This chapter will focus on holism in Montessori as a pedagogy that emphasizes the fundamental principles of interconnectedness, the relationship of the whole to its parts, and inclusion. In Montessori education, these topics pertain not only to the intellect but also to the physical, emotional, and spiritual aspects of child development—as well as the philosophical stance that the fundamental purpose of education is to nurture human potential (Miller, 2009).

Holistic education is called a “curriculum of connections” (Miller, 2009, p. 291); that is, it is based on the premise that each person finds identity, meaning, and purpose in life through connections to the community and the natural world, while incorporating a spiritual dimension which acknowledges the “unknowable and irreducible within the human psyche” (Miller, 2009, p. 290).

Holistic education aims to call forth from people an intrinsic reverence for life and a passionate love of learning. There is no one best way to accomplish this goal. Instead, holistic education suggests there are many paths of learning; what is appropriate for some children and adults, in some historical and social contexts, may not be best for others. The art of holistic education lies in its responsiveness to the diverse learning styles and needs of evolving human beings (Montessori, 1989). This is done not solely through an academic curriculum that condenses the world into isolated subjects or instructional packages, but rather through direct engagement with the learning environment. Holistic education nurtures a sense of wonder and the natural curiosity of children.

What is Montessori Education?

Montessori pedagogy is regarded as a pioneering example of constructivist theory in education. Founded on principles of concrete, hands-on experiences, it allows students to draw conclusions about the world around them from the bottom up while providing them an overarching context for their learning. Its founder, Dr. Maria Montessori (1870–1952), was an Italian physician with a deep personal investment in child development, human nature, peacemaking, and equal rights. Montessori developed a radical educational approach for the time. Today, Montessori education is one of the largest organized forms of holistic education in the world. It is estimated that there are more than 4,500 Montessori schools in the United States alone and as many as 20,000 schools around the globe. Many Montessori schools offer programs from infancy all the way through to high school graduation (AMS, 2017b; NAMTA, 2017).

The Montessori Method was first conceptualized by Dr. Maria Montessori in 1907. In that year, she founded the first of her schools in the impoverished San Lorenzo district of Rome. The school
provided an early day-care program for preschool children aged three to six years. Montessori called this first school and others after it, *Casa dei Bambini*—in English, *Children’s Houses* (Hendriksen & Pelgrom, 2014).

Montessori was trained as a medical doctor, specializing in psychiatry at the University of Rome (AMS, 2017a). In those days, psychiatry was not akin to psychotherapy as we know it today, but rather resembled what is now called neuroscience, or the study of the human brain (Whitescarver, 2010). Montessori was an early pioneer in the effort to understand how human beings develop from birth to adulthood. Her early work with children with disabilities and children from low-income families led to the initial development of an organized approach to education and the establishment of thousands of schools in the early years of the twentieth century (Whitescarver, 2010).

It is important to note that Montessori did not intend to have her name associated with what evolved into a school reform movement. Instead, she titled her first book, *Il Metodo della Pedagogia Scientifica Applicato All’Educazione Infantile Nelle Case Dei Bambini*, or *A Scientific Method of Pedagogy as Applied to Child Education in the Children’s Houses*. The book detailed the first early childhood schools designed with her methodology in mind, in Rome, Italy (Montessori, 2012, p. 7). Montessori focused on student observation and a prepared environment designed to facilitate students’ independence, sense of order, concentration, and hand–eye coordination. Her philosophy of teaching was not, at first, what she considered to be of her own design at all; rather, she saw it as the application of a scientific method of providing stimulus to a subject and recording the results.

Over time, Montessori’s curriculum and philosophy were deeply influenced not only by her early work with the young children in the first Children’s House but also through her observations of human spirituality while living in India. Of course, her personal experience as one of the first female scientists to gain renown in her field influenced many of her key principles (Montessori, 2004). San Lorenzo Children’s House exposed her to children with significant developmental challenges and families from cultural contexts of poverty and struggle.

