



# The Montessori Method

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understand the Montessori Method, also known as individual learning or progressive learning, it is necessary to trace the history and development of the philosophy, and review the various principles and uses of the teaching methodology in pre-K, K-12 and special education programs. Studies show that Montessori students tend to achieve at a greater rate than students in traditional programs; however, critics say that the method is insufficiently standardized, and its efficacy has not been deeply evaluated.

## Overview

Dr. Maria Montessori initially devised her teaching philosophy in 1896 while working with special needs children in the Psychiatric Department at the University of Rome. Although her patients were diagnosed as mentally deficient and unable to learn, within two years of Montessori's instruction, the children were able to successfully complete Italy's standardized public school exams (International Montessori Index, 2006).

Through her research and study in the field, Montessori observed that effective teaching styles required the establishment of a "sensory rich" environment that offered interactive yet independent learning opportunities. In this "educational playground" children could choose from a variety of developmental activities that promoted learning by doing. Montessori believed that it was necessary to train the senses before training the mind (Lopata, Wallace & Finn, 2005).

By using this "self-directed" individual learning approach, Montessori's students were able to teach themselves through critical interaction in a 'prepared environment' containing interconnected tasks which gradually required higher levels of cognitive thought. This method was designed to create a task-oriented student who is "intrinsically motivated to master challenging tasks" (Rathunde & Csikszentmihalya, 2005, p. 345).

The Montessori Method was a radical philosophy at the time which contradicted and challenged many of the existing beliefs about 'whole-class learning' the acquisition of knowledge and the development of early human cognition. Montessori believed that children were not a blank slate and that the traditional learning methods such as recitation, memorization and conditioning failed to develop necessary life skills and individual abilities.

## Abstract

In the early 1900's, Italian educator and physician Maria Montessori developed an innovative teaching methodology for children that left an indelible mark on education curricula throughout the world. Montessori education is a sensory-based pedagogy that is based on the belief that children learn at their own pace through manipulation of objects (Lopata, Wallace, & Finn, 2005). To fully

## Keywords

**American Montessori Society (AMS)**  
**Association Montessori Internationale (AMI)**  
**Individual Learning**  
**Kinesiology**  
**Magnet Programs**  
**Manipulators**  
**Montessori Accreditation Council for Teacher Education (MACTE)**  
**Montessori Method**  
**Montessori Schools**  
**Progressive Approach**  
**Sensory Learning**  
**Traditional Learning**  
**Whole-Class Learning**

She described traditional students as, “butterflies mounted on pins, each fastened to their place spreading the useless wings of barren and meaningless knowledge which they have acquired” (Shute, 2002, p. 71).

According to Montessori, from ages 2-6 children experience a “sensitive period” in which vital skills such as language acquisition, socialization and, kinesiology need to be identified and strategically applied and advanced. Any deficiency in intellect, ethics or socialization later in life can be attributed to a lack of cognitive development during the “sensitive period” (Ruenzel, 1997, p. 31).

In 1907, Montessori left her practice and chair at the University and opened a school for impoverished children in the San Lorenzo section of Rome and named it “Case Dei Bambini” or “House of Children.” It was here that she began to formally implement her ideology based on the principle that every human being is created with a unique potential that needs to be discovered, developed and applied at an early age.

The success of Montessori’s school inspired others to develop similar programs in Switzerland, England, India, China, Mexico, Syria, New Zealand and America. The first official Montessori school in the United States was created in 1912 in Tarrytown, NY, and one year later Alexander Graham Bell established the Montessori Educational Association in Washington D.C. In 1928 Montessori formed the Association Montessori Interna-

tionale (AMI) in order to preserve and promote her vision in schools and developmental facilities throughout the world.

The Montessori Method did not gain widespread acceptance in the U.S. until 1960 when Dr. Nancy Rambusch formed the American Montessori Society (AMS). The organization, consisting largely of concerned middle-class mothers, was a grassroots effort established to “adapt the educational principles of Montessori to the American Experience” in city school systems throughout the United States (Schapiro, 1993). As a result of the movement, hundreds of Montessori schools, sometimes referred to as magnet programs, were established for pre-school, elementary and secondary students (Edwards 2002).

