitive, and social development (Courtier et al., 2021; Bahmaee et al., 2015), as well as social competencies, behavior, and emotional well-being (Dereli İman et al., 2019; Widiyanti et al., 2018). However, there exists a significant gap in the literature concerning the effectiveness of the Montessori method in facilitating early childhood learning independence. Previous studies have primarily focused on comparing the Montessori approach to traditional methods or its impact on disadvantaged children, thereby creating a controversy over its effectiveness in areas like learning independence.

Considering this gap, the present study aims to explore the effectiveness of Montessori pedagogy in facilitating independent learning in early childhood, with a particular focus on practices in PAUD Montessori Futura Indonesia. There is a significant knowledge void in the existing literature on how the Montessori method can be applied to instill independent learning—a crucial aspect of child development. Hence, this study endeavors to fill this gap by providing deeper empirical and theoretical insights into how Montessori education can foster independent learning in early childhood.

## Methods

This qualitative study employs a case-study approach, focusing on the early childhood education program at Montessori Futura Indonesia. The study was conducted over three months in 2019 in Jatisela Village, West Lombok District, involving ten children aged 3-6 years and three teachers. The primary objective was to observe independent learning practices and educational efforts undertaken. Data collection methods included non-participant observation,

in-depth interviews, and documentation, adhering to qualitative research standards (Sugiyono, 2016; Yin, 2018).

Data analysis employed the pattern-matching logic technique, which compares empirical findings with initial hypotheses. This process encompassed stages of data reduction, data presentation, and conclusion drawing. The study utilized methodological triangulation to ensure reliability and validity, and education experts reviewed the analysis outcomes. Consequently, this method offered a comprehensive and in-depth portrayal of independent learning practices at Montessori Futura Indonesia.

## Result

### 3.1. Fostering Child Independent in Early Childhood Education at Montessori Futura Indonesia

Cultivating children's learning autonomy is no simple task. Teachers undergo a lengthy and challenging process to achieve desired outcomes. Apart from dealing with children from diverse family backgrounds and parenting styles, educators often face uncooperative parents and societal stigmas. For instance, the prevalent expectation is that preschools should enable children to read, write, and perform basic arithmetic before entering elementary school. These misconceptions are further exacerbated by the Montessori system's child-centric play-based approach and less rigid dress code. The principal of Montessori Futura Indonesia conveyed this during a pre-research interview.

Amid these challenges, Montessori schools are increasingly favored by parents who understand the essence of early childhood education: providing stimuli to support physical and emotional development and prepare children for primary education (Kemendikbud, 2015b). Various play activities serve as one such stimulus. Observations conducted at the school revealed four aspects of children's autonomous behavior, as summarized in Table 1 below.

Table 1: Activities Indicating Child-Independent Learning

Time of Day	Forms of Autonomy
Arrival	They are removing footwear themselves. I am storing bags in designated racks. I am taking initial positions for "circle time" activities.
Learning Activities	Choosing desired play activities Taking small carpets as play markers Selecting age-appropriate toys Cleaning up after play Rarely seeking teacher intervention.
Break and Mealtime	They were taking turns preparing food. We are washing hands at designated sinks. They were lining up to get food. They were carrying food to eating areas and eating together. Cleaning up eating areas. I am freely playing with available facilities, both indoors and outdoors.
Departure	They gathered to reflect, sing, and pray. Collecting bags from storage I am waiting for pickup from parents or relatives.

Upon arrival, children are greeted by teachers at the entrance. They remove their footwear before entering the main area designated for bag storage and educational toys. Senior teacher F, who has extensive training, stated in an interview:

*"Autonomy is not solely the school's responsibility; it must align with parenting styles at home. Basic autonomy begins with simple tasks like removing footwear, placing them on racks, and storing bags in designated areas."*

The following documentation emphasizes that independence can be observed upon arrival. Two children place their bags on the designated rack and then gather with their peers to engage in the opening activity, commonly called "circle time".



Figure 1: Two children storing bags on a shelf



Figure 2: Some shoes and sandals neatly lined up on a shelf

Documentation affirms that children exhibit autonomy from the moment they arrive. They store their bags and join their peers for the opening "circle time" activities. This usually happens when children start arriving in the morning. The gathered children then proceeded to their circle time activities, which involved children of various ages. According to interviewed teachers, this age diversity is an advantage in Montessori schools, providing opportunities for mutual assistance and reminders in case of rule violations.

Circle time activities involve children of varying ages, a feature that stands as an advantage in Montessori schools. According to interviewed teachers, this age diversity provides opportunities for mutual assistance and reminders when rules or collective agreements are violated. Documentation of some of these joint activities is provided below.



