

**STUDY OF MONTESSORI EDUCATION IN
A DEVELOPING COUNTRY: A CASE
STUDY OF AN ELEMENTARY
MONTESSORI SCHOOL IN WEST JAVA,
INDONESIA**

A Thesis

**Submitted to the Master's Study Program of Education at the Faculty
of Education in partial fulfillment of the requirements for the degree of**

Master of Arts (M.A.)



by:

Muhammad Fayyaz Mumtaz

04212210008

UNIVERSITAS ISLAM INTERNASIONAL INDONESIA

DEPOK

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ABSTRACT

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The Montessori Method, with evolving pedagogical paradigms and a growing need for personalized learning, offers an alternative perspective in education by promoting inquisitiveness, self-reliance, and participation in the learning process. However, using the Montessori name does not ensure a Montessori system is implemented correctly due to extensive adoption of Montessori educational methods that raises a significant question about whether these institutions genuinely follow the method proposed by the founder of the Montessori Method. This study conducted as a comprehensive case study research project at one of the elementary school in West Java, Indonesia, that claims to apply the Montessori Method in their teaching approach for children aged 6-12. The primary objective and aim of this study is to gain a deeper understanding of to what extent this particular school follows the principles of Montessori. There are three research questions in this study; (1) to what extent does the elementary school in West Java adhere to the key principles of the Montessori Method? (2) What challenges or obstacles are typically faced in implementing the Montessori Method at this elementary school in West Java? (3) What is the overall opinion of teachers and parents regarding the implementation of the Montessori Method at this particular elementary school in West Java? This research investigates the degree to which one of Montessori school in West Java adhere to Montessori principles, offering instructors helpful recommendations for enhancing the method's use. The method of this study is using qualitative research with data collection from interview, observation and documentation. In order to potentially contribute to theoretical discussions on educational philosophy and pedagogy, the study also examines how, principal, parents and teachers view implementation of the Montessori Method. I came to the findings that the Montessori Method is implemented in the school, but its adherence to core principles is hindered by standardized education and curriculum, unique classrooms, and time limitations. The most significant obstacle is the limited number of Montessori teaching aids and lack of experienced teachers. Legal Montessori teacher certification is also available due to high costs. Although teachers and parents appreciate the Montessori Method, parents often lack understanding and teachers have limited practicality knowledge, suggesting partial implementation. Therefore, it is challenging to implement Montessori in original form, particularly in elementary school levels. The effects of integrating national curricula in this case Merdeka Curriculum with Montessori education on student outcomes and Montessori principles should be further investigated by future scholars.

Keywords: Developing country, elementary school, Montessori Method, Merdeka curriculum, West Java.

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CHAPTER I: INTRODUCTION

In today's educational discussions, where teaching methods are constantly evolving and there's a growing focus on personalized learning, people paying attention to alternative method of education such as the Montessori Method which will be cover in this thesis . Montessori Method promotes environments that nurture curiosity, independence, and engagement with the learning process. This chapter contains several information. The first is to discuss the background of this research, which explains the urgency and reasons why this research is essential to carry out. Next, three research questions are also explained, along with the objectives. Finally, the significance of the research as a parameter that this research is essential to carry out.

1.1. Background

In the early decades of the 20th century Maria Montessori an Italian medical professional and educational theorist initiated an educational paradigm distinctively different from the normative teaching methodologies of that era. She pioneered what later called as the Montessori Method, which strongly emphasized cultivating autonomy, student-centered pedagogy, and a supportive academic environment (Randolph et al., 2023). This innovative method of learning for childhood was actualized for the first time at the Casa dei Bambini in Rome in 1907 which mainly focus on catering to the unique developmental of children's needs (Lillard, 2006; Lillard et al., 2017; Marshal, 2017).

The Montessori Method gained international recognition starting with its implementation in the United States in the year 1913, precisely in Rhode Island State, and there was an event often referred to as the "Montessori Experiment." That event marked a significant phase in the method's adaptability to varied educational settings and other

cultural contexts. Before that, the 1911 Conference on Methods also propelled this approach's global implementation, evolution, and progress (Gabusi, 2021; Zoll, 2017). To encapsulate the Montessori Method was the concept of personalized, experiential learning, deeply anchored in the principles of self-guided education and the comprehensive development of children (Montessori, 1967; Qualter, 1980).

The Montessori Method has become popular with many parents for a variety of reasons. Research indicates that parents are drawn to its principles, such as fostering independence, respecting children's autonomy, and emphasizing a child-centered learning approach (Lillard, 2019; Liu, 2023). They believe Montessori education enhances their children's cognitive, social, emotional, and moral development, including for children with special needs (Jahaya, 2024). The alignment of Montessori principles with parents' educational values and aspirations for their children is a major reason for choosing this educational approach (Walls, 2018). Moreover, the way Montessori education integrates with home life is an appealing factor for parents (Atis-Akyol, 2023).

Moreover, parents who thoroughly understand the Montessori method often report higher satisfaction with their child's schooling and are more inclined to keep their child enrolled in Montessori programs (Kilag, 2023). Studies have shown that Montessori education can lead to superior academic outcomes, improved classroom behavior, positive social interactions, and overall better development in children compared to traditional schooling (Eşi, 2024). The Montessori approach, which focuses on child-initiated activities and academic content, has been found to enhance and equalize student outcomes (Lillard et al., 2017). The allure of Montessori education goes beyond academics; parents appreciate its holistic approach to development, which emphasizes creativity, social skills, work habits, and executive function (Fleming, 2023).

Additionally, the Montessori model is linked to fostering creativity in students (Fleming et al., 2019).

In the more modern era, many educational institutions, especially at the early childhood level, have adopted the "Montessori" label within their names. For example, a study by Hiles (2018) highlights a significant increase in the number of established Montessori educational institutions in the United States (US) since 1990, meaning that it was signaling and proving a growing trend in the adoption of the Montessori pedagogic approach within these schools in this recent decades. Like Hiles (2018), a study by Murray et al. (2021) provides valuable insights into the prevalence of Montessori schools in the United States, estimating approximately 2,700 Montessori institutions, with around 500 publicly funded institutions. Additionally, Burbank et al. (2020) discuss the increasing prevalence of public school programs that draw inspiration from the Montessori teaching method, underscoring a broader embrace of the Montessori Method beyond private educational settings. A study by Debs (2022) concludes that 15,763 Montessori schools have been identified worldwide, highlighting the expanding reach of this educational philosophy. This number nonetheless represents a continual growth of Montessori schools across various regions. However, this trend has been driven by the appeal and recognition of the Montessori name worldwide, inspiring parents to seek innovative educational methods for their children (Bosetti & Pyryt, 2007; Hiles, 2018).

This extensive adoption of Montessori educational methods also raises a significant question about whether these institutions genuinely follow the method proposed by the founder of the Montessori Method (Monson, 2006; Ungerer, 2014; Lillard & McHugh, 2019; Murray & Daoust, 2023). That being said, it leads me to consider critical questions posed by the increasing number of schools labelling themselves as "Montessori": Can these establishments incorporate Montessori philosophy

and principles into their teaching approaches as initially intended? However, previously this question was inspired by Daoust's (2004) and Murray and Daoust (2023), which revealed that specific schools and educators claiming to embrace the Montessori approach had separated from Montessori's original principles, resulting in varying educational programs and practices. Despite using the term "Montessori" in their names or descriptions, these institutions displayed notable disparities in their practices. Such divergences can be disorienting for parents seeking a consistent Montessori education. To aid parents in making well-informed decisions regarding their children's early education, they must have a clearer understanding of the authentic Montessori educational framework, as underscored in Daoust's (2004), and Murray and Daoust'(2023) research.

Meanwhile, authors such as Debs et al. (2022) also discussed the worldwide spread of Montessori schools. There is considerable variability in how Montessori education is practiced in different schools due to the absence of legal protections for the name "Montessori," in one way or another, which may lead to inconsistencies in implementing the Montessori pedagogic style. Debs et al (2022) also gives an example from her investigation of how Montessori education became popular in India. However, some schools in that country misused the name without following the intended method. Further, she argues that preschools became crucial for elite school admissions in India, leading to fierce competition among each other. However, in order to attract middle-class families, some schools use Montessori's name and portray it as a European concept, often downplaying its Indian roots and further posing and using images of white children. In the study's conclusion, schools that mixed various teaching methods with Montessori caused conflicts. She concluded that divisions among educators and fragmented training programs have limited Montessori's reach in India, primarily serving elites (Debs et al, 2022).

As additional arguments, further online discussions focused on the evolving usage of the "Montessori" name. For example, a February 2023 BBC report article highlighted how the "Montessori" name has expanded beyond its original educational approach and is becoming associated with elite education and a lifestyle choice. In addition, the article entitled; "Will the real Montessori please stand up?" by The Hechinger Report explored an individual's experience with a school claiming to follow Montessori principles. In this case, the school, despite branding itself as a "Montessori garden," unfortunately lacked authentic Montessori practices, consequently raising concerns about the quality of education and safety (Hechinger Report, 2018). Moreover, an article in Mother Figure (n.d) discusses how parents express concern about the current trend of Montessori being associated with exclusivity and commercialization, for instance, in the marketing of toys. They worry that this trend may lead people to associate Montessori with privilege and wealth rather than its true egalitarian educational philosophy as intended by Montessori herself.

Similarly, the article from The New Yorker (Zauzmer Weil, 2023) - a respected American magazine known for its diverse content and broad international readership - discusses Montessori's rise to fame leading to commercialization. The article highlights how her educational method, initially designed for disadvantaged children, increasingly benefited wealthy elites. The article's author also brings attention to a billionaire Jeff Bezos' investment in Montessori-inspired preschools and questions why Bezos chose to compete with public programs instead of supporting them financially. In summary, as reported in the New Yorker (Weil, 2023), many people criticize the commodification of education and how it can devalue teachers' roles.

Regardless, as a general consequence, much research explores the Montessori educational model, which presents many positive findings but sometimes needs more

consistency. While some studies suggest that Montessori environments lead to improved academic performance compared to traditional schools, others present opposing results, indicating similar or unprecedented outcomes (Marshall, 2017). For example, Lillard (2013) addresses the seeming paradox in Montessori education, such as rejecting imagination while incorporating aspects of active learning. This inconsistency between the claimed alignment with the Montessori Method and the actual implementation of its principles prompts an exploration into the motivations and practices behind such a method. Therefore, this inconsistency proved a substantial difficulty in establishing a conclusive evaluation of the overall effectiveness of this educational approach (Lillard, 2006; Lillard et al., 2017; Courtier et al., 2021; Randolph et al., 2023; and Irawati et al., 2023). Responding to the conflicting finding, it can be interpreted that the mere use of the "Montessori" name does not always guarantee its effectiveness and thus warrants further research to ascertain its actual effects on its implementations (Courtier et al., 2021).

As no universally accepted or copyrighted definition is available - as mentioned before – therefore, using the Montessori name does not ensure a Montessori system is implemented correctly (Marshall, 2017). Previous research on Head Start Montessori preschools during the 1970s and 1980s indicated a relatively low adherence to the Montessori Method. This included having only 4-year-olds in the classroom instead of a mixed-age group, dedicating just 0.5 to 2 hours per day to the specially designed educational materials, and employing teachers with minimal training (Karnes et al., 1983; Miller & Bizzell, 1984; Miller et al., 1975). What it means by the studies above is that fidelity does matter as according to Lillard et al. (2012), children in Montessori schools that were more faithful to the method had better working memory than children in non-Montessori schools or in schools that used Montessori methods as additional teaching. Montessori grappled with the paradoxical objectives of expanding her method and

preserving its authenticity from the earliest days of its increasing popularity; these issues remain ongoing concerns in Montessori's research. Therefore, this research aims to provide an in-depth understanding of the distinctive fidelity concerns associated with the expanding scientific literature on Montessori education as inspired by the piece of Murray & Daoust (2023).

In order to gain a deeper understanding of this subject, this study conducted as a comprehensive case study research project at one of the elementary school in West Java, Indonesia, that claims to apply the Montessori Method in their teaching approach for children aged 6-12. Hence, focusing on Montessori education at the elementary level allows me to understand how and why the Montessori Method continues to benefit students as they advance in their education, adapt to more complex academic challenges, and transition to traditional education systems (Murray, 2011). Towards the objective, the primary objective and aim of this study is to gain a deeper understanding of to what extent this particular school follows the principles of Montessori. Moreover, it specifically focus on two main components: the Montessori environment and Montessori teachers.

The reason for the former is that Dr. Maria Montessori, in her 1912 book "The Montessori Method," stressed the importance of a prepared environment in a child's learning and development, emphasizing that children naturally absorb knowledge from their surroundings. This carefully designed environment, a bedrock of Montessori philosophy, incorporates key elements such as freedom, structure, reality, beauty, Montessori materials, and community life within the classroom, all contributing to children's self-development. Simultaneously, for the latter, Montessori teachers play a pivotal role as guides within this environment, nurturing a child's intellectual, physical, emotional, and social growth through active exploration and independent learning. As highlighted by Huxel (2013), observations by well-trained Montessori teachers inform

teaching methods, classroom organization, and material choices, enabling a data-driven and scientific approach to addressing students' needs and enhancing their learning experience.

In the practical application of this research, regarding the Montessori environment, adherence can be understood by examining its alignment with the Montessori Method, which represents the fundamental theory behind the educational model established by Maria Montessori. Additionally, insights be gathered from Montessori principal, parents and teachers to understand their perspectives on this matter. The Montessori approach has been linked to advantages like enhanced academic performance, improved social and behavioral development, the fostering of creativity, and the strengthening of executive functions in children (Ozgan, 2023). Consequently, it falls upon principals to establish an educational environment that encourages and sustains these facets of child development (Denervaud et al., 2019; Fleming et al., 2019; Lillard, 2012). For parents, they have substantial influence in selecting their child's school, and their reasons and viewpoints are crucial aspects to take into account in Montessori education research, as emphasized by Marshall (2017). Furthermore, the contentment of parents with Montessori education and their evaluations of the facilities and methodologies employed in Montessori schools serve as noteworthy measures of the efficacy of Montessori education (Susmita & Adhikari, 2023).

Regarding Montessori teachers, its adherence and fidelity can be determined by considering how well their practices align with the Montessori Method and its fundamental principles and by taking into account additional factors such as observations and documentation within the object of the study, which is a site location in West Java. Regardless, both of these aspects are crucial. However, this research has limitations, such as the absence of direct participation from students. The researcher of this study justified

by arguing that parents can represent students since they better understand their child's development through Montessori learning. As described in Association Montessori International/USA (Montessori Parents Research Released - Association Montessori International/USA, 2020) offers valuable information and materials pertaining to Montessori education, with a focus on the importance of parents' involvement and the influence of the Montessori method on a student's growth and development.

