

The Impact of Montessori and Reggio Emilia Approaches on Developmental Milestones and Learning Approaches in Early Childhood

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Abstract: *This study explores the impact of Montessori and Reggio Emilia approaches on children's developmental milestones, learning outcomes, and overall well-being.; drawing insights from scholars' thoughts to show how these approaches influence children's overall outcomes. The paper is divided into four parts, focusing on the introduction, overview of both methods, influence on developmental milestones, and influence on approaches to learning in early years and even through adulthood.*

Keywords: *Montessori, Reggio Emilia, Developmental Milestones, Approaches to Learning*

1. Introduction

It goes without saying that growth in the first few years is critical to lifelong learning and development. Similarly, in early childhood education, developmental milestones are important indicators of a child's progress in areas such as cognitive, social-emotional, language, and physical development. These milestones represent skills and age-specific tasks that most children complete at specific developmental periods. So, understanding these basic concepts is important for parents and teachers to provide appropriate support for their children's development. These two effective educational methods—Montessori and Reggio Emilia—offer a unique way to influence not only how children attain these milestones, but also how they engage in learning and actually learn. Montessori emphasizes self-directed, individual learning in an environment that encourages independence, imagination, and problem-solving. Reggio Emilia encourages collaborative, project-based learning that fosters creativity, social interaction, and critical thinking. These programs enhance children's development and learning, and have a significant impact on children's learning outcomes; including their academic achievement, emotional tenacity and resilience, and social prowess. This article explores how the Montessori and Reggio Emilia methods affect children's developmental milestones, their approaches to learning, and their overall well-being.

2. Overview Of Montessori and Reggio Emilia Approaches

2.1. The Montessori Approach

The Montessori education model began in the early 1900s in Rome, Italy by physician Maria Montessori (Edwards 2003); It is based on several principles that emphasize self-education, independence, and practical life activities. Self-directed learning creates autonomy and personal responsibility by allowing children to choose their activities and work independently at their own pace. Real-life activities are an important part of the Montessori curriculum and help children develop daily skills and finetune their motor skills. Nancy Rambusch (2010) explains Montessori's main vision as follows: Montessori's educational goals are twofold: to help the child grow and to help him adapt to the physical environment and the needs of life, which are closely related to the culture of the people where he lives.

In this method, the teacher plays the role of a facilitator not a traditional teacher. His specific responsibilities include caring for and guiding the children, and providing the necessary resources and support for independent learning.

The classrooms are carefully designed environments that encourage independent exploration and learning. For example, the classrooms are well-developed and easy to use and include a variety of

materials and activities appropriate for different developmental levels. This environmental setting ensures that children have the tools and space they need to pursue their interests and learning.

2.2. The Reggio Emilia Approach

The On the other hand, the Reggio Emilia model also originated in Italy, in Reggio Emilia, and while Montessori is built on a constructivist framework, the Reggio Emilia's approach is built on a social constructivist framework- which opines that both children and adults co-construct knowledge through interactions with people and their environment (Gandini 1993). Cooperation, free and guided play are important aspects of the Reggio Emilia approach, which emphasizes teamwork and interaction between children, teachers and families (Lino et al., 2018). In addition, creativity is encouraged through open-ended projects, allowing children to explore and express their ideas in different ways. Also, its project-based learning encourages hands-on investigation and discovery by allowing children to engage in topics that interest them.

Unlike the Montessori method, the Reggio Emilia approach places the teacher as a collaborator rather than a facilitator. In this role, teachers actively participate in the learning process with children, encouraging discussions, teaching activities, participating in research and co-constructing knowledge.

The Reggio Emilia approach also emphasizes social interaction and inquiry-based learning. Its classrooms are designed to encourage discussion and collaboration by emphasizing group activities and discussions. Amelia Gambetti (2003) says that Reggio Emilia is not a method but an experience. Through underscoring inquiry-based learning, children are encouraged to ask questions, find answers, explore topics, their environment, and express themselves using a myriad of different languages such as words, gestures, constructions, mime, movement, drawing, painting, modeling, sculpture, shadow play, mirror play, drama, and music (Gandini, Hill, Cadwell, & Schwa, 2005).

