The Montessori Approach to Early Childhood Education:  
Benefits and Challenges of Mixed-Age Classrooms  
as an Essential Montessori Schools Feature

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Abstract
The Montessori Approach to Early Childhood Education is a growing influence throughout the world. This paper reports on research completed in the US that assessed the similarities and differences in Montessori programming between the US and Italy in both private and public schools. The research assessed how the essential elements of the Montessori method, including mixed-age classrooms and the inclusion of children with disabilities are implemented in the US. The paper describes the Montessori methodology, the benefits of mixed age classrooms, as a model of inclusion that can serve also the Italian public schools. In Italy Montessori Education may prove to be beneficial in the rural, isolated areas. According to the manifesto of the small schools movement of Italy, 76% of the Italian territory is at risk isolation. Apparent disadvantages, such as small or multi-age classes, may provide opportunities to solve the growing concern of schools and school districts with diminishing populations. Moreover, the Montessori Method can be a response to the needs of today schools in search of new strong educational alternative to traditional education.

Keywords: Montessori, primary school, early childhood, cultural competence, mixed-age classroom

1. Introduction
Montessori education was developed in the first half of the 20th century by one of the first women physician in Italy. Maria Montessori (1870-1952), started working with atypically developing children and with low-income children. Her work reached then to children of all social classes around the world. Dr. Montessori first developed her educational approach while working with a preschool population, in particular, children with disabilities. She gradually extended her approach to children and youth of all ages and abilities. Today, some Montessori schools provide all levels of learning, from infant & toddler through the secondary (high school) level.

2. The Montessori Method
The Montessori Method is a child-centered approach in which children are viewed as active participants in their own development, strongly influenced by natural, dynamic, self-correcting forces within themselves, opening the way toward growth and learning. The teachers are considered nurturers, partners, and guides to the children. They depend on carefully prepared, aesthetically pleasing environments as a pedagogical tool. Montessori emphasizes independent learning, letting children grow into lifelong learners and responsible citizens of the world. In Montessori education, children are grouped into multiage classrooms spanning three years, promoting adult-child continuity and close peer relationships. Montessori classrooms provide carefully prepared, orderly, pleasing environments and materials where children are free to respond to their natural tendency to work individually or in small groups. The children progress at their own pace and rhythm, according to their individual capabilities. The school community as a whole, including the parents, work together to open the children to the integration of body, mind, emotions, and spirit that is the basis of holistic peace education. The Montessori teacher plays the role of unobtrusive director in the classroom as children individually or in small groups engage in self-directed activity. The teacher's goal is to help and encourage the children, allowing them to develop confidence and inner discipline so that there is less and less need to intervene as the child develops. Montessori developed a set of manipulative objects designed to support children’s learning of sensory concepts such as dimension, color, shape and texture, and academic concepts of mathematics, literacy, science, geography and history. They are given the freedom to choose what they work on, where they work, with whom they work, and for how long they work on any particular activity, all within the limits of the class rules. No competition is set up between children, and there is no system of extrinsic rewards or punishments. These two aspects—the learning
materials themselves, and the nature of the learning—make Montessori classrooms look strikingly different to conventional classrooms (Marshall, 2017).

2.1 Core Principles
The Method is seen as a strong educational alternative to traditional education both in elementary and early childhood education, and it is a source of inspiration for progressive educational reform. The core principles of the Montessori Method are:

- Mixed age classrooms
- Student choice of activity from within a prescribed range of options
- Uninterrupted blocks of work time, ideally three hours.
- Constructivist or self-discovery model rather than direct instruction
- Specialized educational materials often made out of natural, aesthetic materials such as wood, rather than plastic
- Environment organized to promote choice, easy access, and appropriate in size
- Freedom to move within the classroom
- A trained teacher who follows the child’s lead and promote a child’s innate talents and abilities

3. An old but innovative approach to Early Childhood Education
According to the supporters of Montessori Method the benefits to children are many and varied. The most valuable advantage of these early learning approach is that it ignites a love of learning. The supporters claim that benefits include resilience, responsibility, self-confidence, teamwork, problem-solving skills as well as creative and scientific thinking. Key-features in nowadays world.