Currently, there are more than 5,000 schools in the U.S. using some type of Montessori-based curriculum to teach children from infancy to eighth grade (Bower, 2006). These public and private institutions cater to the educational needs of inner-city children, wealthy neighborhoods, rural and urban magnet programs, at-risk children, learning disabled populations, early childhood schools and child care facilities (Lopata, Wallace & Finn, 2005).

## Application

### Principles

One underlying premise of the Montessori Method is that each child possesses an inner power that motivates them to seek out specific activities and interactions (Crain, 2004). The purpose of the classroom was to create a “prepared environment” where the student was free to discover and advance his or her unique power while disciplined enough to stay focused on a specific series of tasks. With this progressive approach, learning becomes “a complex process of making sense of new information through reflection and interaction” (Weissglass, 1999, p. 46).

Rather than sitting through a traditional collective lesson, students achieve what Montessori referred to as “auto-education” by working independently under the direction of a “pedagogic apparatus” of their choice (Brehony, 2000). Common manipulators, or manipulative materials, used by Montessori included wooden letters and numbers, cylinders, blocks, beads, rods, puzzles, gymnastic equipment, metal objects, and household items. By using a sensory learning method, the child gains knowledge by playing the inquisitive role of the naïve scientist.

According to Montessori, the goal of education is “to be able to find activities that are so intrinsically meaningful that we want to throw ourselves into them” (Montessori, 1967, p.14). Crain (2004) confirmed this assertion by noting that “when children find tasks that enable them to develop their naturally emerging capacities, they become interested in them and concentrate deeply on them. They possess a serenity that seems to come from the knowledge that they have been able to develop something vital from within.” (Crain, 2004, p. 4) Using this approach,

Montessori created a paradigm in which the school fit the needs of the student rather than the student having to fit the needs of the school (Weissglass, 1999).

### Classroom Environment

Students are assigned their own personal workstations designed with educational items that correspond to the daily lesson plans and activities. Students are responsible for setting up the work area, choosing the learning activity, applying the physical materials, and returning the materials back to the shelves (Pickering, 2004).

Children are always free to move around the room and are not given deadlines for the various learning tasks. Desks are arranged into open networks that encourage meaningful group discourse, as well as independent learning. Students work together with the teachers to organize time strategically in order to complete the necessary learning tasks of the day. The amount of teachers in the classroom varies based on class size, but usually two teachers are used for sections with thirty or more students.

### The Montessori Teacher

The primary role of a Montessori educator is to carefully observe while creating a cooperative and supportive setting that is well organized and aesthetically pleasing to the learners. The teacher performs the “overseer role” by directing the “spontaneous” actions of the students (Ruenzel, 1997). According to Montessori, “education is not something which the teacher does, but rather a natural process which develops spontaneously in the human being” (cited in Weissglass, 1999, p. 45).

Montessori teachers introduce materials with a brief lesson and demonstration and then passively guide the audience through a period of student-centered inquiry. The objective of the instructor is to motivate students, “allowing them to develop confidence and inner discipline so that there is less and less of a need to intervene as the child develops” (Edwards, 2002, p. 6). On average, the most teachers spend less than one hour of the daily class on group instruction (Lopata, Wallace & Finn, 2005).

Curriculum topics are strategically linked by the teacher so that no subject is taught in isolation. Instead of exhibiting expertise in a specific discipline, instructors use more of a Renaissance approach to learning. When introducing new subjects instructors use demonstration lessons that increase in complexity as the students are able to advance in the sequence of self-correcting problems and tasks (Humphries, 1998). Lessons cover an eclectic mix of disciplines such as geometry, sensory development, language acquisition and expression, literature, science, history, government and life skills.

### The Montessori Curriculum

In Montessori schools, students spend the majority of their time participating in different sessions of uninterrupted activities that last approximately three hours. These projects consist of independent and group problem-solving tasks and other sensory activities related to math, science, language, history, geography, art, music and nature. The integrated curriculum follows a

chronological order based on Montessori’s Five Great Lessons: the story of the universe, the timeline of life, the story of language, the story of numbers, and the timeline of civilization.

In most settings, children are grouped in mixed ages and abilities based on three to six-year increments such as 0-3, 3-6, 6-12, 12-15 and 15-18 (other Montessori schools use only three year increment settings). Ages are mixed so that older students can assist and mentor the younger children in the group. Students are grouped according to common interests and experiences rather than the ability and skill level (Pickering, 2004).