3. The Effects of Montessori and Reggio Emilia Approaches on Children's Developmental Milestones

3.1. Cognitive Development

The Montessori method underscores hands-on, self-directed learning, that largely promotes the Children's cognitive development. Children are encouraged to explore concepts independently through practical activities such as life skills and sensory activities. For example, materials such as puzzles, counting beads, and object sorting, allow children to develop basic math language and problem-solving skills at their own pace. The classrooms are designed to foster concentration and focus- skills essential for cognitive growth.

In contrast, the Reggio Emilia approach primarily triggers cognitive development mainly through project-based learning, inquiry, and collaboration. Children are encouraged to ask questions, explore, and collaborate on projects that help them develop their thinking and reasoning skills. Also, the underscoring of the documentation of children's work, that is, writing down and reflecting on their work, can enhance metacognition-help children become more aware of their thought processes.

Both the Montessori and Reggio Emilia methods are formulated to support children's cognitive development by giving room for different learning styles and interests. Although research has shown gender differences in attention and persistence (McWayne et al., 2004), these approaches provide an environment where all children, regardless of gender, can develop critical thinking skills, and teachers can provide different experiences that broaden the learning behaviors of children, taking a leap beyond just innate abilities or preferred styles. Both underpin that learning behaviors can be developed through targeted experience and scaffolding.

3.2. Social-Emotional Development

The Montessori classroom encourages independent learning while also emphasizing social responsibility and harmonious relationships. Children of different ages often work together, encouraging mentorship, empathy, and teamwork. Additionally, practicing life skills, such as preparing meals or caring for the environment, can help children develop self-discipline, responsibility, and respect for others. These interactions not only develop social skills but also help with emotional regulation as children learn to manage their emotions through daily activities.

Studies show that autonomy support has a positive effect on the perceived competence and intrinsic motivation of students. And a core principle of the Montessori approach is to help children develop self-regulation and autonomy. By allowing them to choose activities they want to engage in and work independently, they learn to better manage their time, focus, and instinctual urges and even cultivate a better perception of themselves and their abilities. Also, the structured routines and serene atmospheres of Montessori classrooms further encourage and promote the ability of children to self-regulate- which includes but is not limited to taking responsibility, waiting turns, and completing initiated tasks; all of which naturally do not come easy for children to do. And so, as a result, children grow to be more independent, confident, and capable of managing their own learning processes.

On the other side of the coin, the Reggio Emilia approach emphasizes cooperation and teamwork, which support social-emotional development. Children learn to share ideas, listen to others, and solve problems together. In addition, the collaborative role of the teacher encourages children to see themselves as important members of the learning community. This integration develops empathy, emotional resilience, and a sense of belonging. Therefore, Reggio's social-emotional development is based on meaningful interactions and collaborative experiences.

Additionally, Reggio Emilia fosters self-regulation and autonomy, though it emphasizes this within the context of synergetic group work. Children are given choices in their learning, and their opinions and ideas are valued within the classroom. As they engage in collaborative projects, they learn to manage their behavior in relation to the group's goals, thereby building self-regulation. Moreover, the collaborative nature of Reggio Emilia encourages children to take ownership of their learning, promoting autonomy within a shared, supportive environment.

According to most theories of development, a huge chunk of personality is formed in childhood; both Montessori and Reggio Emilia approaches can help children build social-emotional skills by offering supportive, engaging environments; as these approaches respect and address individual differences and autonomy while providing experiences that strengthen emotional resilience and social skills.

3.3. Motor Skills Development

Physical development, especially fine and gross motor skills, is an important part of the Montessori method. Children are engaged in real-life activities such as pouring, separating and using tools such as tweezers, which promote fine-motor skills. In addition, motor activities such as outdoor activities games and movement exercises are included in the Montessori curriculum to promote gross motor development. Through this process, children can develop their coordination, balance and physical flexibility, which are important for overall motor development, through systematic hands-on activities.