Figure 3: Putting a puzzle together



Figure 4: Arranging letters together



Subsequently, the children's independence becomes particularly evident during learning activities, marked by approximately five salient points. These points pertain to child-centered play activities with minimal teacher involvement in directing the play. Observations conducted over one month demonstrate consistent conditions. Following the opening circle time activities, children proceed to toy storage rooms to pick up mats for playing and choose toys suitable for their age and developmental stage. Afterward, they engage in individual and group play, returning the play equipment and mats to their original locations. Some documentation is provided below.



Figure 5: Learning activities

The two images above illustrate the children's play activities stimulating various developmental aspects. Mats are constantly employed for play activities focused on a small area but are not used for games requiring a larger space. Teachers are consistently located near the children's play areas, supervising, facilitating, giving instructions, and occasionally approaching children to inquire about their activities, pose stimulating questions, and offer solutions to encountered challenges.

Another facet of independence is demonstrated during break times, which usually involve eating and free outdoor play. Independent behavior manifests in at least six activities when children eat together and engage in free play. During meals, children independently prepare their food in turns, wash their hands at available sinks, serve and carry their food, and clean up after eating. During free play, children generally choose and decide on various activities, often involving outdoor activities. Some documentation is provided below.



Figure 6: Children preparing lunch

The above two activities are routine examples during children's breaks, including communal eating and free play using various nature-integrated play equipment. The break and free play last about an hour before children regroup for closing activities and preparation for departure. The children seem to enjoy each role and activity they undertake, particularly those involving motor skills.

Lastly, the focus shifts to learning independence exhibited by children during departure times. Children are regathered after the break and free outdoor activities to prepare to go home. This is usually for a reflective session on what has been accomplished and for prayer. Occasionally, teachers pose questions for the children to answer, and those who can answer may leave earlier. Before leaving, children collect their bags from the storage area and wait for pick-up from parents or family members. These activities are orderly; if not, teachers provide reminders according to established routines and agreements.

Interviews with the principal confirm that such practices have been structured from the outset. Teachers prepare learning environments that are physically suitable for children, consistently store and organize educational play equipment, and, most importantly, consider safety and comfort factors. All these are in line with Montessori educational standards. Children are conditioned to carry out various activities from arrival to departure without external assistance.

### 3.2. The Role of Teachers in Fostering Student Independent Learning

The autonomy exhibited by children in schools is inextricably linked to the significant role played by teachers in designing learning activities that support students' independent learning. This also extends to coordinating with parents to continue the school's programs when the child is at home. Teachers employ strategies integrating various age groups into a single cohort, providing systematically organized play facilities tailored to the student's abilities and physical sizes, and providing answers for each activity that children can access without needing to consult the teacher. These methods are part of the foundational standards that must be implemented in all Montessori-based schools, including Futura Montessori Preschool in West Lombok, West Nusa Tenggara, Indonesia.

The first approach involves grouping children of different ages. According to the school principal, this age integration aims to minimize distinctions between children. When older children are grouped with younger ones, they learn to take responsibility and care for the younger children. Conversely, younger children learn to respect their older peers. In practice, older and more mature children often mentor the younger ones when challenges arise, thereby reducing dependency on teachers.

Such integrated activities are commonly found in various school events, ranging from circle time during the opening activities, playtime during the core activities, free play during breaks, and closing activities. Throughout the observation period, it was noted that children never learn in age-based groups. Instead, individualized stimulation is provided according to each child's developmental level. Even though children are grouped for play activities, the games are still conducted individually. If there are group projects, each child is assigned tasks based on their capabilities. For instance, during a communal cooking activity, some children are responsible for slicing, mixing spices, washing, frying or boiling, serving, and tasting. These roles are, of course, dependent on each child's abilities. Documentation of such age-integrated activities can be observed below.



Figure 7: Age merger in circle time activities



Figure 8: Age merger during the concluding activity



In an interview, Teacher F elaborated on age integration and individualized learning activities tailored to each child's developmental stage.

*"Children have a planned schedule, so there is individual learning when they arrive. Thus, age integration is maintained. During circle time, there are group activities. They are still grouped, but the activities differ depending on the children's abilities. For example, during cooking activities, some may be slicing while others may be frying."*

Furthermore, providing systematically organized play facilities is essential, considering each child's capabilities and physical dimensions. Such facilities are commonly found in Early Childhood Education Units (PAUD), as play is an intrinsic aspect of childhood (Ailwood, 2003). Recognizing this, Montessori schools pay special attention to a variety of standard games and the presence of play equipment, the effective implementation of which is considered a specialized skill for teachers.