According to Montessori, from birth to age 3 the child learns primarily through the “unconscious absorbent mind.” During education in the first three years, Montessori believed that it was necessary for the parents to develop in the role of unobtrusive educator; there to protect and guide without infringing on the child’s right to self-discovery (Crain, 2004). This early developmental model enabled children to learn their own skills at their own pace.

During the ages of 3 to 6 the child begins to utilize the “conscious absorbent mind” which prompts students to participate in creative problem-solving consisting of wooden and metal objects of various sizes and shapes, personally designed by Montessori. If a problem becomes too difficult or overwhelming for the student, the teacher delays the project for a future day. Children also engage in practical work consisting of household tasks and personal maintenance.

In both developmental mindsets, “the child seeks sensory input, regulation of movement, order, and freedom to choose activities and explore them deeply without interruption in a carefully prepared environment that helps the child choose well” (Edwards, 2002, p. 6).

Students between the ages of 6-18 are required to complete a series of small group tasks in their surrounding communities as well as the classroom. During this age grouping, “children are expected to explore a wider world and develop rational problem solving, cooperative social relations, imagination, aesthetics, and complex cultural knowledge” in order to “reconstruct themselves as social beings” and “humanistic explorers, real-world problem solvers, and rational seekers of justice” (Edwards, 2002, p. 6).

Perhaps one of the most significant and worthwhile uses of the Montessori Method is the system for teaching learning disabled students. The program is designed to help at-risk children who have deficiencies in motor or sensory skills, language acquisition, perceptual development and/or cooperative behavior using the same principles taught in the K-12 programs: self-discovery, sensory learning, independent growth, and individual learning (Pickering, 2004).

Montessori’s pedagogy has also been successful in the treatment of Alzheimer’s disease and other forms of dementia (Bruck, 2001). Currently there are more than 100 mental health facilities in the United States who use Montessori-based activities to help dementia patients improve motor skills and memory capacity (Zinn, 2005). Therapists have applied the Montessorian con-

cept of breaking difficult tasks down into a series of simple steps that can be gradually achieved by the patient. During the rehabilitation process, patients are also encouraged to identify their strengths and interests by participating in a variety of enriching activities that model the traditional Montessori classroom.

### Assessment Methods

In a Montessori classroom concepts such as textbooks, grades, exams, punishment, rewards, and homework are rarely embraced or applied. Unlike traditional methods of instruction, the progressive approach focuses on cooperation rather than competition and personal growth rather than peer evaluation. Students are assessed based on a descriptive summary of the child's daily interactions and performance on independent and collaborative tasks. A child's individual and group creations are organized into a portfolio and progress report for parents to evaluate during specific periods of the year. It is the responsibility of the teacher to individually assess each student through critical observation so that individual plans can be devised to help students overcome specific areas of deficiency.

## Viewpoints

### Efficacy

A recent comprehensive study by Drs. Angeline Lillard of the University of Virginia and Nicole Else-Quest of The University of Wisconsin-Madison, focusing on poor and lower-middle class students from Milwaukee advanced the following quantitative assertions about the effectiveness of Montessori education:

- Montessori classrooms produced results that were found to be academically and socially superior to traditional programs.
- Montessori students were also better at “controlling their attention during novel tasks, solving social problems and playing cooperatively” (Bower, 2006 p. 212)
- Upon the completion of kindergarten, Montessori students scored higher than their peers in public and private schools on standardized math and reading tests.
- Upon completion of elementary school the Montessori students were able to write essays with more imagination and depth than their peers in public and private school (cited in Bower, 2006, p. 212).

Research indicated that Montessori students performed well on standardized tests and demonstrated higher levels of learning than their peers when tested later in life (Schapiro, 1993). Recent empirical data suggested that some young Montessori children were able to master reading and writing before age 6 (Edwards 2002). Furthermore, a comprehensive evaluation of middle school programs in the U.S. showed that, “Montessori students reported greater affect, potency, intrinsic motivation, flow experience and undivided interest while engaged in activities during school” (Rathunde & Csikszentmihalya, 2005, p. 363).

However, a recent expansive review of Montessori and traditional programs in New York schools failed to support the hypothesis that enrollment in a Montessori school was associated with higher academic achievement (Lopata, Wallace & Finn 2005). Miller and Bizzell's long-term study of pre-school education and high school curricula in 1984 also found no difference between Montessori and traditional instruction.