It is important to note that "authentic Montessori education" refers to the education approach described by Dr. Montessori in her lectures and writings (Lillard & McHugh, 2019). Furthermore, due to the influence of various interests, the Montessori educational approach has undergone several modifications, and it is impossible, as Lillard and McHugh (2019) argue, for me to determine how Maria Montessori herself would have altered her methodology. Therefore, it is beneficial to clarify the concept of authentic Montessori education, referring to the term "authentic" as translated to "the original approach" (Oxford, 2019).

In this research, I do not possess the authority to definitively establish the authenticity of the Montessori Method. Instead, I am departing from previous research especially Daoust (2004), Debs et al (2022), Lillard and McHugh (2019), and Murray and Daoust (2023) that relied on the term "authentic" to describe it. In this study, I as the researcher serve as an additional investigator, expanding upon previous research conducted in a different context and employing a distinct methodology. Specifically, the study utilizes a case study design within the developmental setting of Indonesia. To better articulate the research objectives, terms like "adherence" (conforming to specific rules) and "fidelity" (loyalty or faithfulness) are preferred (Oxford, 2019). The research entails observing pedagogical practices, classroom dynamics, and overall instructional approaches within schools to assess their alignment with the principles of the Montessori

Method (Montessori, 1912, 1949; Murray & Daoust, 2023; Lillard & McHugh, 2019). While the primary focus is on Montessori adherence and fidelity, the study also builds upon previous findings related to fidelity, which have predominantly centered on early childhood Montessori (Murray et al., 2022; Durlak & DuPre, 2008; Lillard et al., 2017; Debs, 2022).

To address this gap, the research extends its investigation to Montessori fidelity at the elementary school level. Despite using qualitative methods such as interviews, observations, and documentation, the study's significance lies in bridging the research disparity highlighted by Murray & Daoust (2023), who noted a scarcity of studies focusing on older age groups in Montessori research. Therefore, the study aims to contribute to the understanding of Montessori Method implementation and fidelity across various age groups, particularly in Indonesia.

1.2. Research Questions

Based on background of the information above, this study focus on an educational institution in West Java that claimed adopting the Montessori Method, particularly follow these research questions:

1. To what extent does the elementary school in West Java adhere to the key principles of the Montessori Method?
2. What challenges or obstacles are typically faced in implementing the Montessori Method at this elementary school in West Java?
3. What is the overall opinion of teachers and parents regarding the implementation of the Montessori Method at this particular elementary school in West Java?

1.3. Research Objectives

This study explores the implementation of the Montessori Method within elementary schools in West Java, focusing on assessing adherence to its principles, identifying challenges, and understanding the perspectives of teachers and parents.

The objectives of this study lies in its examination of:

1. The extent to which elementary schools in West Java adhere to the key principles of the Montessori Method.
2. The challenges or obstacles typically faced in implementing the Montessori Method at these elementary schools.
3. The overall opinions of teachers and parents regarding the implementation of the Montessori Method in this specific elementary school context in West Java.

1.4. Significance of the Research

This study holds both practical and theoretical significance within the realm of education in West Java.

Practically, understanding how well schools align with Montessori principles provides actionable guidance for educators aiming to enhance the implementation of the Montessori Method in their classrooms. By identifying obstacles faced in applying the Montessori Method, this research offers insights to overcome similar challenges, ultimately improving the effectiveness of the approach in educational settings.

Theoretically, investigating the perceptions of teachers and parents regarding the Montessori Method offers valuable insights into stakeholder perspectives. This comprehensive understanding may contribute to theoretical discussions surrounding educational philosophy and pedagogy, potentially leading to advancements in educational theory and practice.

CHAPTER II

THEORETICAL FOUNDATIONS

This study undertakes a detailed examination of the Montessori Method and how it is put into practice in elementary schools. It delves deeply into both its practical application and theoretical foundations. The study meticulously analyzes guiding principles and literature reviews to provide a framework for understanding how the Montessori Method is used in educational settings. It traces the historical development of the method and explores the challenges educators face in maintaining fidelity to Montessori principles amid changing educational landscapes. Furthermore, the research investigates the theoretical underpinnings of the Montessori Method, including its philosophical implications for educational practice. The introduction of the Implemented Fidelity Theory adds depth to the understanding by assessing the degree to which educational programs adhere to their intended principles. The literature reviews and theoretical frameworks presented in this study serve as crucial tools for guiding analysis, synthesizing existing knowledge, and contributing new insights to the discourse on Montessori education. Through this comprehensive approach, the study aims to uncover the complexities and potentials of the Montessori Method, providing valuable insights into its impact on the future of education and offering a nuanced understanding of the challenges and opportunities inherent in its implementation in elementary school settings.

2.1. LITERATURE REVIEW

2.1.1. Overview of Montessori Method and Elementary School

Before delving into the specific literature reviews, I would like to explain the general overview of the Montessori Method as it is interpreted as a specialized educational approach based on the belief that learning should occur independently and

naturally, respecting each child's unique development and potential (Montessori, 2012). Early in the 20th century, Dr. Maria Montessori—the first female doctor in Italy—founded Casa dei Bambini, or Children's House, in Rome to educate underprivileged children. The school focused on teaching children to take responsibility for their learning and work together to accomplish objectives. In her 1909 book "The Montessori Method," she described her approach to education, which in under twenty years resulted in the founding of Montessori schools on all six continents. She established the Association Montessori Internationale in 1929 with the goal of supplying Montessori schools across the globe with teacher training and support (Gustafsson, 2018).

Maria Montessori's teaching style was based on her scientific observations and understanding of child development (Murray, 2011). Moreover, this method emphasizes a nurturing and prepared environment where children can explore and engage with materials that suit their learning journey. As a further matter, this approach encourages independence, respect, and a deep love of learning, which is very different from the more structured traditional models of education at that time (Lillard, 2005; Montessori, 1949). However, it is also worth noting that by prioritizing children's natural curiosity and learning abilities, the Montessori Method has established itself as a holistic and adaptable educational format suitable for various learning needs and cultural backgrounds (Lillard, 2013).

Furthermore, according to Montessori (1949), Lillard (2013), and the American Montessori Society (amsq.org), - one of the credible Montessori organization's websites - typically, Montessori education levels are separated into the following categories: (1) Toddler or Nidos (up to about 18 months) it means on this stage it focuses on fostering and developing trust and security. It offers activities encouraging motor and language development in a calm, friendly, homely environment. (2) Infants and Toddlers (18

months to 3 years), meaning that this level focuses on independence, language development, and motor skills and provides opportunities for the child to participate in hands-on life activities, sensory learning, and social interaction. (3) Primary School or Casa dei Bambini (ages 3-6), in which this level introduces children to the basics of academic studies, often through manipulative materials, and covers areas such as language arts, maths, and cultural studies. It focuses on developing a sense of order, focus, coordination, and independence. (4) Elementary School (6-12 years) It can be explained as this level is divided into lower grades (6-9 years) and upper grades (9-12 years) and emphasizes intellectual independence and social responsibility. The curriculum is integrated across disciplines, emphasizing research and collaborative learning. (5) Secondary School (12-18 years) on this level, which can be divided into intermediate (12-15 years) and advanced (15-18 years), focuses on developing critical thinking, social skills, and strong self-confidence. Students often participate in real-life projects and community engagement.

Regardless, Montessori education in elementary school is the subject of this study. According to Murray (2011), critical developmental stages in children's development were noted by Maria Montessori, who noted that children shift from an emphasis on personal growth to a more social focus when they go from the primary (kindergarten) level to the elementary school level. Furthermore, as the author adds, children at this age start to form peer groups and exhibit increasing extraversion and a tendency to interact with and mimic peers. It also acknowledged that elementary school children typically engage in structured group activities in addition to their need for friendship.

The Montessori educational approach promotes social, psychological, and emotional well-being by allowing children to express their authentic personalities. Thus, it believes children are internally motivated and progress naturally toward their potential.

Montessori emphasizes normalization, focusing on young children's focus and engagement in their work. As children enter elementary school, they begin to think abstractly, are concerned about fairness, and are attracted by heroic visions of justice and good. Educational elements support optimal development, including multiage communities, specialized materials, student choice, teacher role, and engagement of developmental characteristics (Maier, 2023).

Numerous studies have explored Montessori education at the elementary level. One study by Snyder et al. (2022) compared school preferences among Montessori and conventional school alums, in which elementary school students outperformed the conventional school. Furthermore, another study by Laski et al. (2016) addressed math knowledge in early elementary children from Montessori and non-Montessori schools, resulting in favorable results for Montessori students. Additionally, Gynther and Ahlquist (2022) qualitatively analyzed Maria Montessori's writings to understand how her education philosophy prepares 6-12-year-olds to face challenges and contribute to society and the environment. They found that Montessori's curriculum fosters an understanding of ecosystem interdependence and collective responsibility. The article also discusses Montessori's relevance in various educational traditions (Gynther & Ahlquist, 2022).

In conclusion, the research on Montessori education at the elementary level highlights its academic advantages and broader societal implications. Studies above indicate that Montessori students outperform their peers in conventional schools, showcasing its effectiveness. Additionally, qualitative analyses emphasize Montessori's role in fostering ecosystem understanding and collective responsibility among students. This means through Montessori Method, children engage in hands-on activities that help them see the importance of protecting and caring for their environment which eventually promotes a sense of responsibility towards the surrounding. These findings underscore

the importance of further exploration and implementation of Montessori principles in elementary education.

2.1.2. The Historical Development of the Montessori Method

The early 20th century was the beginning of how this method was introduced by an Italian physician and educator named Maria Montessori, who strongly emphasized a child-centered approach to education as her main educational principle. It was when Montessori education first gained popularity. Moreover, according to Zoll (2017), the Casa dei Bambini in Rome hosted the first application in 1907. In addition to that, according to Lillard's (2012) study, it also signified a substantial change in early childhood education by emphasizing the individual needs and growth of every child, which was not common in that era.

The Montessori Method of education has quickly become well-known worldwide and expanded across countries, including the United States of America (US). This can be seen, for example, when it was first implemented in Rhode Island in 1913 when the so-called Montessori Experiment started in this region. Furthermore, the study offered insightful material about using the Montessori Method successfully in difficult policy and educational frameworks and its implementations (Zoll, 2017). Nevertheless, it was the noteworthy 1911 Conference on Methods, a vital occurrence that significantly contributed to the Montessori Method's widespread adoption and delivered further context for the method's development and growth (Gabusi, 2021).

That said, the Montessori education field has experienced substantial evolution and growth, exhibiting noteworthy breakthroughs and modifications that highlight its lasting influences on teaching methodologies, especially in early childhood education settings (Lillard, 2017; Lillard & McHugh, 2019). Moreover, the Montessori Method,

which strongly emphasizes the child's fundamental role in education, was founded on the groundwork set by Maria Montessori's breakthrough achievement and evolutionary ideas on education, which are well-documented in her work "The Discovery of the Child" (Montessori, 1967). Numerous studies, such as those by Lillard (2012), have demonstrated the perseverance and broad recognition of Montessori education; over 4000 schools in the US, both public and private, currently continue to use this approach.

Additionally, studies like the one done by Freeman et al. (2016) have highlighted how adaptable Montessori education is to different cultural contexts meaning that the Montessori Method can be effectively applied in various countries and cultural settings, accommodating diverse traditions, languages, and values. That being said, suggesting it has lasted for a century because of it is flexible enough to fit different temporal, geographical, and cultural contexts. It helped Montessori education remain successful and relevant in various learning settings. In addition, significant developments and improvements in Montessori education in recent decades demonstrate the program and its method of teaching children with enduring impact and applicability in modern educational environments and diverse contexts. For instance, a critical study conducted by Lillard et al. (2017) has shown the positive impact of Montessori preschool on children's achievements, showing the program's ability to improve and level academic performance.

However, attempts to reach a larger audience and satisfy high-stakes accountability requirements have impacted contemporary Montessori education. However, consequentially, due to a struggle to enhance the performance of Montessori schools on standardized examinations, some fundamental Montessori principles have been transformed or altered and modified (Block, 2015). Nevertheless, these historical studies highlight the Montessori Method's innovative approach, its global spread and

adaptation, and its ongoing evolution in response to contemporary educational challenges and opportunities.

Following the historical evolution, it is essential to understand to what extent the adaptation has challenged Montessori schools in developing countries such as Indonesia in this ongoing research. Therefore, it is becoming essential and exciting to understand the challenges Montessori schools perceive through this research that can inform future studies.

2.1.3. Montessori and Its Competitions

Alongside with the Montessori, Waldorf Education and Reggio Emilia Schools are two alternatives to Montessori that are comparable to the former. The most often used alternative early childhood education paradigms are these three. Every one of these models has grown internationally and has a long history of promoting children's freedom to choose how they want to learn. Regardless, the primary topic of discussion in this study is Montessori, as previously stated (Aljabreen, 2020). Nonetheless, the noticeable points of those three primarily pertain to how the teacher-student communication varies depending on the approach; While Waldorf teachers are particularly involved in drama and storytelling but restrict their engagement during art production, and Reggio Emilia teachers engage in greater conversation, while Montessori teachers function primarily as observers (Sibel et al., 2016; Dodd-Nufrio, 2011; Rawson, 2020).

According to Edwards (2002) when discussing the development of Montessori education and its competition with Waldorf and Reggio Emilia it is important because it highlights how each approach views children as active creators of their own development, influenced by innate and self-directed strengths. In philosophical terms the three are also compared and the methodology of each approach, which has developed in response to

particular needs, historical contexts, aspirations and cultures. Furthermore, Montessori emphasizes sensory-based learning and practical life skills, Waldorf focuses on imaginative play and artistic expression, and Reggio Emilia promotes family-centered, project-based learning. Therefore in order to understand with some of these differences is good for helping educators and parents make the right choices regarding children's education and development and overall successes in the future.

Edward (2002) also argues that Montessori education is arguably more developed than Waldorf and Reggio Emilia because of its wider global reach and recognitions, structured but flexible and integrated curriculum, and also with the alignment with contemporary educational values. Moreover Montessori's emphasis on practical life skills, sensory-based learning, and a child-led approach aligns with modern educational priorities. Nevertheless, the adaptability of this approach, Montessori, in diverse backgrounds of cultural and socio-economic contexts and situations, combined with a structured curriculum and clear developmental milestones, makes it attractive and interesting for a wide range of educational fields around the world throughout the times (Debs, 2022; Courtier et.al., 2021; Gentaz & Richard, 2022; Lillard, 2018). This adaptability, coupled with its established presence in the global educational landscape, represents with greater growth compared to Waldorf and Reggio Emilia (Edward, 2002, Aljabreen, 2020; Beach, 2023).