Reggio Emilia emphasizes creativity and cooperation, while also encouraging the development of motor skills through project-based learning, inquiry and discovery. Children are encouraged to interact with materials in a variety of ways, such as drawing, sculpting and construction, all of which promote fine motor skills. In addition, macro-scale group projects often include physical movement, which promotes gross-motor development. Motor skills are therefore developed through discovery and creativity, which are at the heart of the Reggio Emilia experience.

As children grow and gain the freedom to explore their environment, they also learn to trust themselves and their bodies, especially when they begin to control body movements such as grasping, holding, reaching and then crawling, standing and walking.

Both Montessori Reggio Emilia activities support and encourage children's practice for fine tuning and enhancing their motor skills repertoire; which in the long run sets them up for success as these skills are lifelong skills.

3.4. Language And Communication Development

Language development in Montessori classrooms is supported through a variety of activities, from sensory language materials to reading and writing exercises. Children engage with language at an early stage through materials like sandpaper letters and moveable alphabets, which help them associate sounds with symbols. Moreover, storytelling and group discussions encourage verbal communication and vocabulary building. As children progress, they move into more complex language activities, further enhancing their reading and writing skills.

In Reggio Emilia, language development is closely tied to expression and the child's ability to

communicate his ideas. The "hundred languages of children," which is an important principle of this approach, emphasizes the diverse ways children can express themselves, thereby enriching their communication skills and expanding their linguistic abilities.

For instance, in Reggio Emilia's learning groups, each member is viewed as being very important and brings something to the table irrespective of their weaknesses (Edmiaston and Fitzgerald 2000; Edwards et al. 2012). Such philosophy of value, by implication, creates an environment that places a demand on every child to express themselves through different languages that they are most comfortable with, as well as fostering the motivation to improve in others; both verbally and non-verbally. From the aforementioned, it can be deduced that with this group-based learning approach, children can scaffold the learning of others through influence and cooperative interactions.

From the above, it can be seen that these programs in their own unique but effective ways provide opportunities for growth and development across all developmental milestones through relationships with peers, teachers, parents, constructive environments, materials, inquiry-based projects, group-based learning, observation, and documentation of learning.

4. The Influence of Montessori and Reggio Emilia Approaches on Children's Learning Approaches

The concept of learning approach is one with a broad myriad of other umbrella terms attached to it. The Goal 1 Technical Planning Group views their phrase- Approaches Toward Learning as "an umbrella term covering a range of attitudes, habits, and learning styles" (Kagan et al., 1995, p. 23). Other umbrella terms by other scholars include: "dispositions" (Katz 1991, 1995), "learning behaviors" (Fantuzzo, et al; 2004), "learning related skills" (McClelland; et al, 2006), and so on.

Here, the author uses the term: "Approaches to learning". However, as not all approaches to learning are positive and make for good learning outcomes in children, this paper will focus more on how both the Montessori and Reggio Emilia approaches to education not only influence the learning approaches of children but more importantly how they help cultivate and impact their "positive approaches to learning". According to Marilou Hyson, "positive approaches to learning" are divided into two dimensions: The emotion/motivation dimension; which consists of interest, pleasure, and the motivation to learn; and the action/behavior dimension which consists of attention, persistence, flexibility and self-regulation. With the former considered enthusiasm for learning and the latter as engagement in learning.

4.1. Enthusiasm for Learning

Lately, the interest, pleasure and motivation of children are constantly endangered—which, in turn, threatens their future success and satisfaction with learning. Some of these threats ensue from the problem of poverty, violence, and instability in families; even communities. Others are due to the trends in early childhood curriculum, teaching, and assessment practices that together place more importance on tests and results, while downplaying on strengthening the enthusiasm for learning, thus shortchanging the future of children.