After several years in India, unable to return home due to Italy’s involvement in the Second World War, Montessori was exposed to a culture deeply infused with reverence for the interconnectedness of all living things. In India, Montessori was exposed to a new ideology wherein all aspects of life are connected. Living in this culture gave birth to a deeper, more profound understanding of the experience of being human and existing in the world. This appreciation of the interconnected nature of human experience had a profound influence on the evolution of Montessori’s approach (Standing, 1957).

Montessori may never have had these experiences had she not been one of the first female medical doctors in Italy. As such, she was subjected to the prejudices of men who came before her—and worked alongside her. The ongoing challenges that she faced as a woman of medicine and science offered her a new perspective that fundamentally shaped her worldview and committed her to a mission of peace and education, with a deep reverence for the potential she saw in every child.

Today, Montessori programs have been developed for students of all age ranges, spanning from newborn infants through to age 18, or the completion of high school in preparation for the university. All Montessori programs are intended to be multi-aged, corresponding to patterns of child development that Montessori identified as *Planes of Development* (McKenzie & Zascavage, 2012). In addition to their traditional application in mainstream schools, Montessori strategies have been successfully used with other populations, including children with physical and cognitive handicaps and in elder care for patients with dementia.

Key elements of Montessori’s theory of Planes of Development align with the theories of Piaget, Erikson, Vygotsky, and other psychosocial scientists of the era. Montessori and her contemporaries influenced each other’s work significantly. Her theories identified patterns of student need and described the features of four distinct planes. Each developmental plane lasts approximately six years and is characterized by distinct physiological and intellectual markers. These markers are:
infancy (birth to age 6), childhood (ages 6 to 12), adolescence (ages 12 to 18), and maturity (ages 18 through 24). After age 24, Montessori considered the individual to be adult (Dorer & Grant-Miller, 2011). The needs and characteristics of the student at each plane were then used in the design of the prepared environment and the Montessori educational curriculum.

There are many guiding concepts of Montessori pedagogy, but they can be briefly summarized by Dorer’s (2017) statement of ten core principles, which are respect, creativity, freedom of movement, freedom of choice, freedom to repeat, the prepared environment, the planes of development, mixed age groups, independence, and holism. To bring each of these principles together in the classroom environment, Dorer (2017) states that the catalyst of Montessori education is the Montessori teacher who directs the classroom and activities within it; it is relevant to note that Montessori teachers are not titled as such, but instead, called Guides¹ (Epstein & Seldin, 2003).

Several Montessori organizations work to support the Montessori movement around the world, including the Association Montessori International, which was established by Dr. Montessori herself, the American Montessori Society, the Pan American Montessori Society, and the International Montessori Council. Hundreds of additional Montessori organizations also operate at national and regional levels around the world. The organizations foster formal processes of teacher preparation and certification. Each of the major Montessori societies issues teaching diplomas, and there are still other accredited programs unaffiliated with the mentioned organizations. The Montessori Accreditation Council for Teacher Education (MACTE) is the accrediting body for Montessori teacher education recognized by the United States Department of Education and is becoming increasingly recognized throughout the world. Because of this, many international organizations require that their teacher education programs maintain MACTE accreditation along with their own affiliation standards.

It is important to understand that because the name Montessori was never copyrighted and there is no single central authority governing the establishment and operation of individual schools, there has been confusion regarding authentic Montessori practices leading to diverse public perception about Montessori schools and the Montessori method (Howe, 2017). The variations in everyday practices can be confusing to parents and others attempting to understand exactly what Montessori does and does not do. Still, even though some aspects of their everyday operation or general school culture may differ, the following aspects of Montessori pedagogy should be found in any school that represents itself as one offering a Montessori program; these characteristics all strongly support the principles of holistic education.

The Cosmic Curriculum

Montessori described in her written observations children’s natural interest in the world around them. She called the educational program that was aimed to nurture this interest, Cosmic Education (Montessori, 1989). The purpose of Cosmic Education is to help the child understand the unity of the universe: acknowledge the long path of universal history that has led to the present; recognize their own role within not only that history but also the evolution of the earth. Through such a macro-experience, Montessori envisioned learning that is naturally enchanting and inviting.