2.1.4. The Philosophical Basis of Montessori Method

The foundational philosophy of the Montessori Method, a pedagogical approach developed by Maria Montessori, is a rich tapestry woven from diverse philosophical and scientific contexts. As scholars like Bennetts and Bone (2020) investigated, this method was a harmonious blend and improvement of Montessori's insights and the influential works of predecessors. Montessori's educational philosophy reflected her deep

engagement with her principles, as highlighted throughout her writings. Furthermore, a significant aspect of Montessori's philosophy, as Rajan (2016) posits, was influenced by the teachings of Friedrich Froebel and Emile Jaques-Dalcroze. Therefore, this influence was however evident in the unique educational approach she pioneered. Additionally, Wolf (2023) further informs on the impact of William James's philosophical writings on Montessori, Montessori's educational approach, influenced by William James. Emphasizing creating a prepared environment rich in materials and activities that foster active engagement and practical learning. Teachers act as guides or facilitators, nurturing children's natural curiosity, in line with James's view of educators. Additionally, Montessori's method addresses cognitive, social, emotional, and physical growth, reflecting James's holistic approach to education which eventually shaping the forms of her educational methodology (Rathunde, 2001).

Moreover, there was an occasion such as the influence of the Grand Orient of Italy, as Foschi (2008) noted, which played an indirect yet pivotal role in Montessori's journey of her educational design, which can be interpreted as providing intellectual support to various scholars. As a further matter, Frierson's works (2018, 2021) explain how Montessori's interactions with notable philosophers such as Friedrich Nietzsche, that believe on individual should strive for self-improvement which Montessori was inspired by this concept of individuality and personal development. Also William James, emphasis on pragmatism and the importance of learning through experience greatly influenced Montessori. She incorporated these ideas into her educational philosophy by creating a learning environment that emphasizes practical, hands-on activities. Lastly Henri Bergson, that focus on creativity informed Montessori's approach to education. She believed in nurturing children's innate creativity through activities that encourage exploration and self-expression. All of these ideas encouraged the philosophical bedrock

or, in other words, the philosophical basis of her educational method of learning for children. As also noted by Kolly's research (2021), it offers a critical view of the pedagogical orthodoxy within Montessori's method, exploring hesitations and challenges to the method due to contemporaries' situations regarding this pedagogic and teaching-learning style and its implementations. Nevertheless, the study (Kolly, 2021) illuminates the methodical dimensions of her method.

In summary, these scholarly explorations collectively highlight the philosophical underpinnings of the Montessori Method throughout. Together, theory and philosophy provide the framework for any specific interaction that conducts. However, these terms have been used inconsistently, interchangeably, and with different meanings. Clarification of philosophy and theory is crucial and when combined, they can improve teamwork, yield better outcomes, and give better understanding on the motivations behind every action (Himes & Schulenberg, 2013). Moreover, these works by authors above such Rathunde (2001) and Kolly (2021) emphasize Montessori's pedagogical and nature-centric foundations while acknowledging the challenges and practical implications of implementing the Montessori educational model. Therefore, this body of work is a testament to Montessori's educational philosophy's enduring impact and relevance.

2.1.5. Criticisms and Limitations of Montessori Method

The Montessori Method, while pioneering in its approach to education, has faced various critiques from different quarters, reflecting the dynamic and complex nature of her educational philosophies and its fundamental core principles. For instance, in Italy, during the challenging times following the World Wars, Maria Montessori's educational theories were critiqued for needing more practical application (Pironi & Gallerani, 2021). However, this skepticism was also evident in the United States, where William H. Kilpatrick, a proponent of John Dewey's philosophy, criticized Montessori's

psychological theories as outdated in his 1914 work "The Montessori System Examined" (Thayer-Bacon, 2012). He argued that Montessori's sensory training was based on outdated psychological theories and criticized her method for being excessively individualistic. Moreover, the effectiveness of the Montessori Method's child-led learning approach has been questioned and examined, particularly with one of the cases where it appeared to neglect essential skills due to a child's lack of interest in certain area. For instance, in one scenario, a 2-1/2-year-old student effortlessly writes their name, while a nearly 7-year-old struggles with the same task. Despite the older child's age, the Montessori philosophy discourages intervention, leaving the child to miss out on essential skills. This instance highlights a potential drawback of the child-led approach, where students may not receive necessary guidance in developing foundational skills, as highlighted by Megal (2023). In addition to that, the Montessori educational model looking at in its adaptation into public school settings has also been a topic of debate, especially when it relates in terms of its compatibility with traditional educational systems and the fair sharing of its benefits meaning if the Montessori method can work well with regular school systems and how to ensure all students can equally enjoy the good things it offers (Fleming et al., 2023).

Not only criticized, as a point of criticism but also pointed out the Montessori Method's limitations, the situation such as the pandemic's transition to virtual learning environments, highlighting the challenges and problems in implementing Montessori principles, especially in diverse and resource-limited settings, as discussed by Scott & Myers (2021). Furthermore, there are several other limitations to the method's feasibility in larger classes, the financial implications of its resource-intensive nature, and the challenges of meeting diverse needs in multi-age classrooms. A few examples of its limitations have been raised by Masyrofah (2017) such as requires a wide variety of

learning media and very expensive materials and also training for implementing the Montessori educational concept is very expensive for teachers in general schools. Additionally, regarding diversity and inclusion, there have been concerns about potential student segregation in U.S. public Montessori schools, suggesting issues in applying Montessori principles in diverse educational contexts (Debs, 2016). It has also been known that Montessori classrooms offer a restricted range of educational resources, potentially not accommodating the various learning preferences of all students (Lillard, 2012). However, Potts (2007) brought attention about how Montessori's ideas about children being independent are different from the general idea of letting children make their own choices in some other types of education.

Lastly, to add more nuance, a study investigates the absence of substantial evidence supporting the specific Montessori approach; it can be seen as the three-hour work cycle, resulting in a gap in research on their comparative effectiveness (Randolph et al., 2023). Moreover, these concerns have also emerged regarding the training and evaluation of Montessori educators, encompassing their pre-existing qualities prior to Montessori training and the requirement for comprehensive assessment criteria for teacher practices (Murray et al., 2021).

Understanding and dealing with criticisms is vital for Montessori elementary schools, especially in developing countries (Ahmad and Reba, 2018). In developing countries, there are additional challenges (Murray and Peyton, 2008; Murray et al., 2023). For example, lack of funding and materials can make it hard to use the Montessori Method effectively (Murray and Peyton, 2008). Also, the Montessori approach may not fit well with the culture of some countries, so it needs to be adjusted (Debs et al., 2022; Murray et al., 2023). Socioeconomic differences can also make it tough to ensure that all children have access to Montessori education (Debs, 2016). Dealing with government rules and

policies that don't always support Montessori is another challenge (Macià-Gual and Domingo-Peñafiel, 2021). It is also crucial to get parents and communities on board and help them understand the benefits of Montessori (Hiles, 2018). By recognizing and understanding these challenges, this study may help improve Montessori education in developing country such as Indonesia and make it more inclusive for all children.

2.1.6. Fidelity on Montessori Method

There is global agreement on basic requirements for fidelity Montessori practice despite variations in global definitions. These include mixed age groups, teachers trained in Montessori, a focus on Montessori materials, children's freedom of choice, and uninterrupted blocks of work time (Murray et al., 2022). Researchers who study Montessori education continue to face possibilities and obstacles due to the method's varied adoption, even with the best efforts of Montessori to maintain its fidelity (Christensen, 2019). Studies of higher-fidelity programs typically yield more positive results. At the same time, lesser fidelity can be used to explain negative or null findings, according to empirical evidence routinely found in education (Durlak & DuPre, 2008). The most straightforward approach to handling variations in Montessori practices is to outline the Montessori principles. There are studies to handle this situation. For instance, in this discussion notes, a study by Lillard and McHugh (2019) explored the essential components of genuine Montessori environments. Significantly, their investigation extends to examining the dynamics within Montessori school settings and teacher-child relationships.

Furthermore, Lillard et al. (2017) emphasize the importance of adhering closely to Montessori's original pedagogy. Their research suggests that children's outcomes improve significantly when Montessori's principles are implemented in their Montessori intended and aligned with the founder of this educational approach teaching

characteristics. Significantly, this underscores the importance of maintaining fidelity in educational practices to enhance their reliability, conclude Lillard et al. (2017). Also, Lillard (2018) reinforces the notion of remaining true to Montessori's initial vision or, in other words, the fundamental core of its principles. Finally, a study identifies six fundamental elements essential to the survival of Montessori's original concepts and principles in contemporary classrooms and environments, enhancing the pursuit of fidelity (Debs et al., 2022).

Using these tenets from the Montessori Method, as these studies suggested, serves as a defender of Montessori's legacy and ideas, promising that Montessori's core ideas endure despite the constantly changing nature of education. Lastly, regarding maintaining adherence and fidelity, another critical study is explored by Murray and Daoust (2023) about the difficulties of upholding it in Montessori educational institutions. Nevertheless, this research, directly and indirectly, gives me as a researcher on this topic valuable information about the challenges of Montessori education, adhering to its essential values and underscoring the need for steadfast dedication and contributions to preserving its adherence and fidelity.

2.1.7. Credible Montessori Organizations

Several more recent studies use standards set by Montessori organizations as proof that study locations faithfully carry out the programs. To guarantee program quality, organizations that support and promote Montessori education globally have developed standards that vary in degree of specificity (Debs et al., 2022). The most notable organization is AMI (Association et al.), and its affiliated organization, AMI/USA, provided criteria that Lillard et al. (2017) and Denervaud et al. (2019) used in their research. AMI is a desirable quality proxy for research because of its uniformity between training programs and accreditation standards (Debs, 2016). According to Lillard et al.

(2017), Montessori students in the US had better academic and socioemotional outcomes based on randomized lottery-based admittance methods. Comparably, in Switzerland, Denervaud et al. (2019) used AMI criteria for teacher preparation, Montessori materials, work schedule management, and the use of mixed age groups to demonstrate the superior quality of the five schools where students from the Montessori program outperformed those from traditional schools in terms of academics, creativity, and self-reported well-being.

However, in the Indonesian context, I haven't find an organization standardizing in evaluating or playing a role like AMI in the Montessori settings. Thus, several Montessori schools and organizations affiliated with BAN (Accreditation National Board) offer some certificates and accreditation, especially for Montessori teachers, such as Indonesia Montessori School and Jakarta Montessori School. Since this study aims to investigate the the adherence and fidelity implementated of the Montessori Method, details on accreditation may also be included. This is particularly intriguing as research has to be done on the Montessori organization, and the accreditation process has yet to be conducted in Indonesia.

2.1.8. Montessori's Prepared Environment and Trained Teachers

The literature on Montessori education highlights the importance of well-trained Montessori teachers who are keen observers and can follow the child to inform their choice of lessons, work, and classroom layout. Abraham (2012) emphasizes the need to prepare teachers who can evaluate the authenticity of their classroom and prepare students to become responsible. Moreover, in contributing adults, Lillard (2012) stresses the importance of Montessori teachers being certified by a Montessori organization and having college degrees, emphasizing the qualifications of Montessori educators. Lillard et al. (2017) found that children in higher-fidelity Montessori classrooms, where children

had only Montessori activities, had more significant social and cognitive school-year gains than those in lower-fidelity ones. Lillard (2019) highlights the importance of warm, sensitive, and responsive teachers who can build positive relationships and concludes that teacher-child relationship quality predicts child outcomes.

Moreover, the role of the environment in Montessori education has been extensively studied. Lillard (2019) highlighted that many parents are attracted to the Montessori classroom environment and materials, believing that it fosters academic success and sustains intrinsic motivation and joy in learning (Lillard, 2019; Courtier et al., 2021) emphasized that open and multiage Montessori classrooms offer a rich, collaborative, and varied social environment that fosters early socioemotional skills (Courtier et al., 2021). Additionally, Debs & Brown (2017) discussed the concept of the Montessori school as a "cultural environment," where students become familiar with fundamental aspects of their own culture and enlarge their cultural horizon. Furthermore, another research by L'Ecuyer et al. (2020) which examined the crucial element of the four conceptual pillars of the Montessori Method, including the prepared environment and their support by current neuroscience; however, within the study concluded that the right prepared environment in the Montessori setting contributes to the success of students' outcomes and successfulness (L'Ecuyer et al., 2020).

2.1.9. Montessori Implementation in Developing Countries

As of 2020, thirty-three African nations boast Montessori schools, according to the Association Montessori Internationale (AMI 2020). Nigeria has seen a surge in Montessori school openings, although some fail to fully adhere to Montessori principles, highlighting the need for better teacher training and understanding of the method (Dahunsi, 2014). In Morocco, the pioneering Ecole Montessori Casablanca (EMC) represents the first private institution employing alternative educational methods

officially recognized by the Moroccan government (Murray et al., 2023). However, a primary challenge in Morocco involves reconciling Montessori principles with affluent family parenting practices, hindering independence (Murray et al., 2023). Montessori's presence in Egypt dates back to the 1920s with Italian-run schools, followed by American Montessori teacher Marguerite Richardt opening Children's Houses in the 1980s. Despite the establishment of the Montessori Foundation of Egypt (MFE) in 2016, only two AMI Montessori schools operate as of 2022 due to a shortage of local AMI-trained teachers, impacting new school openings and creating an unreliable job market (Murray et al., 2023). Existing Montessori schools with international affiliations grow faster than new, often unaccredited, independent schools (Murray et al., 2023).

Meanwhile in the Central and South America context, or as it known as Latin countries, The Montessori Method's implementation in Latin America since the 1980s has encountered various challenges (Parham et al., 2023). Despite sporadic growth in early childhood spaces through private preschools, community endeavors, and charity or religiously affiliated schools, particularly in rural areas as noted by Parham et al., (2023), the process remains decentralized, contrasting with earlier governmental interventions. Regional actors have aligned more closely with the American Montessori movement rather than the earlier European influence, reflecting geopolitical shifts and impacting the method's adoption within the Latin American context. Economic and political factors have also played a significant role, leading to ebbs and flows in Montessori implementation in Central and especially in South American countries (Villalón, & Viviani, 2015). Political strife, stretched budgets, and the neoliberalization of education have posed challenges, particularly in marginalized communities, where Montessori programs struggle to take root due to fiscal constraints and a lack of government backing (Parham et al., 2023). Thus, following Parham et al., (2023) conclusion, while Montessori

education has made strides in Latin America, challenges related to decentralization, geopolitical shifts, economic and political factors, and fiscal constraints have limited its widespread implementation and sustainability across the region

Apart from that, there are also spread of Montessori in Asia context, for instance in 2020, the Association Montessori Internationale (AMI) noted Montessori schools in thirteen Southeast and East Asian countries, including Cambodia, Laos, Malaysia, Myanmar, the Philippines, Singapore, South Korea, Indonesia, Thailand, Vietnam, China, Taiwan, and Japan (AMI, 2020). The growth of Montessori education in the region is attributed to increased online access, translated texts, political changes, privatization of education, and international connections (Maholtra et al., 2023). Challenges include high costs for training and materials, misuse of the "Montessori" label, and alignment with state exams (Murray et al., 2023). Adapting Montessori to diverse cultural contexts is crucial, but economic barriers and limited faculty have made it costly and exclusive in some areas (Debs, 2021). As the movement expands to a broader audience, some institutions may misrepresent the Montessori Method. Apart from financial obstacles, Montessori faces social barriers to its expansion (Murray et al., 2023). In certain countries, parents express concerns about Montessori's compatibility with existing educational frameworks for example high-stakes national exams in places like Singapore and Korea deter parents from opting for Montessori, fearing the need to reintegrate into traditional schooling later (Maholtra et al., 2023). Moreover, there are apprehensions that Montessori might challenge prevailing social norms in Asia (Schweitzer, 2019). However, educators in Thailand highlight Montessori's role in nurturing inner discipline and moral character, esteemed cultural attributes, despite its departure from mainstream educational practices (Maholtra et al., 2023).