We have an information economy that’s dependent on complex systems that change rapidly […] To remain valuable in our economy, therefore, you must master the art of quickly learning complicated things. This task requires deep work. If you don’t cultivate this ability, you’re likely to fall behind as technology advances (Newport 2016). In Montessori schools the three hours uninterrupted blocks of work time teach children to concentrate on their tasks without distractions. It does not seem to be a matter of how much or what kind of technology you have in a classroom, but it is all about the ability to teach "learning to learn", one of the key competences for lifelong learning according to the European Parliament and the Council of the European Union (Recommendation 2006/962/EC), i.e. the ability to effectively manage one’s own learning, either individually or in groups. Looking at Montessori Method with nowadays eyes, it seems not to be conceived more then hundred years ago, but right here and right now. The Method seems to have many suitable responses to the challenges of today world of education.

3.1 The Method for a world of makers
As it is based on constructivist teaching, it places more emphasis on sensory input. Children are actively involved in the learning process, using all of their senses, not just their eyes and ears. Active learning approaches emphasize the role of the teacher as a guide. All of these ideas combined, form a modern version of educational constructivism, which states that learning best happens when children get to construct and form their own knowledge. Instead of being told how to think or what to memorize, children are encouraged to create their own understanding of the world.

In Montessori classrooms we find children that engage in activities voluntarily for their own sake, and they repeat the activities often. Those activities are real and directed to real ends. A key example is the Practical Life activities (e.g., table washing and snack preparation) children do in preschool with child-sized implements.

3.2 The Method for a world of inclusion
Montessori classrooms serve children in 3-year age spans (from birth to 3 years, 3–6 years, and so on, to age 18) with specific sets of didactic materials that are replaced gradually with books. Children get individual lessons (typically from birth to age 6) or small-group lessons (typically from age 6 on) with the materials, and then choose among materials they know how to use during 3-hr periods intended to encourage deep concentration on work. The materials are self-correcting (i.e., children can recognize and fix their own mistakes), so teachers do not mark (or even give) assignments; the teacher’s function is to observe children carefully and time presentations of new materials
appropriately for each child, connecting the child to the didactic environment (Lillard 2017). Montessori schools show that children of different ages help one another. The younger one sees what the older ones are doing and asks for explanations. There is a communication and harmony between the two that one seldom finds between the adult and the small child (M. Montessori 1967). Peer tutoring and collaborative arrangements support both the learning and the social climate, this can be beneficial also when classroom include special needs pupils.

The 2017 review of the benefits of the Montessori education system (Marshall 2017) indicates that there is evidence in support of certain elements of the Montessori method e.g. teaching early literacy through a phonic approach embedded in a rich language context, and providing a sensorial foundation for mathematics education. This review also indicates that some evidence exist that children may benefit cognitively and socially from Montessori education that implements the original principles.

4. Growing Interest for Montessori in the world: data by AMI

The AMI- Association Montessori Internationale has affiliated national associations and training centres located throughout the world in 72 Countries.

4.1 Montessori in US

Dr. Montessori started her Casa dei Bambini (Children’s House) in 1907, in the slums of Rome, her movement later on spread to other countries, especially after the Fascist regime denounced Montessori methods of education and she left Italy. In the United States, there was strong but brief interest from 1910 to 1920. Although the method flourished in Europe and India, it fell out of favor in the United States. The Montessori education movement experienced a resurgence in the US during the 1950s increasing its popularity.

According to the Census project, launched in 2013 in U.S. as a collaboration among the National Center for Montessori in the Public Sector (NCMPS), the Center for Research on Developmental Education, and some other Montessori organizations, today we have information on 514 public programs and 2,075 private schools in the U.S. The North American Montessori Teachers’ Association (NAMTA) estimates that there are about 4,500 Montessori schools in the United States and about 20,000 worldwide.

4.2 Montessori in Italy

The available and official data about Montessori Education in Italy are those of Opera Nazionale Montessori dating back to 2013. Montessori Public Kindergarten and Primary schools in Italy are 104 and involve the work of 900 teachers. There are also 35 Pre-K and 22 private “Case dei bambini”. Two middle schools and two high schools. These numbers involve 10,000 Italian families over a population of nearly 60 million.

5. Conclusion

Traditional schools have not fared well owing to the fact that the models of the child and school on which they are built—the empty vessel in the factory — fit poorly with how humans learn (Lillard 2017). Montessori Education can be an answer to the crisis of Education, since the educational system should draw on scientific study of how children learn, which is exactly Dr. Maria Montessori approach in the early 20th century. Moreover in Italy, where According to the manifesto of the small schools movement 76% of the Italian territory is at risk isolation. Montessori could provide a solution to the growing number of mixed-age classrooms, which are an apparent disadvantage, that may turn in an opportunity to solve the growing concern of schools and school districts with diminishing populations.

References