Based on its fundamental principles of holism, Montessori pedagogy is holistic:

1. Its focus on the whole child.
2. Its structuring educational experiences from whole to part, fostering a view that “. . . the universe is harmonious and interconnected” (Miller, 1996, p. 21).
3. Its emphasis on inclusion, the integration of diverse ages, learning styles and individuality.
4. Its responsiveness to the cultural contexts of students and the Montessori perspectives on universality, or the universal potential of the child.
The Focus on the Whole Child

While many educational approaches, such as mastery learning (Miller, 1996) focus on a student’s ability to demonstrate command of independent skills, such as math or language, the Montessori approach recognizes the importance of the whole child, including academic success as well as the child’s social, emotional, physical, and spiritual development. In fact, the Montessori curriculum has a specifically designed curriculum to meet the needs of the children in these non-academic areas. A Montessori education is meant to provide a thorough preparation not only for future academic or professional growth, but also for success in their everyday lives.

Montessori recognized that a student’s academic success and emotional health were not mutually exclusive. A student who was emotionally unhealthy would not be able to reach the highest level of academic potential. The correlation between these two concepts was first observed in the early years of the first Children’s Houses. While working with the children in San Lorenzo, Montessori observed that students who were hungry or emotionally neglected were not able to achieve academic success. Instead, it was clear that students needed their fundamental needs met first; they needed to feel comfortable, safe, and cared for—both physically and emotionally—before they were able to learn.

This deeper understanding of child psychology and developmental needs formed the basis for what is referred to in Montessori as the prepared environment. The prepared environment is one that is deliberately designed to meet the child’s needs—a literal house for children, with furniture sized to their bodies, materials accessible and encouraging of independent exploration, all the accommodations of a comfortable home. Here, children’s unique planes of development are recognized through adult Montessori guides who create and maintain the environments and provide rich academic experiences.

The environments include Montessori learning materials designed to be beautiful and enticing—usually carefully constructed of natural materials. These are placed in an attractive display on beautifully constructed shelves and are done so sparsely, in an uncrowded array to facilitate their selection by the children. Children access these shelves and choose their own materials freely.

The Montessori curriculum includes not only academic subjects typical to most educational systems, but also life skills and emotional education. As part of the Practical Life curriculum, Montessori weaves in lessons in Grace and Courtesy, which incorporate skills of etiquette, communication, care of self, and care of the environment, as well as emphasizing spiritual, cultural, and civic awareness.

Montessori’s Practical Life curriculum can be misunderstood because it serves several purposes. In a Montessori classroom, students can be seen washing tables or wiping floors, preparing food, dusting, or learning and practicing other common skills. There is no doubt that these skills contribute to the good of the community, help children develop self-reliance, give children the experience of success, and they imbue children with the self-regard of being able to do something that adults usually do.

It is, however, important to note that these exercises have an even more profound purpose. Their deeper aim is to help children develop a sense of order, concentration, coordination of movement, and independence. Many tasks involve several steps, and Montessori programs are designed to help young children learn the skills of sequencing; that is, organizing complex tasks into organized units in order to achieve complex or long-term goals (Montessori, 2004). Sequencing practice at this level prepares students for future academic pursuits, such as advanced arithmetic, as well as other endeavors that involve executive functioning and problem-solving skills.

The Montessori learning environment is built to not only provide for the students’ fundamental needs, but also to enable a curriculum which gives them the skills and tools to provide for themselves and care for others, while at the same time, offering them an inspiring vision of the entire universe and their place within it. In this way, the Montessori pedagogy brings together the body, the mind, and the spirit of the child to prepare all three for learning and achievement at the highest level.
From Whole to Parts

Montessori education uses what is referred to as an integrated, spiral curriculum. In most educational modalities, curriculum is taught in small segmented pieces, or silos, which, when completed, contribute to a collective whole. This approach is sometimes referred to as Atomism (Miller, 1996) as it metaphorically builds up knowledge and understanding in the same way that atoms build up elements, compounds, and increasingly complex structures.