2.1.10. Montessori Research and Practices in Indonesia

Montessori education has gained significant traction in Indonesia due to its innovative teaching methodologies, particularly its emphasis on nurturing independent learning during early childhood education (Firdaus, 2018; Qadafi et al., 2023). Despite being introduced during the Dutch colonial era and experiencing limited adoption, Montessori has proven effective in enhancing students' motivation to learn languages such as English and improving reading skills (Bakri et al., 2021; Setiawan & Ena, 2019).

Moreover, Montessori principles have been integrated into various educational contexts across Indonesia, influencing subjects such as language acquisition and interpersonal skills, and shaping the design of educational materials and teacher training programs (Afidah et al., 2022; Hartanto & Yohana, 2020; Usop et al., 2021). Despite its historical roots and limited adoption in certain regions, Montessori's effectiveness in bolstering students' motivation and improving learning outcomes remains evident, highlighting its relevance and impact in Indonesian education.

Given the increasing prominence of Montessori education in Indonesia, this research concentrate on its implementation in West Java, aligning it with fundamental Montessori principles, to better understand its adaptation within the local education system and its wider implications for early childhood education worldwide.

2.1.11. Montessori Elementary School Level Age 6-12 and National Curriculum

Since this study is about Montessori in an elementary school level, it is better to explain what Montessori approach in relation to school age (6-12 years old) accommodate. Studies have demonstrated that Montessori education fosters creativity skills and academic achievements in children across different age groups, including those aged 6-12 (Golino et al., 2021). The emphasis on the "prepared environment," the

"prepared adult," and specialized learning materials in the Montessori model aligns well with the developmental needs of elementary school-aged children, promoting practical life skills, literacy, math competence, and cultural appreciation (Phillips-Silver & Daza, 2018). Additionally, Montessori education has been linked to improvements in children's concentration, empathy, and overall well-being (L'Ecuyer et al., 2020).

In Indonesia, the Merdeka Curriculum was introduced to create engaging learning experiences that cater to the development of Indonesian students (Suryawan, 2022). It covers a variety of subjects, including Islamic Religious Education, Pancasila Education, Indonesian Language, Mathematics, and Natural and Social Sciences (Yunitasari, 2023). This new curriculum has brought significant changes to the Indonesian education landscape (Pasaribu, 2023).

Both the Montessori Method and the Merdeka Curriculum aim to foster holistic development and individualized learning experiences. The Montessori approach, which emphasizes child-centered education and practical, hands-on learning (Courtier et al., 2021), aligns well with the principles of the Merdeka Curriculum. This curriculum encourages teachers to create flexible learning materials and methods tailored to the needs of their students (Asfiati, 2023). Both systems value student independence, creativity, and the nurturing of individual potential (Pambudi, 2023; Utami, 2023).

Within the framework of the Merdeka Curriculum, which includes subjects like Islamic Religious Education, Pancasila Education, Indonesian Language, Mathematics, and Natural and Social Sciences (Yunitasari, 2023), the Montessori method's focus on experiential learning and interaction with the environment (Lillard, 2019) can enhance the curriculum's emphasis on comprehensive learning and mastery of content (Nikmah, 2023). The curriculum's Project-Based Learning (PBL) approach (Ni'mah, 2024) mirrors

the Montessori practice of encouraging students to engage with real-world challenges and experiences.

In essence, the Montessori Method's focus on child-centered and experiential learning complements the objectives of the Merdeka Curriculum by fostering independence, creativity, and a thorough understanding of concepts through hands-on activities. By integrating Montessori elements into the Merdeka Curriculum, educators can create a more vibrant and effective educational environment that supports the holistic growth and academic success of students.

2.2. THEORETICAL FRAMEWORK

2.2.1. The Montessori Method

On this occasion, I use the Montessori Method – the term first coined in her book “The Montessori Method” (1912) – that I use as a foundational Montessori educational idea that can be considered as a theoretical framework for my study. This theoretical framework has found application in several studies over the years, as demonstrated by works by Knowles (1975), Lillard (1988), Iwasiw (1987), Lopata, Wallace, & Finn (2005), Lillard & Else-Quest (2006), Landrum & McDuffie (2010), and Lillard, 2016, 2017, 2018, 2019). Therefore, in terms of its implementation in the elementary school in West Java, Indonesia, the Montessori Method can become a lens through which to understand its educational implementation, especially in different contexts.

According to Maria Montessori's book "The Montessori Method" (1912, 2012), the core principles of Montessori education can be comprehended through several fundamental ideas. (1) There is an emphasis on "Scientific Pedagogy," rooted in empirical research, clinical observation, and the scientific method, integrating knowledge from various fields like medicine, psychology, and anthropology to support children's

development. (2) Montessori's medical background informs her approach, highlighting the importance of "Clinical Observation" of children to identify their needs and create tailored educational solutions. (3) Montessori believes in the "Child's Innate Learning Potential," viewing each child as possessing an inner self-teacher that drives their learning, combining spirituality with scientific understanding of child development. (4) The approach maintains a "Balance between Freedom and Structure," granting children the freedom to explore within structured environments, providing boundaries for their development. (5) "Child's Engagement with the Environment" is central, recognizing that active interaction with surroundings is pivotal for physical, psychological, and cognitive growth. (6) Montessori underscores "Fostering Self-Activity and Concentration," stating that children naturally gravitate toward mental concentration and self-directed activity, advocating for their nurturing over external controls. (7) "Embracing Order and Discipline" counters the notion of inherently disorderly children, emphasizing that they thrive in organized settings and that genuine discipline arises from within when cultivated within a structured learning environment. Finally (8), Montessori sees "Education as a Dynamic Journey," defining it as an evolving process where children progress through voluntary efforts and the pursuit of functional independence, driven by their innate desire for growth and development.

Therefore, the essence of the excerpt is that it discusses the Montessori Method's unique blend of scientific inquiry, acknowledgment of a child's natural potential, and the establishment of structured yet liberating educational environments. The primary focus of the research is to explore how closely an elementary school in West Java, Indonesia, adheres to the fundamental principles of the Montessori Method. Nevertheless, by examining the school's fidelity to these core principles, the study seeks to gain valuable

insights into the effectiveness, challenges, and possible modifications of the Montessori Method in this setting.

2.2.2. Implementation of Fidelity

In this study on the adherence and fidelity of Montessori implementation, I also rely on Carroll et al.'s (2007) framework, namely "Implementation Fidelity." Furthermore, ensuring implementation fidelity in education research is important for delivering educational programs as intended, encompassing factors like content, frequency, duration, and coverage as described by Meyers & Brandt (2014) which highlight its significance, and this framework is further supported by its application in various academic journals, including Breitenstein et al. (2010) in community-based interventions, Hill & Erickson (2019) for interpreting program impacts, Vroomet et al. (2020) in the context of life skills training, and notably, in Montessori education by Starling (2018).

On practicality this structured framework and helps me to understand and examine how closely Montessori practices and on field implementation align with Montessori principles. Furthermore, as Carroll et al. (2007) noted in their article, to appropriately using implementation fidelity can be understood by encompassing several key dimensions: adherence, exposure/dosage, quality of delivery, participant responsiveness, and program differentiation. By this framework, this research aim to gain insights into the adherence and fidelity for the effectiveness and applicability of Montessori Method in particular chosen educational context and environment.

Nevertheless, in detail of steps to apply this theoretical framework in this research, here are the following aspects:

Aspect	Descriptions
Adherence	Investigating the alignment of Montessori practices with established principles. Evaluating the use of Montessori materials, commitment to child-centered teaching, and the arrangement of the learning environment.
Exposure/Dosage	Observe how frequently and extensively Montessori methods are integrated into the classroom. Investigating the time allocated to Montessori activities and the consistency of their application.
Quality of Delivery	Examining the implementation of Montessori principles in the classroom. Focusing on teacher competence, interactions between teachers and students, and overall classroom management.
Participant Responsiveness	Measure engagement and reactions from both students and teachers. Observing student participation, interest levels, and how teachers address individual student needs within the Montessori context.
Program Differentiation	Identifying unique elements that distinguish the Montessori program from other educational approaches.

This study's objective is to thoroughly understand the unique features and characteristics that define the Montessori approach as implemented within the specific school under investigation, as proposed in Chapter One.

CHAPTER III

METHODOLOGY

The research methodology employed in this study is guided by the constructivist paradigm and employs a qualitative approach, aligning with the study's objectives. This approach is well-suited to explore the implementation of Montessori education in an elementary school in West Java. In terms of data collection, the data are collected through observation, semi-structured interviews as primary data, and also document analysis. Moreover, in relation to these methods it offers a comprehensive understanding of the practical application of Montessori principles, contributing to the research's depth, richness and, consequentially, the validity of the outcomes. Furthermore, in this context, the choice of these research instruments and methodology is based on their alignment with this study's objectives mentioned in Chapter One. Ethical considerations and consents including informed consent, confidentiality, and anonymity, be rigorously observed throughout the research process to protect the participants' rights and privacy. Lastly, I also put observation forms, the interview questions and documentations form on before last page as appendix provided. Lastly, references is in the last page of this document.

3.1. Research Paradigm and Design

When describing a paradigm in research, according to Creswell (2014), a research paradigm or a philosophical worldviews can defined as a basic set of beliefs, assumptions, or dictates about fundamental aspects of reality that guide and path a way action and application in the field or the research, as the author Creswell (2014) stated. Moreover, a research paradigm is a foundational framework to shape the entire research process. It thus includes beliefs about reality, knowledge, and methodology, influencing how research is conducted (Guba & Lincoln, 1994). In this research, the study use the

pragmatism paradigm. It is founded on the idea of applying ideal approaches to real-world situations, enabling the utilization of various data and information sources to address research questions (Morgan, 2014).

Within the chosen pragmatism paradigm, I develop a specific research design to carry out the study. According to Creswell (2018), understanding a research design functions as a framework for guidance that affects several aspects of research, including reporting, methodology, and interpretations. Similarly, as the other author defines, a research design, as Yin (2017) describes, functions as a comprehensive plan for conducting research. Regardless, in summary, it outlines the data collection, measurement, and analysis strategy, serving as a blueprint that specifies the methods to be used throughout the study.

Nevertheless, in this research, to give a comprehensive understanding of the topic, I provide a comprehensive understanding of the adherence and fidelity of the Montessori Method in one elementary school in West Java by using a case study design. The case study is a qualitative approach that can only focus on a unit of study that occurs in a specific context, such as individual teachers, a classroom, or a school (Gay et al., 2012). The process of designing case study research involves determining the research questions, defining the case, determining the role of theory development in case selection, determining the theoretical and conceptual framework for the study, and deciding whether a single case study, a multiple case study, or a collective case study is appropriate (Gay et al., 2012). This study used a single case study since I collect data from only one school currently applying for a Montessori program in a rural area in West Java.

3.2. Population and Sample

The population in research refers to the entire set of individuals or entities relevant to a specific research question. It includes all subjects (people, organizations, events, objects) that meet specific criteria for inclusion in a study (Bryman, 2012). Moreover, in research, the population under study is defined by specific characteristics relevant to the research question, as exemplified in a study on Montessori education where the population could encompass all Montessori schools in a particular country (Creswell, 2013). However, case study research has often been criticized on the grounds that its findings are not generalizable; therefore, this study's applicability to broader contexts or populations may be limited as described by Hammersley, Foster & Gomm, (2000). In the context of this study, it is essential to clarify that the population under investigation pertains explicitly to an elementary school in West Java.

Moreover in relation to sampling it is defines as the choice of a portion of individuals from the more extensive population for inclusion in a research study. It is the method of selecting participants whose attributes accurately reflect the characteristics of the broader cohort (Cohen, Manion, & Morrison, 2013). Furthermore, two key aspects pertaining to sampling are representativeness and the selection methods employed. Representativeness signifies the importance of ensuring that a sample closely mirrors the characteristics of the larger population, enabling the extrapolation of findings to the broader group (Bryman, 2012). Meanwhile, for the sampling methods the sampling methods encompass various approaches, such as purposive sampling in which where each population member has an equal chance of selection (Trochim & Donnelly, 2006).

For clarification of sampling in this research context, purposive sampling be employed with one elementary Montessori school, with the participants consisting of one school principal, two teachers, and two parents. The principal is the head of school that

initiated to this method, and two teachers are who specialized in Montessori Method in practice, and two parents are the parents who are having understanding bit about this method. To select participants like teachers and parents, it's logical to seek the input of the principal or head of the organization. They can offer valuable insights and help ensure alignment with the school's mission and values. Purposive sampling, as a vital approach in research, involves the deliberate selection of participants based on their specialized knowledge or extensive experience relevant to the research question, as Creswell (2013) emphasized. This method enables me to gather rich, pertinent, and diverse data that directly aligns with the study's objectives, as Patton (2014) highlighted. Moreover, it offers versatility through various subtypes such as extreme case sampling, maximum variation sampling, and expert sampling, each tailored to specific research purposes, as Tongco (2007) outlined.

3.3.Method of Data Collection

To acquire information for this research thus, I utilize multiple data-gathering methods, encompassing observation, semi-structured interviews, and documentation as necessary. However, the interviews is the primary data source, while observation and documentation provide supplementary and corroborative details. These data collection techniques are commonly employed in diverse qualitative research studies because they allow for the customization of inquiries to match specific contexts, as Creswell (2013) advocates. Bogdan and Biklen (1992) endorse interviews as a valuable means of data generation, emphasizing that interviews offer researchers insights into how individuals perceive their experiences. They stress the significance of collecting descriptive information in the subjects' own words during interviews to gain a deeper understanding of their viewpoints.

3.3.1. Observation

The first data-collecting observation aims to directly witness and document the dynamics unfolding within the classroom environments. Following Creswell (2009), observation entails obtaining open-ended, first-hand data through direct observation of people and places at the research site. This approach allows for the collection of contextual information and the observation of interactions between the participants. This includes interactions between teachers and students and the practical application of Montessori principles in real time.

Furthermore, this research is conducting structured observations, paying close attention to various aspects such as classroom layout, the utilization of Montessori materials, levels of student engagement, and the facilitation provided by the teacher in the particular elementary school in West Java. However, particular emphasis is placed on assessing the critical characteristics of the Montessori environment, which encompass elements such as order, freedom, reality, nature, beauty, atmosphere, and the use of Montessori materials. Nevertheless, these observations may be recorded by generating field notes and, when feasible, employing video or audio recordings.