In an interview, the school principal stated that prospective teachers at Montessori PAUD are given training, including organizing and using educational play equipment according to Montessori standards. Montessori schools emphasize games that harmonize with nature or reflect real-world conditions. Therefore, the school offers a wide range of authentic learning materials (as opposed to imitations) and extensive outdoor play areas featuring various naturally occurring vegetation.

The educational play equipment (APE) is arranged according to standards and the children's developmental stages. The organization of APE must be systematic; a sequence allows children to use the APE according to their difficulty level. The placement of APE must not be arbitrary or mixed up. Even if children wish to play with other types of APE, they already know what games they can engage in according to their abilities. This has all been agreed upon, as conveyed by Teacher F in the following interview.

*"It has to be consistent, starting from the simplest media to the most complex. It is already structured. Teachers can thus assess the extent of a child's development."*

*"Usually, the children already know. They are aware of their capabilities. For example, if a new child is overconfident, they are guided to proceed step by step. We have already informed the children about the steps. Why can't the equipment be moved? To avoid confusing the children and to maintain consistency in the teacher's organization."*

Lastly, teachers continually strive to minimize children's dependency by providing answers (self-correction) for each game offered. For instance, when children assemble a puzzle, they can independently discern the correct shape or arrangement upon completion without asking the teacher for the correct answer or shape. The following image documents a simple game created by the teacher to introduce letters through a horse picture. Children can find the answer on the back of the picture they assemble.

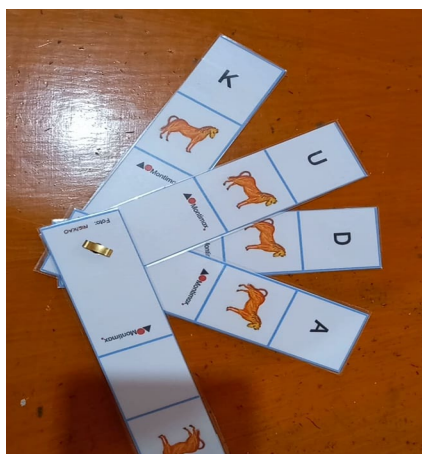


Figure 9: A letter recognition game

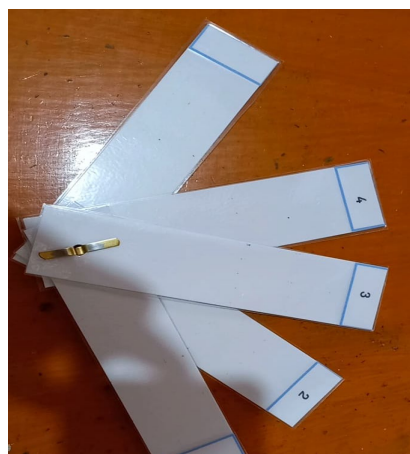


Figure 10: Numbers 1-4 showing the correct order of answers

## Discussion

This study aims to explore the effectiveness of the Montessori approach in facilitating learning autonomy in early childhood, specifically at Montessori Futura Indonesia Preschool. Learning autonomy has been recognized as an important factor affecting a child's success in subsequent stages of life (Meyer et al., 2008; Cerino, 2023; Stevenson, 2017). Teachers also benefit when children can perform various activities independently (Hockings et al., 2018; Pejuan & Antonijuan, 2019). Therefore, this research is highly relevant in early childhood education.

The primary findings of this study indicate that children at Futura Montessori Preschool in Indonesia demonstrate significant levels of autonomy in various aspects of daily life. This includes basic tasks such as removing footwear, placing bags on designated shelves, and assuming positions for initial activities without adult intervention. These findings are intriguing and crucial, as they attest to the effectiveness of the Montessori approach in facilitating learner autonomy in early childhood.

This study aligns with but also extends previous research that has demonstrated the efficacy of the Montessori method in education (Bahmaee et al., 2015; Feez, 2013). Specifically, this research provides further insights by focusing on practices at Futura Montessori Preschool in Indonesia, indicating that the Montessori approach is not merely theoretical but can be successfully implemented in Indonesia's early childhood education context.

Fostering learner autonomy begins with a circle time activity before initiating learning or play sessions. This activity establishes social and emotional connections between children and teachers (Kelly, 1999), facilitating mutual agreements, advice, and instructions for the day's activities (Cefai et al., 2014; Mary, 2014). Furthermore, circle time promotes inclusivity from an early age as all children participate without discrimination (Gauvreau et al., 2021).