In contrast, Montessori introduces whole concepts before introducing the smaller pieces. The emphasis on teaching or exposing children to the whole before the more specified components or parts exists at all levels of Montessori. As children progress through the curriculum and advance in age, they become able to conceptualize more complex holisms.

The Montessori approach is based on a few fundamental principles: first, Montessori believed that in order to develop a deep understanding of something, a student had to have a conceptual, or impressionistic, understanding of it. Second, she believed that in order to help children develop an intrinsic desire to understand, concepts have to be contextually relevant. To achieve this, students are given an overarching, impressionistic, big picture idea through stories and lessons that provide a preview of what they are to be learning about throughout the year (and years). This creates relevance as students integrate more focused, in-depth lessons and experiences into their existing constructs.

Montessori education differs from some other alternative education pedagogies with holistic elements, such as immersion learning, in that it has an extremely well established structure of thought, culture, and curriculum. Although all Montessori guides are encouraged to be polymaths and prepared to follow the children’s natural interests and pursuits, the Montessori curriculum also has a backbone which allows all spontaneous or planned lessons and activities to fall into one of five general themes: the universe, life, people, language, and math. In the Elementary Montessori curriculum, those themes are explicitly introduced through what are called the Five Great Lessons (Dorer, 2016).

The Great Lessons begin with three stories that examine a progression commencing with The Story of the Universe or Big Bang. The next story, the Coming of Life on Earth, explores the beginnings of life, and the third, the Coming of Humans, examines human evolution and development. These three story-based lessons emphasize change over time and focus on how those changes resulted in what we see around us today. The last two stories, The Story of Language and The Story of Numbers, describe how humans developed systems of communication and calculation that allowed for the rapid progression of our species in the most recent era.

Each of the Great Lessons is presented to Montessori students every year along with supplementary lessons that examine the topics in more detail and allow for increasingly complex engagement with the overarching concepts of each passage. The stories spark students’ imaginations, providing the base and framework for them to discover their own questions and theories that form the basis of the initial exploration of the prepared environment.

All lessons and materials in the Elementary Montessori classroom connect back to these five core themes and allow the students to break down overarching concepts into smaller parts. Montessori materials are specifically designed to isolate skills and allow students to draw conclusions for themselves, with direction and support from their guides, about the many smaller facets of curriculum. Using self-exploration, not only can students apply new-found concepts to the context of the Great Lessons, but in a contrasting, nearly Atomistic (Miller, 1996) way, they are then able to build up their knowledge from the bottom up through observation and discovery, finally reaching the whole once again. In fact, the ideal Montessori environment is carefully constructed to provide students ample opportunities for dramatic epiphanies and moments of discovery.

Although the Great Lessons are presented to all Montessori students every year, the organized academic curriculum does not hold an obviously prominent role in students’ lives before the Elementary years. In the Children’s House or Early Childhood program, Montessori focuses most on individual human development and assisting children in understanding how to interact with the
world around them. However, these early lessons provide the groundwork for later connections between experiences both practical and academic.

**Inclusion and Integration of Diversity**

Since its genesis, Montessori education has been grounded in addressing the needs of the individual. Montessori herself was not an educator but a scientist; she felt deeply that the way to provide the most effective education for children was to respond to their apparent needs, interests, and planes of development. This could only be done by observing those aspects of the children on a daily basis. In fact, when the practice was first implemented, Montessori recommended that every classroom have, at all times, some adults whose sole role was to observe silently, without influencing the children. This practice later led to the differentiation between the role of a Montessori *guide* as opposed to a traditional school teacher, the Montessorian both observing the students and aiding them in their explorations of their environments. Montessori wrote: “Children reach the goal of self-fulfillment and self-control by different roads, indirectly prepared by the perceptive adult” (Montessori, 1965, p. 18). In this way, the Montessori education system consistently adapts to the changing needs and learning styles of its students and provides constant feedback for teachers to reflect upon the efficacy of their work.