The researcher employed passive participation of observation in this study, which means that while the researcher is present, the researcher do not intervene or take part (Merriam & Tisdell, 2015). Moreover according to Merriam & Tisdell (2015) and Angrosino (2007) passive observer makes sure that the researcher's presence does not affect the natural environment or the behavior of the subjects, hence enabling genuine and undisturbed data collecting in a natural setting. For this reason, it is highly helpful in studies that need to watch people acting naturally and interacting in everyday situations. I focused on the application of the Montessori Method while keeping a passive observer's

perspective on the teaching and learning activities taking place in the Elementary Montessori classrooms three times for two months.

3.3.2. Semi Structured Interview

In this research, I employ a semi-structured interview approach, drawing from insights by Cohen et al. (2007), who emphasize its flexibility in question arrangement, allowing participants to define their own experiences. Additionally, Bryman (2008) highlights the advantage of this approach, as it encourages participants to be more open about their worldviews. Moreover, these semi-structured interviews involve a predetermined set of questions or specific topics to be covered, as described by Bryman (2008). In addition, Merriam (1988) affirms that semi-structured interviews are guided by a list of questions or issues to explore, allowing researchers to adapt to the respondent's perspective and emerging ideas. However, as suggested by Creswell (2009), an interview protocol serves as a structured tool for conducting interviews, encompassing key elements such as headings, instructions, questions, probes, space for recording responses, and a concluding thank-you statement.

The interviews questions, as an example, (1) For Principal: Can you provide an overview of the key principles of the Montessori Method and how they are implemented at your elementary school in West Java?, (2) For Teachers; Could you describe your experience with implementing the Montessori Method in your classroom at the elementary school in West Java? And (3) For Parents: What is your perception of the Montessori Method and its implementation at the elementary school in West Java?

During the interviews, notes is taken while recording participants' responses. Bryman (2012) recommends recording and transcribing interviews, which followed in this study. The interviews aim to explore whether an elementary Montessori school in

West Java, Indonesia, faithfully adheres to the Montessori Method in terms of its adherence and fidelity to maintaining its fundamental core principles. However, specific criteria based on Montessori's works (1912, 1967, and 2012) is crucial in understanding the implementation in this specific place of study.

Furthermore, in terms of participants, the people involved in these semi-structured interviews included a school principal, two teachers, and two parents. The research is investigating whether the Montessori school maintains the foundational Montessori principles in its curriculum, teaching methods, and classroom setup. Furthermore, principals and teachers offered insights into classroom practices, while parents shared their experiences and engagement with the Montessori Method. The selection of participants followed a purposive sampling strategy to ensure a diverse range of meaningful perspectives.

3.3.3. Documentation

In addition to conducting interviews, this research employs documentation review as a valuable data collection method, aligning with Creswell's (2009) recognized benefits, including the ability to capture participants' written contributions, accessibility at any time, provision of well-produced, high-quality information, and time-saving advantages during transcription. The documentation review comprehensively examines various materials, encompassing curriculum guides, lesson plans, school policies, teacher training manuals, and other relevant documents.

Moreover, this thorough analysis strengthens the forthcoming findings, primarily focusing on identifying concrete evidence of Montessori principles and their alignment with Montessori teaching practices. Furthermore, it explores how the globally recognized Montessori Method has been thoughtfully adapted to align with the local educational

requirements specific to West Java. Nevertheless, the overarching goal is to investigate whether the Montessori school under examination has effectively demonstrated the foundational principles of the Montessori approach.

3.4. Research Instrument

The choice of research instruments depends on factors like research objectives, questions, population, and practical considerations (Creswell, 2013). In this study, three instruments used: observation, interviews, and documentary analysis (Angrosino, 2007; Kvale, 2007; Prior, 2003). For example, in examining Montessori education implementation, interviews, classroom observations, and document analysis offer a comprehensive perspective. Tables, as discussed by Cloutier and Ravasi (2021), employed in this study to efficiently organize and manage for interviews questions, observations, and documents, ensuring easy access for analysis during the research process. The application of tables can be seen in appendix section.

Table 2.1 Interview Sample

Sequence	Interviewee	Area	Questions
1.	Principal	Adherence	What is the school's commitment to Montessori? How are classrooms designed to support Montessori? How does the curriculum align with Montessori principles?
		Challenges	What are the main implementation challenges? How does the school address these challenges? What additional support is needed?

		Opinions	How effective is Montessori at the school? In what ways do students benefit from Montessori? What feedback is received from parents and teachers?
2.	Teacher	Adherence/Exposure	How do you integrate Montessori principles into your teaching routine? How often do you use Montessori materials? What portion of time is dedicated to Montessori activities?
		Quality	Can you share examples of Montessori principles applied in teaching? How do you encourage self-directed activities? What is the student response to Montessori?
		Challenges	What are the major implementation challenges? How does the school support Montessori implementation? What are your thoughts on Montessori at school?
3.	Parent	Adherence/Exposure	What were your reasons for choosing Montessori? How familiar are you with Montessori?

			Do you observe Montessori methods in the classroom?
		Challenges	What challenges have you faced with Montessori? How do you think Montessori benefits your child? What are your overall thoughts on the Montessori program?

Table 3.1: Observation Sample

The study observe classrooms from March 1st to May 30th, during regular school hours from 9:00 AM to 2:00 PM. It covers diverse settings, including traditional and Montessori classrooms, across 1st to 6th grade levels. The focus on analyzing classroom dynamics, teacher roles, interaction patterns, and material usage. Additionally, environmental factors, policies, and non-verbal behaviors noted. Reflective insights provided to inform educational practices. In more details in this following:

Section	Details
Observation Period	The observations are currently occurring diligently over a three-month period, commencing on March 1st and concluding on May 30th, 2024 , during regular school hours from 9:00 AM to 2:00 PM. This extensive timeframe allows for comprehensive data collection and analysis of classroom dynamics.

<p>Classroom Settings</p>	<p>The research currently encompasses a wide range of classroom settings, accommodating students across different grade levels, from 1st to 6th grade. These settings currently include both traditional classrooms and those following the Montessori Method, catering to the diverse needs and preferences of students.</p>
<p>Activities Observed</p>	<p>Various classroom activities are currently being observed during the research period. These activities currently span across different subjects and grade levels, providing insights into the curriculum delivery and student engagement within the classrooms. The frequency, duration, and subjects covered are currently being meticulously documented to capture the nuances of each activity.</p>
<p>Focus of Observations</p>	<p>The primary focus of the observations is currently to delve into the intricacies of classroom dynamics. This currently involves closely examining the role of teachers, the patterns of interaction among students, and the utilization of learning materials. By currently observing these dynamics, the research aims to gain a deeper understanding of the teaching and learning processes within the classrooms.</p>
<p>Additional Notes</p>	<p>In addition to classroom dynamics, detailed notes are currently being taken on various environmental factors influencing the learning environment. This currently includes aspects such as classroom layout, noise levels, and temperature, as well as policies and regulations currently impacting classroom management and instruction. Moreover,</p>

	non-verbal behaviours currently exhibited by both teachers and students are being observed and recorded for further analysis.
Reflective Insights	The observer is currently providing reflective insights based on the observations made throughout the research period. These reflections currently aim to offer deeper interpretations of the observed classroom practices, highlighting trends, identifying challenges, and acknowledging successes. By currently reflecting on the data collected, the research currently seeks to derive meaningful conclusions and implications for practice.

Table 4.1: Documentation Sample

The documentation instrument serves as a vital tool for gathering essential data regarding the Montessori curriculum, teacher certifications, and school compliance, offering valuable insights into the implementation of Montessori education at the elementary school level in West Java.

Document	Sources	Relevance to The Study	Key Results/Themes	Date to be Accessed
Curriculum Overview by School Principal	Elementary Montessori School Principal	Provides insights into Montessori principles in the curriculum	Details curriculum structure, alignment with Montessori	May 1st, 2024

			philosophy, and implementatio n strategies	
Teacher Certification Records	Elementary Montessori School Principal	Offers information on teacher qualifications	Indicates certification status, professional developmen t activities, and Montessori pedagogy specializatio n	May 5th, 2024
School Accreditation and Compliance Reports	Elementary Montessori School Principal	Highlights school adherence to standards	Showcases Montessori accreditation compliance, educational regulations adherence, and improvement initiatives	May 10th, 2024

3.5.Data Analysis

3.5.1. Data Analysis Process

The qualitative data analysis process followed the interactive model proposed by Miles and Huberman (1984), which comprises three key stages: data reduction, data display, and conclusion drawing/verification. Moreover, the research process began with data collection, which involved observation, interviews, and document analysis. Subsequently, data reduction was carried out, involving tasks such as coding, categorizing, and selecting the relevancies information aligned with the research questions. Moreover, data reduction activities encompassed tasks such as transcribing interviews, compiling field notes, and categorizing data based on their sources.

Following data reduction, the next phase involved data display. Selected data related to the research questions is going to be presented using thematic analysis, allowing for the examination of information gathered from observations and interviews. Regardless, this process required continuous and further examination, coding, and organization of data – in this research used electronically - both chronologically and categorically, following Creswell's (2009) approach.

Lastly, the final step focus on drawing conclusions and verification. In this phase, conclusions were drawn from the data and information collected during the research. These conclusions were aimed at understanding whether the Montessori school under investigation effectively demonstrated adhering to the foundational principles of the Montessori approach.

3.5.2. Trustworthiness of Data

The reliability of data can be defined and understood as its ability to represent its accurate value consistently, provide a foundation for implementations, and also withstand external influences that might affect procedural consistencies with the fairness of findings and decisions, as explained by Moleong (2007). In qualitative research, data reliability is evaluated using various criteria, which in this context is trustworthiness. Trustworthiness, a crucial component of data reliability, is improved through triangulation. Triangulation serves the purpose of reinforcing the reliability and validity of research outcomes. Denzin, as referenced in Patton (1990), identifies four forms of triangulation: data triangulation, researcher triangulation, methodological triangulation, and theoretical triangulation. In this study I use and choose data triangulation form because the study has access to varied data sources and therefore aims to provide a comprehensive understanding of the phenomenon, as described by Patton (1990).

3.6. Ethical Consideration

I conduct with the ethical principles of informed consent, confidentiality, and anonymity were adhered to in this study. As a researcher for this thesis, I gained access to the research site through a friend who knows a teacher at the school. Moreover, following being duly informed of the study's aims, the participants consented in writing to participate. In order to mitigate potential injury, audio-recorded interviews were securely stored, and the participants' identities were concealed. Lastly, participants are appropriately informed of their prerogative to disengage from the research at any given time.

CHAPTER IV

RESEARCH RESULT AND DISCUSSION

In this section, there are two separate ways in presenting the chapter. First is by presenting the research results which I explain the results of research from the field based on the themes that are divided from the three research questions. These research result is with accordance on the three primary data collection method; interview, observation and documentation. The second part is discussion about this study findings relate to the relevant references that has been elaborated in Chapter 2 previously.

4.1. RESEARCH RESULT

4.1.1. School Adherence to Key Principles of the Montessori Method

In this first research question, I present the results of the study analysis from the field. There are 4 subsections which compile based on from the strongest to the weakest principles applied in this school.

4.1.1.1. Individualized Learning and Observation

Montessori Method applies what is called **Clinical Observation**. It emphasizes on the importance of direct observation of students in order to meet their needs, behavior and learning styles. In practice in the field, Indah as the principal stated, *“Observation of students is done at the beginning of learning. (Also) at the beginning of entering (school), students are directly observed and then teachers concluded it,”* she emphasized.

Furthermore, regarding how the results of observations of students help in the identification of individual student needs, Indah explained, *“The results of the observations are similar to the differentiation of groups. Students will be grouped A,B,C,*

although Montessori is supposed to be individual... so the minimum is like the Merdeka Curriculum like in Montessori Math in certain classes there are 3 and there are 4, there are even up to 10 groups."

In addition to the school's efforts to conduct observations by involving professionals, there are also efforts to involve psychologists in daily observation practices, as she revealed, *"there are psychologists who come, then after the psychologist observes, they hold meetings with teachers to establish cooperation or to enlighten teachers."* Meanwhile according to Sinta there are school efforts to apply observations to design teaching strategies that suit the individual needs of students, Sinta stated, *"Of course there is, for Maths (for example) each child has different teaching aids so they cannot be equated."*

While parents such as Endang provided clearer information regarding the importance of observation and its process to support student development, in detail she said, *"maybe the teachers first pay attention to what their students are like one by one, and after they know their students are like how, then the teacher applies how the learning method is suitable for their students."* she conclude.

Nevertheless, when I conducted direct observation related to the principle of Clinical Observation in Montessori's class, it was seen that one of the teachers gave a task, and observed carefully recording the process and results of the activity. The recording was done at the end of each student's work. Through direct observation, I observed that this process allows teachers to provide more targeted and thorough guidance to each student according to their developmental level.

Simultaneously, **Child's Innate Learning Potential** which emphasize on the innate capacity of each child to learn and develop. Montessori in this principle sees

students as unique individuals who have their own internal drive to learn. Indah, as the principal, seems to show an effort to implement this in several ways *“we have unique activities, there are a number of activities in which children are interested and talented such as music, dance, martial arts, children are given the freedom to choose. There is gardening, futsal, later the children go to these places, but if they explore first, they are placed in this place next week. After 1 month they are given the opportunity to explore, then they are asked to express their choice. Those are some examples of concrete activities,”* Indah concluded.

Furthermore, Sinta as a teacher emphasized to support this principle, her readiness to provide an adaptive and dynamic learning approach for each child, according to their needs, *“I don't mind organizing different learning for each child”* she said. In addition to that, the parents in this case also being questioned about the implementation of this principle. One of them such as Endang explained how the school respects the uniqueness of each child in the learning process, *“Yes, maybe the teachers don't require the students to learn the same, because each child is unique, maybe the teachers have different ways of teaching”* she conclude.

In terms of direct observation in the classroom the principle of Child's Learning Innate Potential is demonstrated when I saw that one of the teachers had good patience in guiding such students by adjusting their learning in their own way. There were three students during observation who were seen applying their way of learning according to what they were capable of in answering the assigned tasks. Such as kinesthetically and visually with the help of typical Montessori props.

The Clinical Observation principle implemented in this school according to the results of analysis is the strongest of several other Montessori principles, guiding

personalized learning through direct student assessment and professional collaboration. In addition, Child's Innate Learning Potential thrives, fostering individual development with tailored teaching and strong parental engagement, enriching each child's unique learning journey.

4.1.1.2.Active Engagement and Interaction

Child's Engagement with the Environment emphasize on the importance of children's active interaction with the environment in their physical, psychological and cognitive development. In implementing this principle within the school Indah said that, *“First we work together to build synergy between parents, teachers, principals, psychologists.”* Meanwhile, Sinta emphasized the importance of creating a learning environment that supports children's development not only at school but also outside of school. She said, *“I hope children do not focus on looking for learning at school only but from parents also support learning at home maybe just increase reading”*.

