Virtual vs. Reality

Montessori education & today's technology

Maria Montessori was always on the cutting edge, interested in how the world evolved and changed. She was an unprecedented visionary who said in 1948, "...for the progress of the world is continually opening new careers and at the same time closing or revolutionizing the traditional types of employment." When Montessori wrote this, most of humanity still lived by subsistence farming. There had not been an information technology revolution. She also stated:

My vision of the future is no longer of people taking exams and proceeding on that certification from the secondary school to the university, but of individuals passing from one stage of independence to a higher, by means of their own activity, through their own effort of will, which constitutes the inner evolution of the individual.

Just as the introduction of the Montessori method revolutionized the way that the world looked at how children learn, Apple's iPad appears to be revolutionizing the way that the world looks at computing and technology.

Today's children have the world at their fingertips. Current technology allows instant access to a seemingly endless stream of media in countless forms. The integration of technology into the classroom provides innumerable opportunities for the teacher to supplement a child's educational experience. That being said, technology also has the potential to stunt a child's educational growth and counteract much of the progress that is crucial to successful development.

Montessorians are uniquely positioned to understand the proper interplay of technology with learning since the actual learning process is so carefully and explicitly mapped out in the Montessori method. Montessorians can take the lead in helping the world understand children's minds, bodies and the necessary interplay and development that needs to take place for optimal development.

As the computer revolution continues to shape much of the current educational curriculum, and anxious parents, fearing that their children will "fall behind," demand computers at all education levels, the child is thrust into the adult environment, sometimes as early as 18 months. This need to "jump start" children's cognitive development by hooking them up to computers at such an early age becomes detrimental to the child's development. Computer use in the early years disconnects the child from vital emotional and linguistic interactions with primary caregivers and interferes with the child's human tendency to explore the natural world.

Popular "hands-on" technology, such as touch screen computers, iPads, iPods and iPhones, do not seamlessly lend themselves to Montessori education. While their implications as art and research tools hold enormous promise, these gadgets remain two-dimensional objects—objects that remain virtual instead of actual, and visual rather than tactile in a three dimensional manner. This technology provides merely a representation of the reality that Montessori education is based on—a truly hands-on learning approach with concrete materials that can be manipulated and explored on all sensory levels. Optimal neurological development emerges from this exploration, development and refinement of the senses and indirectly, the child's intelligence.

In his article, "Jumpstart Baby," John Long reiterates the fact that this new technology can act as a divider between the child and their environment and that things like the iPad or iPhone are far from truly being "hands-on":

Although you touch the keyboard or the mouse, if you are creating a cube or moving a block around on the computer screen, are

Virtual vs. Reality

you touching the cube? Do you have a sensorial impression in your hand and arm of the block? Of smooth, flat surfaces? Of straight, sharp edges? Of corners? Of breadth as experienced in hand span? Of weight as recorded in muscular memory? How many dimensions does a computer cube possess?

Today, there is no shortage of Universal App entrepreneurs, who profess to act out of a desire to propagate Montessori in the larger mainstream but also intend to reap enormous profits from vulnerable parents. Several of these companies are creating educational apps for Montessori stalwarts such as sandpaper letters, number rods and other materials. They claim to recreate a "touch" sensation as the control of error for the child. A vibrating sensation, or visual or auditory cues are used to direct the child's hand in these screen exercises. Red rods are ordered with sound cues emanating as the control of error. Sandpaper letters are directed by an auditory scraping sound of sandpaper, or on one device, a vibrating sensation created by the proper drag track. Lightness or sensitivity of touch is not at all involved. Correct touch is subject to the informed state of an adult who may or may not be supervising the introduction of the child to the exercise.

Maria Montessori wrote extensively about tactile sense, and in describing the connection between the tactile sensation and muscle memory with the sandpaper letters in her book <u>Discovery of the Child</u>, said:

With the very small child, it is not the visible image which leads him to trace the shape with such great interest. It is the feeling of touch which induces his hand to perform this movement, which will then be fixed in his muscular memory. We notice then that the muscular memory is most tenacious in the small child and at the same time the readiest. Sometimes he does not recognize the letter when he looks at it, but does so when he touches it.

She goes on to explain the fixation of the graphic symbol with the specific language sound by virtue of the "visual sensation, the tactile and the muscular."

Montessori education is far from technophobic, and the use of technology has great potential when used to supplement a child's development. Montessori herself would appreciate the deep, intuitive connection the iPad fosters between the content and the user, taking working with knowledge to another level. Far from fleeing from the world of technology, graduates of Montessori programs have actually been pioneers on the inside, taking the world of computing a step further by creating new paradigms (Google, Sim City, Amazon) and changing the behavior and ways of thinking of whole segments of our economy. Able to do so because of the extensive preparation their Montessori education afforded these individuals to be able to grow with and explore their world through technology. However, this new technology bypasses many of the developmental needs of the child and, at times, speeds them up. If we ignore the importance of a child's developmental stages and scientifically proven education methods, in effect we ignore the child's potential for educational and personal growth.

It would be safe to say that Maria Montessori would view the iPad as a tool for tomorrow's mind. She has said, "Give the world to the young child," and this new technology has the potential to do this. The iPad could provide a useful learning tool to supplement Montessori education, but at the same time, is no substitute for the immeasurable amounts of knowledge gained from real-life encounters and hands-on, three-dimensional learning experiences. Overall, especially in the early stages of childhood development, we firmly stand behind Maria Montessori's timeless statement, "Never give more to the mind than you give to the hand."