Like fingerprints, all children are different. The Montessori approach and the Montessori teacher’s ability to modify instruction to meet a wide variety of students’ needs and academic abilities are meant to serve every individual. For this reason, the mixed-age classroom not only provides opportunities for younger students to learn from their elders but also for the elder students to be leaders in their class. Furthermore, because traditional Montessori programs have three-year cycles, these opportunities repeat at each stage.

Students who are ready to progress beyond what, in conventional schools, is identified as their grade level can, therefore, forge ahead in unique ways. A Montessori guide supports this by offering increasingly creative enrichment opportunities for the students to expand the breadth and depth of their knowledge and understanding. At the same time, those students who are identified as below grade level in one or more areas can work alongside their more confident peers on the same topics, while receiving focused, personalized support. While each student engages with the same topics in their own distinct ways and various skill levels, they also interact with their peers above, at, and below grade level, creating an enriching learning experience for everyone.

The inclusive and integrative nature of Montessori is even yet more personalized, as students are able to progress within different areas of the curriculum while exploring applications of particular interest to them. For example, a student who is above grade level in math but has challenges in reading need not be subjected, as she might in a traditional school, to being labeled as requiring remediation. Instead, she will be encouraged to find personal applications in math that expand the depth and breadth of her learning in conjunction with age-mates, while at the same time continuing to work with other age-mates in language arts, again finding personal applications. No being held back from her potential or stigmatized where she struggles. This is why this approach is called personalized rather than individualized.

The ability of the Montessori class to meet the spectrum of needs of many different learners also lends itself to the philosophy and pedagogy of addressing the needs of students of varied cultures and social status in a classroom. Paradoxically, the understanding that all children are different and Montessori education’s ability to meet these different needs demonstrates the universality of the children: the belief that children, despite differences in background such as gender, religion, or wealth, are born with the same innate skills and capable of great things when provided a fertile environment for growth. Thus, Montessori schools around the world consciously welcome and seek out a wide range of children and families in terms of social, ethnic, religious, and socio-economic
backgrounds, as well as learning styles. Maria Montessori celebrated diversity as an opportunity for children to experience the differences among the world’s people. When describing the role of the Cosmic Curriculum and its role in helping students understand the interconnectedness of the world and their place in it, she wrote: “We shall walk together on this path of life, for all things are part of the universe, and are connected with each other to form one whole unity” (Montessori, 1989, p. 6). Montessori emphasized the interconnected nature of all things, including people. Based on this philosophical reverence, a platform for inclusivity, not only of individuals but also of diversity on a larger scale, was created.

In part, Montessori was inspired to incorporate religious, spiritual, and cultural diversity, and education about each, into her curriculum because of the patterns of history to which she bore witness during her lifetime. Discrimination-based politics, scientific fascination with eugenics, industrial development, and technological advancements in weapons, communications, and transportation were leading to widespread social inequality, world wars, and environmental pollution. Montessori grew convinced that the only long-term solution to the problems facing humanity was to focus on the future by educating children on these topics. Therefore, Montessori encouraged children and families to celebrate diversity in her classrooms. Her rationale was her understanding of the fundamental and common needs of human beings and the universality of children’s innate developmental pathways. This fundamental principle continues to be one of the globally revered characteristics of Montessori, widely recognized as an educational movement of peace and inclusion.

### Universality of the Child

Montessori described how human beings do not, like other animals, have a precise instinct to perform certain behaviors; instead, humans have continuously shifted throughout history, changing and adapting, exploring and reacting. She explains that the diversity of human work requires special adaptation, a different kind of cosmic task. The “great power of man,” according to Montessori, is that he adapts to the environment and modifies the environment. For this reason, every man that is born must prepare his personality anew . . . We must see this vision of man in correlation with the environment and his adaptation to it.