Another perspective came from parents who revealed that the school is quite active in addressing children's physical, mind and emotional development in the learning environment. Aisyah explained, *“The development is good, because in this school there are tools (props), such as games that support children's sensory development. Then there is snack time which is popular, there is also a pre-class. Besides that, they have sensory activities, (for examples) they are taught to pull the grass, clean the sink, and it's not bad for the child's development.”*

Meanwhile, the results of observations school began at 07.00 WIB - until 14:00 WIB. Initial observations of pre-classes activities showed a well-organized process. In the morning, the picket teachers on duty responsibly welcomed the arrival of the students, creating an initial calm and orderly atmosphere before the start of learning hours. The

well-organized morning routines and structured environment can be an indication that the school foster students' active participation and connection with their surroundings right from the start until the departure of the students.

Comparably, another principle of Montessori Method called **Fostering Self-Activity and Concentration** that emphasizes the importance of fostering the child's natural tendency towards mental concentration and self-activity. This is emphasized in the creation of an environment that supports children in developing these skills autonomously.

In practices within the school Indah explained, *“Because one of the visions and missions in this school is critical thinking as well, including children often asking questions... we let them ask and then we answer and there will be a class discussion, so we appreciate that.”* Furthermore, she revealed regarding specific strategies to facilitate the development of concentration skills and independent activities in students, *“There is a Class Skill material called Class 1. That really helps build concentration.”*

When asked about how to encourage children to find self-activity for example to find solutions to their own problems without direct guidance, Sinta said, *“Because it's one-on-one (guidance) so it's active.”* Sinta also highlighted the importance of facilitation with Montessori tools, which supports the concept of the learning environment mentioned in Montessori principles, *“They are allowed to work freely with props asking friends themselves.”* In addition to that, when I asked about how the school encourages children to concentrate and independence in finding solutions to their own problems Endang as parent said, *“For Montessori there are many teachers there, while the students are limited, maybe it can make the teacher more focused on the students yes I think there is a lot of concentration.”*

From the results of observation at school, I saw that the Montessori class schedules were well organized. Each special Montessori class meets twice a week in a special Montessori room and the learning duration of 1 hour 45 minutes provides adequate time for students to explore and understand the material in depth. The Montessori class is specifically separated from the other classes. For each grade level, Montessori classes with dedicated rooms run twice a week and each day, there are two Montessori classes for each grade. For example, class 1 on Monday from 7.30-09.00. Then class 2 on Monday from 9-11.45 and so on. In relation to the principle of Fostering Self-Activity and Concentration when observing I saw that they performed the assigned tasks with sufficient time. In addition, the teachers minimized interruptions so that students developed deep concentration and could complete the task at their own pace.

The principles of Child's Engagement with the Environment and Fostering Self-Activity and Concentration are essential for promoting active learning and independent growth within the Montessori framework. However, these two principles are not stronger than the previous ones due to challenges especially in resource dependency, and limited time consumed.

4.1.1.3. Structured Freedom and Dynamic Learning

Balance between Freedom and Structure emphasizes the importance of giving children freedom within a structured environment. This principle allows children to explore and learn at their own pace while also setting clear boundaries to support their development.

Indah shows that the school she leads tries to be committed to education that pays attention to students' freedom of learning but remains structured. One of them is through setting targets that are in accordance with the capacity and needs of each student, "*First*

we set the target, but again the target is different for each student. The target for group A is up to here, group B is up to here. In the field, when some students exceed the target, that's fine, and some students fall short, that's fine too. Setting the target is only for a reference” she said.

The school also demonstrates dynamism and flexibility in learning approaches by giving teachers the freedom to adjust their strategies according to individual student needs, and emphasizing the importance of collaboration between teachers in facilitating student needs. As Indah continued, *“we compile the curriculum in addition to learning outcomes there are also TP (Learning Objectives) and ATP (Learning Objective Flow). In the ATP, it has been determined that this group has TP up to this, we’ll then check this for how long. For example, 1 Semester there are 4 TPs that must be fulfilled.”*

From the teacher perspective Dewi explains how she creates a balance between giving children the freedom to learn at their own pace and ability, while also setting clear boundaries, targets and guidelines. She states, *“There are guidelines.”* She went on to explain how she ensures that children can still develop their own autonomy and initiative, while still adhering to existing rules and norms. She emphasized, *“Give it back to the child, because in Montessori there are no (real) rules attached (to the learning approach).”* She continued, *“Here, from grade 1, they are taught to have their own space to store their own books, their own equipment, and they are required to be responsible for maintaining their own items.”* Furthermore I asked in order to implement freedom and structure there are there any guidelines other than TP and ATP (Formal Guidelines)? Sinta said, *“We only use Jonathan Frigless,”* she concluded.

From the observations at the school, it appears that the Montessori class as observed, it runs in special classes, without merging with other classes. The Montessori

classroom in relation to the principles of Freedom and Structure is shown by allowing students to work at their own pace and ability while being accompanied by individualized guidance from teachers. For example, each teacher handles 3-4 students, guided one by one and working on their tasks at their own convenience. Since one teacher handles 3-4 individuals, there is a regularity to the classroom setting. The commotion of elementary school children is still at a reasonable level. The classroom supports a free but organized setting with a spacious, quiet and comfortable yet beautiful room layout.

There is only one Montessori class in this school. Here is the image of Montessori Class.



Meanwhile Montessori Method is seeing **Education as a Dynamic Journey** that emphasizes in its universal ideals education is a continuously developing process, driven by natural desires and children's interest in growing and developing. In this research Indah asked which more accurately describes the concept of education in his school, is education about the growth and development of students by utilizing encouragement from within? Or is education about achieving targets, she answered "*Children's growth and development.... The teacher only helps*" Moreover, regarding how school arouse children's interest, she emphasizes through providing interesting and relevant stimulation.

"Given stimulation, for example, in Montessori there is something called Great Lessons, the stories will definitely interest children, that is, they can build interest followed by experiments."

Teachers such as Dewi and Sinta also expressed the same narration, they stated that they saw the concept of education in their class more as a process of student growth and development by utilizing encouragement from within. Sinta explains her special strategy, *"Every time before learning there is a Morning Journal or Drawing of their daily life"* indicate her approach to arouse the interest of the children in her class. Furthermore, Sinta emphasized, *"Following the flow so that children remain comfortable and enjoy class."* she concluded.

Regarding this principle, I asked perspective of the parent. One of the parents Aisyah stated, *"For me, development is more important. Because at this school, unlike other public schools, we see that scores important, here it is more about development, the development of each child."* Meanwhile, Endang stated, *"It seems that both are important, inner encouragement is important, no matter what the teacher is like, if you don't have the encouragement to be enthusiastic yourself, it's difficult, so both are important."*

From observation at school, I saw that the role of teachers in Montessori class has significance. The presence of teachers like Dewi and Sinta, when I directly observed them in the classroom, looked very passionate. For example, what one student did after finishing his assignment, she stepped aside and started drawing a picture on her medium canvas, the teacher left them to express their own creativity. This omission, in my view, is the school's attempt to apply the principle of Education as a Dynamic Journey.

Due to Education as Dynamic Journey more of the philosophical principle and cannot be measured easily, rather than technical one, it is understandable that I put this

principle not in the strongest position as before. Similar as Balance between Freedom and Structure which heavily rely on Montessori special class to be implemented effectively. Additionally with limited time spent on the Montessori class it raises question about its outcomes.

4.1.1.4. Scientific Integration and Order

Montessori Method in essential is inclined to **Scientific Pedagogy**. This mean that school which implementing the Montessori includes the scientific pedagogy as its value. In relation to this principle and its practices, Indah (a pseudonym) as principle claimed that the school added about the integration of other sciences such as psychology, *“Psychology, before the child enters, (psychologist) is observed and comes every month to observe whether it is in accordance with the course of learning in the classroom.”* she said.

To be sure of what Indah stated, Dewi (pseudonym), the school teacher explained about her teaching method approach is based on scientific research results in various disciplines, as she stated, *“almost everything”* without giving any concrete example. However, I also include argument to strengthen how the school implemented scientific pedagogy with parents, for example, Aisyah (a pseudonym) said that this school has a special psychologist, similar to Indah answer. She explained, *“The advantage here is that it has a special psychologist to collaborate with the school, so every child who wants to enter the list is first tested psychologically with a psychologist who has collaborated with the school.”* she conclude.

In addition to that, when I directly observe the practice of applying the Montessori Method in the classroom by comparing it with the scientific pedagogy principle, it appears from my view that there are typical Montessori facilities such as teaching aids. In this

case for instance the Main Dam Board, a Montessori teaching aid in the form of a rectangular board with colored squares like a chessboard to train mathematical skills. In relation to the scientific principle referred to in this section is the evident that school use of structured teaching aids such as the Main Dam Board to facilitate hands-on and experiential learning to improve Mathematics skills. In addition, unlike other schools, Montessori is characterized by the absence of benches in each classroom. The children learn on the carpet on the floor, accompanied by two Montessori teachers and two shadow teachers. The class contains 15 students. With the students from the third grades of elementary school level.

Nonetheless, **Embracing Order and Discipline** emphasizes the importance of a structured and organized environment. In implementing this principle Indah emphasized “the class management must be good, when the management is good, the teacher is authoritative, and it will be considered by the children.” In giving a concrete example of the implementation of order and discipline in daily activities at school, she said, *“Everyday when they come in, for example, children have responsibilities (specifically) for grade 2 and above... So they have the responsibility of one job for 21 days.”*

As a direct practice in the class teacher such Sinta in term of implementing order and discipline in the Montessori classroom is by reminding every rule in the classroom and using a special approach for each student, *“Every teacher is reminded with a special approach”* she concluded. Nevertheless, looking at how school has implemented this principle can also be understood briefly from the views of parents as Endang when explaining, *“My child at home, maybe because of the influence of discipline at school, my child at home, for example, if his belongings are messy, he can clean up by himself, for example, being told to pray is not difficult, yes, he is more disciplined in small things.”*

From observations at school, it appears that interactions between students and teachers, as well as between fellow students, occur in a quite orderly and pleasant manner within the Montessori classroom environment. Teachers provided guidance with quite warmth and patience, while students engaged in learning with enthusiasm and engagement. Order and Discipline were also evident when there was a worship practice and class picket, children were regularly guided to line up and carry out tasks outside the classroom in an orderly and disciplined manner.

I put the principle of Scientific Pedagogy as the weakest principle that the school has implemented due limited mention of other sciences integration. It was only the involvement of psychologists that this school mentioned. Meanwhile, the principle Embracing Order and Discipline also in this spectrum because it's probably something that should be implemented in any school, so there's nothing special about implementing order and discipline whether it's Montessori or something else.

4.1.1.5.Overall Implementation in the School and its Fidelity

When I look at the level fidelity of implementation in this school can be understand as follows. Starting on **adherence** to the program, from Indah's view, as the principal there is a clear effort to ensure participation and adherence from almost all parties involved, such as parents, teachers, principals, and other professionals. Monthly trainings are held to refresh the method, *“When we see deviations, then we hold a reflection that at least once a month we have coaching and teacher guidance to see how far the programmes can run according to the established corridors.”* **The exposure, dosage or intensity** of the intervention from my observation it was obtained from the school's curriculum guide and also the schedules of Montessori class two days in every week with each classes.

In terms of **quality of delivery**, the collaboration with psychologist shows awareness of the importance of expertise in providing effective interventions, *“before the child enters, they (psychologist) are observed and come every month.”* Indah said. Furthermore, Dewi and Sinta stated that they follow Montessori methods such as using books from Jonathan Friggle and by mentioning special training or experiences related to program delivery held and initiated by the principal every month. The presence of special training or related experience can improve the quality of delivery.

Responsiveness of participants including teachers, parents, and principals was also a focus, with assessment of program success based on stakeholders. However, from the interviews with some parents do not always seem to receive adequate attention or priority. Finally, **the differentiation of the program** as principal and teachers said on the interview, according to the individual needs of students show awareness of the importance of effective program adaptation.

To better understand look the table below:

Table 5.1 Fidelity Implementation Analysis

Aspect	Descriptions	Examples/Details
Adherence to the Program	Efforts to follow the Montessori program strictly	<ul style="list-style-type: none"> - Principal ensures participation from all parties (parents, teachers, professionals) - Monthly trainings address any deviations

Exposure and Dosage	Frequency and duration of Montessori classes	Montessori classes held twice a week
Quality of Delivery	The effectiveness and expertise in delivering the program	-Collaboration with psychologists for child observation before entry and monthly visits -Use of books by Jonathan Friggle -Monthly special training sessions initiated by the principal
Responsiveness	The program's adaptability and consideration of stakeholder feedback	Stakeholders (teachers, parents, principals) assess program success
Program Differentiation	Customization of the program to meet individual student needs	Awareness of individual needs as expressed by the principal and teachers

4.1.2. Challenges in Implementing the Montessori Method

It is normal that alternative educational models frequently encounter challenges. Addressing these challenges in the field is essential for adjusting strategies, encouraging innovation, and ensuring the model's durability. Successfully tackling these obstacles not only improves the model's effectiveness but also enhances its capacity to offer varied and valuable educational experiences that cater to the changing requirements of students and communities. This flexible approach is vital for maintaining and promoting alternative education as a viable option within contemporary educational frameworks.

4.1.2.1.Challenges in Implementing Montessori Principles

In implementing **Child's Innate Learning Potential** for example school principal noted that because of each child's has unique abilities thus challenges arise. This challenge especially for teachers who do not have sufficient experience. Although the school has emphasized the use of continuous observation for this purpose, challenges in identifying children's natural learning potential can still occur, "the challenge is that when the teacher is not very experienced, sometimes it takes a while to identify it and must be assisted by a psychologist." said Indah.

Meanwhile, when explaining this challenge, Sinta replied, *"For myself, for example, in the child I am responsible with, he is indeed smart but unfortunately he has difficulty identifying his own abilities at which level, like yesterday I gave this level it turned out that the child was too high, I gave it at the lower level it turned out that it was too low in the child. So I have to think about how the child can follow the learning but according to their capacity and that's the difficulty,"* she said.

Furthermore in the realm of **Balance between Freedom and Structure** also has its challenge, for instance the lack of teaching aids that are suitable for the Montessori method and again the lack of human resources who are fully trained in the application of the method are the main challenges, *"The challenge is that we still lack teaching aids that are close and adequate human resources to run really according to the Montessori method so we are still in the process here."* Meanwhile, from the observation it was evident that the school has a small number of specialized teachers, which presents a significant challenge in providing adequate individualized attention and support to students.

Here is the sample of limited teaching aids or props available in the classroom.



Similarly to the previous challenges, Principal Indah encountered significant difficulties while implementing the principle of **Embracing Order and Discipline**. She emphasized, "*On a daily basis, we prioritize fostering discipline and responsibility among our students. This aspect poses one of the most formidable challenges in our educational approach.*" Indah highlighted the ongoing struggle to instill and maintain a structured environment conducive to learning and personal growth.

