



Montessori Matters



Geometric explorations with the Constructive Triangles (left) and at the art easel (right) take place in the Children's House program.

Montessori on the Web

Sergy Brin, co-founder of Google, speaks about the positive influence of his Montessori experience.
www.youtube.com/watch?v=3OCAxjlLBA&feature=related

Stephen Hughes, professor of pediatrics and neurology, discusses the lasting benefits of a Montessori education.
www.youtube.com/watch?v=faYco1b-IJI&feature=related

On the Calendar

For calendar dates, go to www.rmschool.org

Rochester Montessori School

Individualized Instruction • Academic Study •
 Spanish • Environmental Education •
 Technology in Instruction • the Arts and
 becoming an International Baccalaureate Middle
 School program.

*Because how children learn
 influences who they will become.*

100 + Years!

By Paul Epstein, Ph.D.

As we conclude Montessori Education Week, we can ask, what elements of the Montessori system of education have enabled its persistence for more than 100 years? This question was recently answered by Dr. Stephen Hughes, professor of pediatrics and neurology at the University of Minnesota. In his article titled, "Montessori: Education for the 21st Century," he identified: an enduring pedagogical philosophy based upon timeless wisdom; recent neurological findings on the development of the brain during childhood; and, an unprecedented change in societies globally that requires a remake of education.

Montessori philosophy begins with the assertion that each child is a unique individual. This assertion further specifies that either we adults require a child to act as if she or he were identical to other children or we require adults to empower each child to fully develop her or his unique capabilities. Of course the Montessori route is the latter. Traditional education, however, continues to pursue the former. As noted by Hughes, "The traditional model of education, at its foundation, was designed to provide basic literacy skills and to prepare people for many of the then-



Dr. Maria Montessori (1870-1952). From left to right: age 10; addressing a medical congress during her graduation from medical school; presenting geometric shapes to a young child; reading to children in London, 1951.

new jobs of the industrial age: piece-work, assembly line work, or clerking.” The design of traditional education, then and today, resembles a factory. Information is disseminated by the teacher to children seated in rows of desks (the assembly line). Children memorize or assemble isolated facts (the pieces), content is isolated (the departments), and assessment occurs by comparing children to their peers (standards of production). This model served truly well when we were an industrial-based economy. But since the 1980s, we have as a nation shifted to a knowledge- and experience-based economy.

In today’s world, learning to innovate and be creative must eclipse memorization. Thinking and acting like an entrepreneur must also eclipse book-based learning. Children develop capabilities like innovation and creativity through activity-based learning and from engagement with real-life issues and challenges. Learning to communicate, work effectively with teams, initiate and complete projects, manage time, and solve real

problems has always been part of the Montessori curriculum. The necessity for this kind of curriculum is but one of the many reasons Rochester Montessori School is now adopting the International Baccalaureate program for our middle school program.

“We now know much about how the brain matures through childhood into young adulthood. It is now well understood that human brains require the opportunity to engage in and interact with materials, to solve hands-on problems, and to apply developing abilities to new problems.”

Montessori pedagogical philosophy further directs us to help each child identify and develop the unique gifts she or he will bring to the world. Montessori classrooms, writes Hughes, support this really well. Each Montessori classroom provides a “culture, a method, and an astonishing set of materials that ... guides children through activity-based learning, through experimental interactions with the environment, that help them discover the way the world works.” Hughes notes further, “As a pediatric neuropsychologist, I can barely contain

my enthusiasm for this work—I continue to be floored by [Montessori’s] genius. She anticipated so much that neuro-science now understands.”

Guiding children to formulate their sense of purpose, and fully utilize their unique potentials, is essen-



tial, according to Hughes, “for the maturation of a child into adolescence, and for the adolescent to become an adult.” As this occurs, “children develop the skills of leadership and followership. Only with a purpose in mind will [a child] identify problems or resources that may affect global detainment, learn to mobilize emotions in the service of goal attainment, and be willing to try different strategies that may help them accomplish their goal.”

When children have personal purpose, concludes Hughes, they develop the kinds of life skills now required in the 21st century. This occurs because “they are working on a mission that is purposefully meaningful to them. Indeed, to demonstrate leadership, one must know what one wants to lead others towards.”

An education that prepares today’s children for adult life in the 21st century requires maximizing brain development through active, hands-on experiences that include decision making. When this occurs, children discover and utilize their unique capabilities and strengths. Montessori education, by design, supports all of this. 100+ years later, Montessori education still has much to offer.



The “45 Layout” - Constructing place value with mathematical materials in Children’s House.

The math activity shown above is called the “45 Layout.” To begin, the child places numeral cards in order from 1 to 10. Tens cards (10, 20, 30 ...) are placed in order from 10 to 90. Hundreds cards (100, 200, 300 ...) are placed from 100 to 900, and then thousand cards (1000, 2000, 3000 ...) are placed from 1000 to 9000. The child next counts the correct number of objects for the each card: golden beads for the unit cards; bars of ten for the tens cards; squares of a hundred for the hundred cards; and cubes of one thousand for the thousand cards. When complete, the 45 Layout provides a “huge” impression of the base-ten or decimal system, 1 to 9,999.