(Montessori, 2012, p. 92)

In her 1946 lectures, Montessori (2012) addresses a fundamental characteristic of man, that he distinguishes himself from all other living life forms. She writes about the human ability not only to adapt to the environment but also to adapt the environment to meet our own human needs. Of significance, she notes that these inherent abilities are perceptible throughout human existence and not limited to a certain generation or demographic.

Montessori recognized that, universally, typical child development follows a general pattern through which all children exhibit common characteristics and interests. Based on her observations, Montessori designed both a curriculum and environment that would meet these common patterns, needs, and characteristics as a validation of her understanding of the universality, or universal potential of children.

The Montessori Method is, therefore, based on the idea that children, regardless of external factors, have shared common interests and needs at certain times during normal development. One key concept of Montessori’s universalism lies in her identification of specific sensitivities, or periods, in which a child is most interested in, or able to integrate, new information about certain experiences or ideas. Because these occur regularly during specified times in typical development, she called these sensitive periods and created child-focused, concrete materials to fulfill each period’s particular developmental sensitivities or needs. The Montessori Children’s House, for example, is deliberately
designed to meet the needs of the child in the second half of the first plane of development, or, roughly, the years between ages 3 and 6. During this period, children continue to absorb information and stimulation from their experiences, construct internal concepts about reality, and begin to use language, allowing them to participate in their larger group’s culture (Montessori, 2004). The Montessori environment of the 3- to 6-year-old, therefore, is designed with materials that meet these needs, sequentially, in a scaffolded curriculum that presents new information based on the demonstrated mastery of preceding skills. Students in this environment will learn phonetic sounds and their corresponding written characters. As they master these, they will begin to construct simple phonetic words that initiate the introduction of writing and, later, reading.

Montessori theorized that all children of the world, if provided the right environment (including the trained guide), would be able to absorb information and develop in these areas at a rate that, if missed, would never be attainable again. A most apparent example is the sensitive period of language, with which we all have experience. A child who is exposed to language (even multiple languages!) can not only acquire fluency with ease but can learn intonation and grammar without needing to be explicitly taught. An adult trying to learn a new language will almost certainly have to work diligently and will likely never achieve the same proficiency as someone exposed to a language naturally, during their sensitive period for it.

Montessori suggested that, like language, all developmental sensitivities need to be met in the prepared environment to maximize a child’s potential. Since her original publications, modern child development studies support these theories of sensitive periods. Usually they are referred to as “critical periods” (Scott, 1962), with strong supporting evidence from studies of language development in feral children, in particular. Because of the integrated nature of Montessori education, it is difficult to isolate students’ various experiences during each sensitive period, and, thus, hard to compare the impact of exposure during these times to other environments constructed without such deliberate emphasis on developmental stages. However, it is this exact feature of Montessori that makes it a strong, practical example of holistic education.

Conclusion

Montessori education represents a sizable percentage of the educational pedagogies or methods that honor holism throughout the world, and it shares with its holistic kin a child-centered, unified nature, designed and operating with the ultimate goal of helping to create a future world of thoughtful and insightful peacemakers. Montessori teachers and students focus on relationships in their studies and among people, the interconnected role of humans in the universe, personal and collective making of meaning, and the importance of being present in their own existence.

Notes

1 The word “guide” is often used in Montessori schools rather than “teacher” or Montessori’s own chosen title, “directress.” The reason is that the function of the adult in the classroom is less to instruct than to act as a catalyst or inspirer. The concept of a guide suggests some combination of a spiritual guide and a tour guide, guiding the students on a learning tour that is not only curricular, but spiritual in its unifying approach (Dorer, 2017).

2 Practical Life is one of four traditional areas of the Montessori Children’s House. The others are Sensorial (aimed at sensory growth and development), Mathematics, and Language Arts. The Practical Life area emphasizes Montessori activities to develop the children’s sense of order, their coordination of movement, their concentration, and their independence. It also includes activities of politeness, social grace, manners, and etiquette. These are called activities of Grace and Courtesy.

3 The term, age-mates, means other children of the same age or grade.
References