### Critics

Many opponents argue that the Montessori Method cannot be accepted as a legitimate pedagogy due to the lack of standardized concepts and training methods. Of the 5,000 schools in the United States using Montessori programs, only 20% are formally associated with an official Montessori governing or sanctioning body and 60% of Montessori schools are completely unaffiliated to an academic or professional institution that usually assists in curriculum development and evaluation (Ruenzel, 1997, p. 30). Moreover, the name and method known as “Montessori” have never been formally licensed or trademarked, so anyone can open a Montessori-based school without having to follow standard curriculum guidelines.

Although the Montessori Accreditation Council for Teacher Education (MACTE), was formed in 1991 to help train teachers and provide common standards, there is currently no agreed-upon model or standards of assessment and no formal training guidelines for teachers (Schapiro, 1993). Without a formal definition of the curriculum and desired outcomes, it is difficult to properly assess the method with accuracy.

Valerie Polakow's book *The Erosion of Childhood* offers a scathing critique of Montessori methods in the Midwest noting that, “the school imposed an adult-defined work ethic on children, socialized children to engage in work in isolation from others,” and produced “a work ethic where productivity, efficiency and conformity are perceived as synonymous with healthy development” (cited in Crain, 2004, p. 2). However, Montessori educators argue that although students may choose to work alone, they are allowed to interact with their peers about different topics during the activities. Other critics describe the Montessori Method as “mechanistic,” “cold,” “too academic,” and as “not meeting the developmentally appropriate needs of the child” (Ruenzel, 1997, p. 32).

### Limitations

Although the Montessori Method has been largely embraced in the United States, its pedagogical principles have never been formally accepted by administrators and policymakers in traditional/mainstream school systems. Due to its lack of academic assessment, it is largely neglected by scholars. The dearth of empirical data in the field prevents researchers from drawing accurate conclusions about the validity of the method (which limits institutional funding and support). However, the success and growth of Montessori in this country to this point has been achieved with almost no assistance from the government and the educational establishment (Schapiro, 1993).

Programs are also restricted due to the lack of trained Montessori professionals, the costs of implementing and maintaining new pro-

grams and the reluctance of administrators to embrace an ideology that deviates so far from traditional subject-based pedagogy. Other limitations result from Maria Montessori's belief that that she was the only person who was qualified to train other Montessori educators, and that learning tools must be limited to the original objects she designed (Crain, 2004). Despite these limitations, Montessori programs continue to flourish in all levels of private and public schools systems in the United States and abroad.

## Terms & Concepts

**American Montessori Society (AMS):** Academic and professional organization formed by Dr. Nancy Rambusch in 1960 dedicated to adopting Montessori's teaching principles to the school systems in the United States.

**Association Montessori Internationale (AMI):** An international organization founded by Maria Montessori in 1929 in order to promote the growth of Montessori education in public and private schools throughout the world.

**Individual Learning:** Self-motivated learning used in Montessori schools that consists of a series of educational tasks that are chosen by the student.

**Kinesiology:** The study of the mechanics of human body movement.

**Magnet Programs:** A program in public school systems that offers specialized methods of teaching and curriculum to students representing a cross-section of the community.

**Manipulators:** Concrete objects such as beads, rods and blocks that are used by students during Montessori lessons in order to encourage sensory learning and self-discovery.

**Montessori Accreditation Council for Teacher Education (MACTE):** Organization founded in 1991 to assist in curriculum accreditation and teacher training.

**Montessori Method:** An educational system developed by Dr. Maria Montessori in 1907 that uses independent, self-correcting activities to develop and advance a student's natural ability and intellect.

**Montessori Schools:** Any public or private special education, pre-K, K-12 or other learning institution that offers a Montessori-based curriculum to the students.

**Progressive Approach:** The belief that the goal of education is to help people become more free-thinking innovators who can improve society through positive reform.

**Sensory Learning:** Teaching using interactions and activities designed to apply and develop the senses.

**Traditional Learning:** The belief that the goal of education is to prepare people to fulfill necessary tasks in society through subject-based instruction focused on competition and evaluation.

**Whole-Class Learning:** The traditional subject-based pedagogy of mass instruction used in most public school systems in the United States.

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