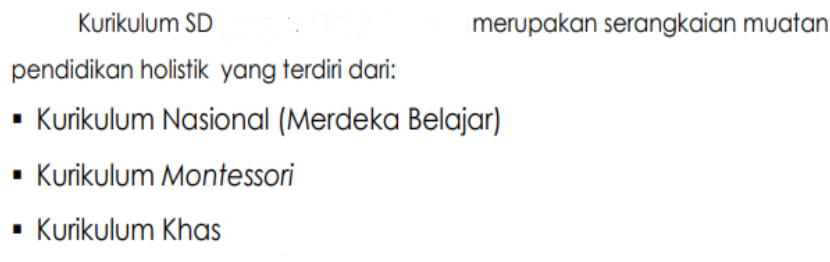
Furthermore, challenge also occurred when related in implementing **the Child's Engagement with the Environment**, Indah as the principal highlighted the obstacles faced in creating a supportive learning environment for children, especially in term of the need for a special approach to overcome children's emotional challenges, particularly for children with special needs, saying, "*For emotions, we train them to be able to control their emotions, especially children with special needs sometimes have tantrums. That's why we work with psychologists.*" Indah concluded.

4.1.2.2.Challenges in Implementing Montessori Method within National Curriculum Frameworks

From field observation it is evident how the school designates Montessori class as special, indicating that Montessori, particularly in West Java must adapt to the national curriculum. Furthermore, when I reviewed the curriculum documentation, it became clear

that Montessori was not the only method employed; the school also utilized its own methods, Merdeka Curriculum with intertwined with Montessori practices.

The image below is proved that the school in the curriculum design blend with others methodology or curriculum.



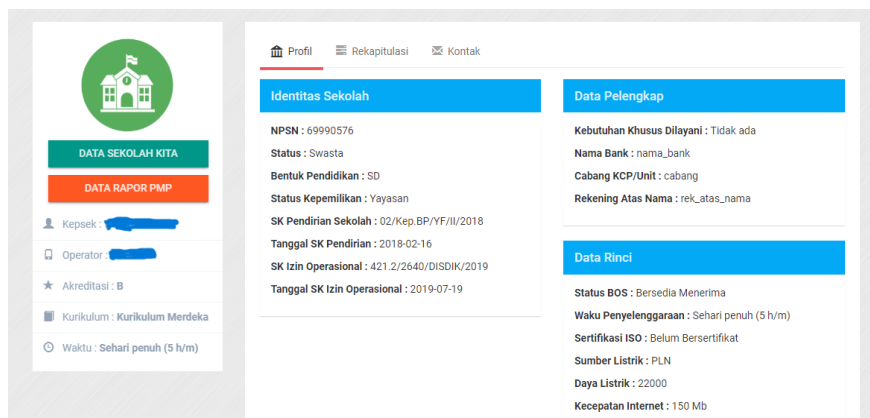
From the above image it translated that the school has accommodate its educational method with three curriculum: (1) National Curriculum, in this sense Freedom Learning Curriculum, (2) Montessori Curriculum and (3) The School's Own Unique Curriculum.

From the observation, it is also evident that the school has a small number of specialize teachers, which presents a significant challenge in providing adequate individualized attention and support to students. Moreover, from observation because this school implements Montessori classes twice a week for each grade level, it potentially poses challenges to the effectiveness of this method. The separation of students between the national curriculum and the Montessori curriculum could complicate the continuity and integration of learning experiences.

Furthermore, from the documentation, the absence of official Montessori organization's legality for specialized Montessori teachers poses a distinct challenge. It was revealed when asked why there are no legal documents, the school authorities explained that obtaining legal documentation for specialized Montessori accreditation requires significant costs, especially since the school is located in a relatively small area.

They emphasized that the absence of legal documents is primarily due to the high associated costs. They concluded by stating that if such documents were necessary and obtained, it would increase the operational costs of the school, akin to Montessori schools in Jakarta.

Only the school legal accreditation is appeared from the national ministry of education subwebsite, dapo.kemendikbud.co.id



Despite facing numerous challenges such as limited resources, a shortage of specialized teachers, and the need to integrate Montessori practices with national curriculum requirements, the school remains dedicated to providing an educational experience. They emphasize continuous teacher development and innovative strategies to implement Montessori principles effectively such as professional involvement, “*We at least once a year, or once every two years invite experts from Jakarta to guide teachers in preparing the curriculum at a macro level.*” as Indah said. Their approach includes creating a supportive environment for both academic and emotional growth.

4.1.3. Teachers' and Parents' Opinions on the Implementation of the Montessori Method in the School

4.1.3.1. Teachers' Opinions on the Montessori Method

Teachers in the school that teach the Montessori Method express positive views of the method. They emphasize the importance of using specific Montessori teaching aids or props and adapting learning based on each student's individual abilities, Sinta revealed that there are schools' efforts to apply observations to design teaching strategies that suit the individual needs of students. In addition, according to Dewi, when there are deviations in the implementation, the school will conduct an evaluation of these deviations. In her statement Dewi said, *"There is an evaluation of the learning outcomes, then valuated together."* Then Dewi continued about the school's efforts related to it, *"Mutual discussion between teachers when children cannot follow the learning well"*.

The school also added about the integration of other sciences, Dewi revealed the school's efforts to integrate knowledge from various fields, such as psychology in this sense in teaching for example. However, not only through the involvement of psychologists, according to Sinta, the school also shows its attention to the physical health aspects of children as well, "then in terms of health, it happens that in this school every month is also checked, the height, weight of the child to know whether this child has grown accordingly or not" she noted.

Regardless, this shows that the school is trying to apply the principle of Child's Engagement with the Environment which is one aspect besides emotional there is also a physical aspect that needs attention. In implementation, the school also seeks to bring together teachers with parents every month *"Every month there is a parenting agenda"* concluded Dewi.

The link between how the school consciously applies the principle of clinical observation has also been demonstrated. This can be seen when the school, according to Dewi, prepares the curriculum and plans the teaching strategy, *"Planning at the beginning*

of the semester with the teachers, what are the plans and what are the material models". This shows the school's commitment to paying attention to students' individual needs in teaching.

Lastly, from Sinta, this school can appreciate every process of growth and development of its students by adjusting what they are able to do, in this case the school provides space for teachers to provide their own teaching strategies, *"making adjustments to learning according to their abilities or brain capacity"*. This means that the school applies what is referred to as the principle of Balancing Freedom and Structure.

4.1.3.2. Parents' Opinions on the Montessori Method

Regardless, on the parents' side they respond well to the implementation of the Montessori Method and it was reflected when Endang, one of the parents said *"My child at home, maybe because of the influence of discipline at school, my child at home, for example, if his belongings are messy, he can clean up by himself, for example, being told to pray is not difficult, yes, he is more disciplined in small things."* she said. This statement seems much related to the application of the principle of balancing between freedom and structure and also Fostering Self-Activity and Concentration that the school has done.

Another opinion is when discussion about the presence of a specialized psychologist in school. As parent considered a significant advantage. As Sinta stated, *"The advantage here is that it has a special psychologist to collaborate with the school, so every child who wants to enter the list is first tested psychologically with a psychologist who has collaborated with the school."* Thus, with this approach reflects from the opinion of parent that the school's commitment to implementing a scientific pedagogy.

When discussing in details to what extend the implementation of the Montessori Method in this school, one of the parents explained that there are benefits when the school

has many teachers in the school. According to Endang, having multiple teachers for smaller groups of students allows for more individualized attention and support. This kind of arrangement can help students concentrate better and improve their overall learning experience. Endang emphasizes, *"In Montessori, the teacher to student ratio is very good, allowing the teachers to focus more on the needs of each student."*

4.2. Discussion

In this part I discuss about the research result in way that it can lead to the conclusion or findings of the study. To find out the findings of this study, I as researcher of this study once again used the eight Montessori principles (Montessori, 2012) as the theory of analysis as well as the theory of implementation fidelity by Carroll (2007) to strengthen the analysis.

The integration of Montessori principles by educators can facilitate deep learning, engagement, intrinsic motivation, and flexibility in pupils, ultimately leading to favorable educational outcomes (Murray et al., 2022). The school that I studied have implemented Montessori principles in general, for example those related to the application of **scientific pedagogy**. This idea, as stated by Denervaud et al. (2019), stresses peer-to-peer education and multi-age classrooms. It is based on empirical observations of independent activity among developing youngsters. The school has integrated psychologists and the use of psychology in student observation in the context of the research. Furthermore, the environment in Montessori class in this school is distinctive, featuring specialized teaching aids such as the Main Dam Board for mathematics. According to Lillard (2012), these tools are essential for fostering conceptual comprehension and enabling practical learning experiences.

Although the Montessori principles in this school are implemented, focusing on the presence of props and psychology for example, it has neglected key aspects such as multi-age classrooms. In practice, Montessori in this school conducts its learning according to class only, not multi-class. This, of course, raises concerns about the school's compliance with the Montessori philosophy. Montessori classrooms with children of varying ages can improve and equalize child outcomes, as research by Lillard et al. (2017) has demonstrated.

In the **Clinical Observation** principle, the school has implemented the principle by an effort to observe the students' condition before learning. As highlighted by Huxel (2013), teaching strategies, classroom layout, and material selection are all influenced by observations made by qualified Montessori instructors. This allows for a data-driven, scientific approach to meeting students' needs and improving their educational experience. The principal's role in refreshing the Montessori Method every month to teachers is evidence of the application of this principle. Moreover, the active role of teachers who specialize in Montessori has also been carried out teachers in their lessons.

In this case, to implement good clinical observation and in accordance with Montessori principles, schools must have teachers who have special expertise in this matter. Indeed, at the time of this research, there were teachers with expertise in the method, but the absence of an official legal certificate showing their expertise can cause doubts, especially for parents who really intend to send their children to school with this method. To become official Montessori educators, teachers must complete specialized training and certification programs according Ansari & Winsler (2014).

In response to this, the school authorities explained that obtaining legal documentation for specialized Montessori accreditation requires significant costs,

especially since the school is located in a relatively small area. This is acceptable because to guarantee program quality, organizations that support and promote Montessori education globally have developed standards that vary in degree of specificity (Debs et al., 2022) and according to the school's explanation, this requires expensive costs.

The implementation of the principle of **Child's Innate Learning Potential** in this school is reflected by active activities that depart from the belief that each child is unique. As confirmed by Montessori (2012) the Montessori Method is understood as a specific teaching style founded on the idea that learning ought to happen organically and independently, honoring the individual growth and potential of every child. This school claimed has activities such as music, dance, martial arts, gardening and futsal in order to foster the exploration of students' talents which shows the application of this principle, according to Denervaud et al. (2020), these kinds of activities might influence children's performance monitoring, which can then help identify their skills and overall learning development.

Nevertheless, having a target for each learner makes the application of the principle of **Balance between Freedom and Structure** more measurable. From the interview results, this implementation was carried out through direct guidance from the teachers for each student, relying on Montessori rules and the results of observations showed that the teachers were very thorough in supporting their students. According to Lillard (2019), children in Montessori classrooms are guided through activities that allow for independence and exploration in a carefully planned setting, as opposed to being left to do as they choose.

I see the need to investigate more how merging the national curriculum and school curriculum with the Montessori Method can affect the integrity of this method in

school, with the goal of creating a place for structured freedom. Because studies have indicated that compared to programs with lower fidelity, Montessori programs, particularly those with higher fidelity, result in stronger advances in academic achievement, social problem-solving skills, and executive functioning (Burbank et al., 2020).

Similarly, this has also been realized by studies like the one done by Freeman et al. (2016) have highlighted how adaptable Montessori education is to different cultural contexts. But this is not free from consequences - due to a school struggle such as standardized examinations - some fundamental Montessori principles have been transformed or altered and modified (Block, 2015).

In implementing **Child's Engagement with the Environment**, the school in the principal's view tries to emphasize collaborative action with various elements such as the principal, teachers and parents. These components are essential to the educational process, as stated by Lillard & McHugh (2019). In other words, by giving parents and teachers a monthly agenda, the school has practically put this theory into practice. Moreover, Abraham (2012) said that training educators who are able to determine the authentic nature of their classroom and help students develop their sense of responsibility is essential.

The school's efforts to involve all parties including parents in its learning, but the facts on the ground do not really show a deep understanding of parents regarding where their children go to school. In the narrative, it is true that school officials have conducted a monthly agenda for parents, but the lack of detail and limited understanding of parents provides an option for further research. Because Montessori emphasizes the importance of parents, parents who choose this educational approach for their children are typically

more involved in their children's education than parents in other educational settings (Courtier et al., 2021).

Fostering self-activity and concentration are essential elements of the Montessori Method, which emphasizes establishing a setting that encourages children to explore and learn on their own (Lillard et al., 2017). In this school, to apply this principle, specific strategies such as using specialized materials are employed to enhance concentration skills among students. However, the availability of learning support tools or props is in fact still small, proving that the costs are limited to perfectly implementing this. Thus, it is reasonable that the challenge of high costs associated with Montessori materials, making it difficult for middle-low income groups to access this educational method due to the expensive materials required (Sodikin et al., 2019).

This problem is also recognized by Scott & Myers (2021) who emphasize the challenges and problems in implementing Montessori principles, especially in resource-limited settings. So when these limitations exist, this creates the potential for the method to be ineffective when applied day to day. As stated by Lillard (2012) that Montessori classrooms argue offer a restricted range of educational resources, potentially not accommodating the various learning preferences of all students (Lillard, 2012).

The Montessori Method that emphasis on Embracing **Order and Discipline** has been linked to positive outcomes for children. According to studies, Montessori programs emphasize a balance between academic material and child-directed activities, elevating and equalizing child results (Lillard et al., 2017). In the context of this research, underscores the importance of effective class management and teacher authority, citing examples such as assigning daily responsibilities to students to instil discipline and accountability.

Education as Dynamic Journey is confirmed by both the principal and teachers at this school believe that children's development in learning is more important than education as all about achieving targets. As a further matter, this approach encourages independence, respect, and a deep love of learning, which is very different from the more structured traditional models of education (Lillard, 2005; Montessori, 1949). In practice, school apply this principle by socializing Great Lessons and Morning Journals to inspire students in sustainable learning throughout life.

In addition to above principles, when talking about the implementation fidelity (Carroll, 2007), Christensen (2019) concluded researchers who study Montessori education continue to face possibilities and obstacles due to the method's varied adoption, even with the best efforts of Montessori to maintain its fidelity. Montessori that mainly researching about it such as Lillard (2017) and Murray & Daoust (2023) also remind about the difficulties of upholding it in Montessori educational institutions. Furthermore, since Montessori in this school is limited by time and place, I argue that it shows lesser fidelity which can have implications to explain findings, according to empirical evidence routinely found in educational research (Durlak & DuPre, 2008).