As seen earlier, in the Montessori approach, the teacher's role is primarily that of a guide and facilitator (Cossentino, 2009, 2017). Instead of taking the children through direct lecture; as in the traditional teaching approach, Montessori teachers create an environment that fosters independence through free choice within a range of options to choose from, exploration and learning through play. Their primary responsibility is to closely observe each child, identifying their interests and developmental needs and then create an environment that supports those needs; through preparing the classroom with carefully selected materials that are designed to engage and promote self-learning. Providing subtle support(scaffolding) for children within their zone of proximal development only when necessary.

This autonomy supports and impacts in no small way the motivation of children. Interestingly, this coincides with the cognitive science assumption that intrinsic motivation led to increased alertness and produces lasting learning experiences.

In the Reggio Emilia approach, scaffolding is more dynamic and responsive. The support of teachers is continuously adapted to suit their ongoing observations of children's interests and needs; which most times could involve providing new materials, asking thought-provoking questions, or facilitating group discussions, and engaging children in projects that stirs their curiosity to learning.

4.2. Engagement to Learning

Attention, persistence, flexibility, and self-regulation are all central components of engagement to learning.

During development, all children find learning difficult at times, which may cause them to experience a great deal of trouble staying interested, engaged, focused, even persistent when they experience a difficulty. Even under the hands of able and observant teachers and with an appropriate curriculum, some skills are naturally hard to learn (e.g., tying one's shoes was before the era of Velcro). However, approaches like that of Montessori and Reggio Emilia's method to education, offer beam of hope for children.

Contrary to popular assumptions, Maria Montessori's philosophy is not just based on noble ideals of freedom and independence; the basis of her work is a phenomenon that she later described as the "polarization of attention." It is characterized by a particularly intense focus on what you are doing, with almost complete unawareness of the outside world.

Montessori Method advocates education from birth and holds that the goal of education is to promote children's inner strength and self-learning experiences. Beginning from infancy, the environment prepared for children facilitates controlling their learning experiences and asking for adult assistance if necessary, and this promotes polarization of attention, persistence, flexibility and self-correction throughout development (Montessori, 1912, 2014b; Montessori & Hunt, 2005). Concepts such as polarization of attention, willpower and development of willpower stressed by the Montessori approach alongside the significance of the discovery of inner strength and self-learning experiences from birth are regarded to be associated with self-regulation.

Reggio Emilia's on the other hand, due to its philosophy that environment supports the social, cognitive, emotional, physical interactions and development of children; provide autonomous activities allowing children to explore and engage in meaningful content that fosters thinking and expression. Because children are inherently explorative, the atmosphere of the critical thinking, exploration and autonomy, not only contributes largely to their self-confidence and self-efficacy but also keeps them interested and engrossed while constructing their own knowledge through their participation in activities of their interest and interactions.

Because children need time to build their engagement, persistence, and motivation to learn, "Best practice" guidelines in early childhood education typically recommend scheduling large blocks of time during the day when children can investigate phenomena, try out various problem-solving strategies, and deepen their involvement in a project or other learning task (Bredenkamp & Copple, 1997).

5. Conclusion

Both the Montessori and Reggio Emilia approaches provide a community where children are accepted, acknowledged, and appreciated. And have left an indelible mark on early childhood education, influencing how children learn, how teachers teach, and how educational environments are structured. Their focus on the whole child—cognitively, socially, emotionally, and creatively—has helped shape a more holistic view of education, one that extends beyond academic achievement to nurture the full range of human potential.

Also, as research in neuroscience and child development advances, we may gain deeper insights into how these educational philosophies support brain development, creativity, and long-term success. This could lead to further refinement and expansion of these approaches, as educators incorporate the latest scientific findings into their teaching practices.

As we look to the future, these approaches will continue to inspire new generations of educators and learners. Their enduring legacy lies in their commitment to empowering children, fostering independence, creativity, and collaboration, and preparing young learners not only for academic success but for a lifetime of learning and personal growth.

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