The intimacy developed during circle time enables children to become familiar with each other and their teachers. This familiarity makes guiding or informing children when they deviate from established agreements easier. The closeness also facilitates communication among children of different ages, turning age differences into an advantage for mutual guidance and reminders, even in the absence of teachers (Mary, 2014; Collins, 2013; Cefai et al., 2014).

Once positive relationships are established, children feel comfortable with each other, and communication flows smoothly. This comfort level positively impacts learner autonomy during learning activities, break times, and departures. During learning activities, teachers allow children to choose games and educational tools according to their developmental stages while maintaining supervision (Aras, 2016; Singer et al., 2014).

Teachers play a significant role in nurturing learner autonomy. Their ability to design the learning environment and activities is critical. Everything must be tailored to the characteristics of early childhood (Bento & Dias, 2017; Brussoni et al., 2015; Azlina & S., 2012). These activities enable children to explore nature and their surroundings, as illustrated in Figure 8, where some children appear wet and dirty from interacting with soil and water. Previous research suggests that the benefits of such activities extend to physical health, motor development, and various social-emotional, cognitive, and linguistic aspects (Yıldırım & Akamca, 2017; Courtier et al., 2021). However, the effectiveness of these activities necessitates special attention from teachers in preparing safe play equipment and supervising children's activities. Yilmaz (2016) emphasizes that outdoor activities could lead to accidents or injuries without proper supervision and preparation.

Teachers' capabilities in designing the learning environment, including its contents and learning activities, are crucial for fostering children's autonomy. Everything should be tailored to the characteristics of early childhood learners (Widjaja et al., 2017; Rahmadani et al., 2021; Al et al., 2012). Objects available in schools for learning activities should be proportionate to children's body sizes, making them easily accessible and usable. Learning materials should also be placed on shelves within children's reach and organized according to their developmental stages. The aim is to minimize dependency on teachers (Qadafi, 2023). When children are in



such an organized environment, their autonomy is more easily stimulated as they repeatedly encounter consistent conditions (Kiran et al., 2021).

Another distinctive feature of Montessori schools is the mixing of ages during learning activities. Unlike conventional early childhood education settings, Montessori-based schools do not adhere to age or group divisions (Feez, 2013; Shivakumara et al., 2016; Lillard, 2017; Britton, 2017; Qadafi, 2022). Children typically engage in activities collectively and divide tasks through mutual agreement. Such activities are commonly referred to as collaborative learning (CL). Research indicates that CL offers numerous benefits, including social, psychological, academic, and assessment advantages (Laal & Ghodsi, 2012).

Implementing self-correction in children's learning activities is essential for enabling them to evaluate their work independently without consulting teachers (Bahmaee et al., 2015; Tiryaki et al., 2021). This method positively impacts the reduction of children's dependency on others. However, impatient children who do not follow the rules may look at answers before completing tasks. Teachers can mitigate this by not disclosing that answers are available at the back of the material or reinforcing children's commitment through mutual agreements.

While these findings underscore the effectiveness of the Montessori approach, they should be interpreted cautiously. Other factors, such as culture, social environment, and school policies, can also influence children's levels of autonomy. Therefore, these findings should be considered part of a broader solution for facilitating learner autonomy in early childhood.

Considering the diverse age grouping in Montessori Futura Indonesia, early childhood education is also essential. This allows older children to act as role models and guide younger children, promoting collaborative learning and responsibility (Laal & Ghodsi, 2012). This adds another layer of complexity and potential for the Montessori approach to facilitate learner autonomy.

In summary, these findings have significant implications for practice and research in early childhood education. They suggest that when appropriately implemented and supported by a conducive context, the Montessori approach can be a highly effective tool for facilitating learner autonomy in early childhood. This opens up opportunities for further research and practical applications in various educational settings.

## Conclusion

The study aimed to scrutinize the effectiveness of Montessori pedagogy in cultivating independent learning behaviors in early childhood, focusing on PAUD Montessori Futura Indonesia. The research revealed that children at the institution demonstrated autonomy in various daily activities, from arrival to departure, including choosing learning activities and participating in meal times. Teachers were instrumental in this process, designing activities that encouraged self-directed learning and involving parents to extend these practices at home. The school's facilities were also organized to support this aim, and the strategy of age grouping further enriched the learning environment. These findings contribute to early childhood education by providing empirical evidence that when implemented in a supportive context, Montessori pedagogy can effectively foster independent learning. However, the study is limited in scope, focusing on a single institution. It does not explore the long-term impacts or the influence of cultural and socio-economic factors on independent learning. Therefore, future research should aim to replicate these findings in diverse educational settings, examine long-term effects, and consider the role of contextual variables in the effectiveness of Montessori methods.

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