CHAPTER V

Conclusion and Recommendation

5.1. Conclusion

In summary, I identified two findings that are important to share based on three research questions which are (1) To what extent does the elementary school in West Java adhere to the key principles of the Montessori Method?, (2) What challenges or obstacles are typically faced in implementing the Montessori Method at this elementary school in West Java?, and (3) What is the overall opinion of teachers and parents regarding the implementation of the Montessori Method at this particular elementary school in West Java?

To summarize the findings as follows. **First**, in the school the Montessori Method is implemented in most practices, but its adherence to the core principles of Montessori Method is hindered by standardized education and curriculum such as Merdeka Curriculum and the school's own unique curriculum with the evidence of only one Montessori classroom exist in the school and time limitations **Second**, The most

significant obstacle in implementing the Montessori method in this school is firstly the limited number of Montessori teaching aids in the classroom to support appropriate learning practices. Also, the school does not have many experienced teachers who are well versed in the method in addition to the legal Montessori teacher certification is also available due to the high cost of obtaining the credential. **Third**, from the views of teachers and parents, they appreciate positively the implementation of Montessori, however, parent often lack of understanding which indicate the school implementation of Montessori Method and teachers also has limited details on the practicality that can be indicate that the school use the Montessori Method partly.

From these findings, I seem to agree and confirms the existence of studies such as; Debs et al. (2022) essentially states that there is a great deal of variation in the way that Montessori education is implemented in various schools due to the fact that the term "Montessori" is not protected by law. This might result in inconsistent applications of the Montessori pedagogical method. Also, Lillard and McHugh (2019) believe that the Montessori teaching approach has experienced significant adjustments as a result of the influence of different interests. And Marshall (2017) asserts that the proper implementation of a Montessori system is not ensured by adopting the Montessori name or approach. Lastly, this research also confirms Daoust's (2004) and Murray & Daoust's (2023) statements that studies show that although educators and institutions frequently profess to employ the Montessori Method, there are times when the details are lacking or the basic principles are simply abandoned.

However, a lot of researchers and authors that study about Montessori such as Daoust (2004), Lillard and McHugh (2019, and Marshall (20177) are too much researching in preschool levels or early childhood levels. Meanwhile, this research is more specific at the elementary school level. So the gap filled in this research reveals that

the application in elementary schools also gets challenges that tend to be the same as those studied by Murray et al., (2022), Durlak & DuPre (2008), Lillard and McHugh (2019) Lillard et al. (2017), Lillard (2018), and Debs (2022), therefore I conduct this research because according to Murray & Daoust (2023) there has been a significant body of research conducted for the early childhood age group while at the elementary level more research needs to be done.

5.2. Recommendation

The recommendations that I can convey in my research this time are as follows. **Firstly**, to obtain and produce teachers who are experienced and expert in the Montessori Method, schools can try to carry out more recruitment, more frequent training and measurable and systematic socialization and evaluation. **Second**, identifying the obstacles such as teaching aids must be taken seriously by schools because teaching aids within the framework of the Montessori Method are important determining factors in achieving successful outcomes. **Third**, for the Montessori level, it needs to focus on special learning, not just in special Montessori classes. If this school has a brand selling Montessori, then providing complete classes and facilities is also a must. **Fourth**, school need to increase the role and involvement of parents. In other words, openness and transparency are the main assets in its successful implementation. **Fifth**, conduct research to assess whether the Montessori Method remains necessary and beneficial in Indonesian elementary schools given the introduction of the Merdeka Curriculum, which already incorporates some of Montessori's basic principles. **Sixth**, conduct a comprehensive study to evaluate the effectiveness of the Montessori Method in regions such as West Java, in contrast with its implementation in larger urban centers, in Indonesia.

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APPENDIX

I. INTERVIEW

Jenis Kelamin:

Usia:

Kategori responden:

Interview Questions Sample for Principal

1. Apakah kelas yang bapak/ibu pimpin ini menggunakan pendekatan tertentu dalam pengajarannya?
2. Jika ya, bagaimana pendekatan tersebut diterapkan di sekolah ini?
3. Sejauh mana pendekatan tersebut didasarkan pada hasil kajian/penelitian ilmiah?

4. Apakah menurut bapak/ibu menerapkan pendidikan yang berlandaskan ilmiah itu perlu dilakukan?
5. Apakah bapak/ibu menggunakan hasil pengamatan dilapangan dalam merancang strategi pembelajaran di sekolah ini?
6. Dapatkah Bapak/ibu memberikan contoh konkret tentang bagaimana hasil pengamatan dilapangan digunakan untuk mendukung pengembangan kurikulum atau metode pengajaran di sekolah ini?
7. Bagaimana pandangan bapak mengenai menerapkan ilmu psikologi dalam pendidikan?
8. Bagaimana sekolah ini mengintegrasikan pengetahuan dari bidang-bidang seperti ilmu kesehatan, psikologi, paedagogi, dan ilmu-ilmu lainnya untuk pengajaran?
9. Dapatkah Anda memberikan contoh konkret tentang bagaimana pengintegrasian tersebut digunakan untuk pengajaran?
10. Bagaimana sekolah ini memastikan bahwa praktek/metode pembelajaran yang diterapkan efektif dalam meningkatkan hasil belajar siswa?
11. Bagaimana sekolah biasanya merespon ketika terjadi penyimpangan dari rencana awal program?
12. Siapa saja yang dilibatkan dalam pendekatan “pendidikan khas” dari sekolah anda ini? Guru/ortu/cleaning service/driver/dll?
13. Apakah ada langkah-langkah rutin untuk mererefresh/mengingatkan selalu setiap orang akan pendekatan “pendidikan khas” tersebut?
14. Siapa yang bertanggung jawab untuk mererefresh/mengingatkan selalu setiap orang akan pendekatan “pendidikan khas” tersebut? Apakah melibatkan pihak lain, seperti konsultan, pembicara?
15. Apakah ada program pelatihan bagi guru untuk meningkatkan kemampuan mengajarnya sesuai karakter sekolah ini?
16. Apakah guru/ortu/cleaning dll dapat beradaptasi dengan pendekatan “pendidikan khas” tersebut?
17. Apakah siswa dapat beradaptasi dengan pendekatan “pendidikan khas” tersebut?

Interview Questions Sample for Teachers

1. Bagaimana guru-guru di sekolah ini menyusun kurikulum dan merencanakan strategi pengajaran?
2. Apakah terdapat upaya dari guru-guru untuk melakukan observasi terhadap setiap siswa, guna merancang strategi pengajaran yang sesuai atau mengembangkan kurikulum yang memenuhi kebutuhan individu siswa?
3. Bagaimana guru-guru menggunakan hasil observasi terhadap siswa untuk memahami kebutuhan, perilaku, dan gaya belajar mereka?
4. Bisakah Anda memberikan contoh konkret bagaimana hasil observasi terhadap siswa membantu dalam mengidentifikasi kebutuhan individu siswa dan menyesuaikan pendekatan pembelajaran bagi mereka?

5. Bagaimana para guru membantu siswa dalam menemukan gaya belajar yang paling efektif bagi mereka?
6. Bagaimana sekolah ini memastikan bahwa perencanaan dan pelaksanaan pembelajaran sehari-hari didasarkan pada observasi terhadap keunikan tiap siswa?
7. Apakah terdapat kerja sama antara guru-guru dengan profesional medis atau psikolog untuk menerapkan observasi yang efektif dalam lingkungan pembelajaran?

Interview Questions Sample for Parents

1. Apa yang dilakukan sekolah untuk memastikan anak-anak dapat tumbuh dan berkembang dengan baik di lingkungan belajar?
2. Bagaimana sekolah menangani perkembangan fisik, pikiran, dan emosi anak-anak di lingkungan belajar?
3. Apa kendala utama yang dihadapi sekolah dalam menciptakan lingkungan belajar yang mendukung perkembangan anak-anak?
4. Bagaimana sekolah memastikan bahwa anak-anak berinteraksi dengan lingkungan sekitarnya untuk mendukung perkembangan fisik, psikologis, dan kognitif mereka?
5. Apakah sekolah memiliki usaha konkret dalam menciptakan lingkungan belajar yang mendorong eksplorasi dan pengalaman belajar langsung? Bagaimana peran guru dalam upaya tersebut?
6. Dapatkah Anda memberikan contoh konkret tentang bagaimana anak-anak terlibat dengan lingkungan di dalam dan di luar kelas untuk mendukung pembelajaran mereka?

Transcript Sample

Saya : Apakah visi dan misi dari sekolah yang bapak/ibu pimpin ini?

Partisipan : Visinya mewujudkan sekolah terpercaya (Pendekatan / memiliki pengalaman), Go Green, Berbudaya, Berpikir Kritis, Siswa-Siswi Berkarakter, Kreatif, dan Religius.

Saya : Apakah sekolah yang bapak/ibu pimpin ini menggunakan pendekatan tertentu dalam pengajaran?

Partisipan : Iya.

Saya : Jika ya, bagaimana pendekatan tersebut diterapkan di sekolah ini?

Partisipan : Melalui Pendekatan Holistik yang lebih spesifik. Sejak perencanaan awal, sudah menggunakan patokan Montessori, Rambu-rambu Filosofing Montessori. Dari Montessori merupakan bagian dari Holistik, supaya tidak keluar dari prinsip-prinsip rambu-rambu montessori.

Saya : Sejauh mana pendekatan tersebut didasarkan pada hasil kajian/penelitian ilmiah?

Partisipan : Melahirkan Pendidikan Montessori isinya pengalaman-pengalaman pendidikan dari satu persatu, dari bayi sampai dewasa.

Saya : Apakah menurut bapak/ibu menerapkan pendidikan yang berlandaskan ilmiah itu perlu dilakukan?

Partisipan : Perlu, minimal sudah ada contoh sebelumnya, agar menghasilkan anak menjadi seperti apa yang diharapkan.

Saya : Apakah bapak/ibu menggunakan hasil pengamatan dilapangan dalam merancang strategi pembelajaran di sekolah ini?

Partisipan : Tiap tahun ajaran ada observasi dan pengecekan anak tersebut memiliki karakter seperti apa.

II. OBSERVATION

Date :

Time : 9.00 a.m- 4.00 p.m

Place of Observation : The School of Study in West Java

Observer : Muhammad Fayyaz Mumtaz

Objective : To find out additional data in class of Montessori and Certification of Specialized Teachers

Section	Details	Field Notes
Observation Period	Observations occur over a three-month period from March 1st to May 30th, 2024, during regular school hours from 9:00 AM to 2:00 PM, allowing for comprehensive data collection and analysis of classroom dynamics.	
Classroom Settings	Various classroom settings are observed, accommodating students from 1st to 6th grade, including traditional classrooms and those following the Montessori Method. Assessment includes room layout, seating, lighting, density, space utilization, atmosphere, and adherence to Montessori principles.	
Activities Observed	Observation of classroom activities spanning different subjects and grade levels, documenting frequency, duration, subjects covered, curriculum delivery, student engagement, teacher-student interaction, student-student interaction, and assessment strategies.	
Focus of Observations	Primary focus is on examining classroom dynamics, including teacher roles, student interaction, and utilization of learning materials, aiming for a deeper understanding of teaching and learning processes.	
Additional Notes	Detailed notes taken on environmental factors impacting the learning environment, including classroom layout, noise levels, temperature, and policies affecting classroom management. Non-verbal behaviors of teachers and students are also observed.	

Reflective Insights	The observer provides reflective insights based on observations to offer interpretations, identify trends, challenges, and successes, aiming to derive meaningful conclusions and implications for practice.	
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III. DOCUMENTATION

3.1.School Curriculum

Kurikulum SD <https://www.kemendikbud.go.id> merupakan serangkaian muatan pendidikan holistik yang terdiri dari:

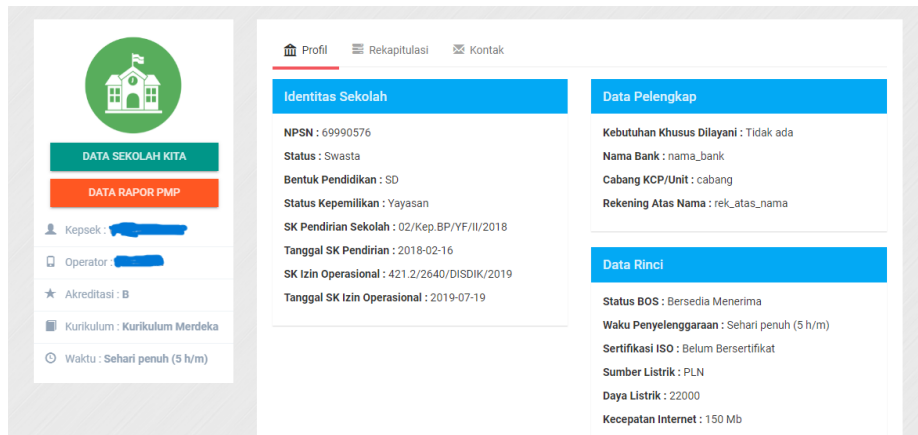
- Kurikulum Nasional (Merdeka Belajar)
- Kurikulum *Montessori*
- Kurikulum Khas

3.2. Teacher Certificant Record

When asked for special certificates regarding eligibility to be a Montessori teacher, they replied that they did not have any special certificates related to the Montessori Method. Therefore, this part of the documentation is not available. Furthermore, in the researcher's understanding, the lack of information and legality related to Montessori as what has been stated by several writings in the literature review, confirms that Montessori itself as an educational model does not have a trademark (Lillard & McHugh, 2019) so that in practice in the field when asked about this they only answered that they followed the education office, for the Montessorinya itself did not exist.

3.3.School Accreditation

Since this Montessori does not have official accreditation or legality - as the researcher explained earlier - then the accreditation is like any other school. It follows the policies and rules of the education office. This accreditation data is obtained from dapo.kemdikbud.go.id.



3.4.School Atmosphere

The atmosphere at school in general is like a private/public school in general, but from the results of observation and documentation there are also some tools in non-Montessori classes. While typical Montessori teaching aids can be found in special Montessori classes.



3.4.1. Montessori Class



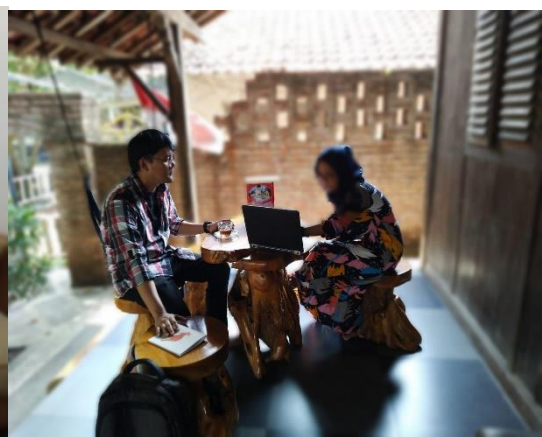
3.4.2. Interview Photos



With principal



With Teachers



With Parents