

Turtle Talk

February 2021

RESEARCH ON MONTESSORI STANDS THE TEST OF TIME

February & March Dates to Remember

Mon., Feb. 15th
President's Day
SCHOOL CLOSED

The research still stands. The Montessori method of education was developed 100 years ago, but it remains at the forefront of cutting-edge best practices in education.

Fri., Mar. 5th
TRM Cultural Peace Festival
TBD

Skills that Maria Montessori tried to develop and nurture in her young students are the skills that Fortune 500 companies indicate are the most important skills in people they hire today. Traditional educational environments are not developing students with these skills. Montessori schools are.

Mar. (TBD)
TRM Carnival

Ask questions, think for yourself, explore, investigate, and discover. The Montessori objective is to help students learn independently and retain the curiosity, creativity, and intelligence with which they were born. Professor Jeff Dyer of Brigham Young University, in the Harvard Business Review article, *How Do Innovators Think*, states that inquisitiveness and curiosity, are the common denominators among great global leaders and the most innovative entrepreneurs.

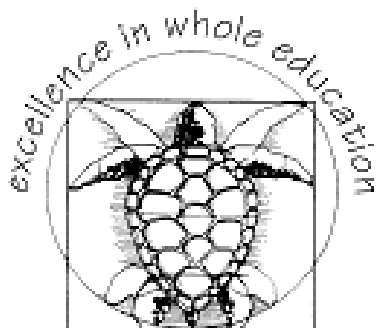
HOW CAN WE STOKE STUDENTS' CURIOSITY? BY PROVIDING CHOICE

Mon., Mar. 15th - Fri., Mar. 19
Spring Holiday
SCHOOL CLOSED

As adults, we all know how we feel about things we "have to do" versus things we "want to do." When we work on things that interest us, we are intrinsically motivated, energized to learn. Conversely, when we have to do things that don't interest us, extrinsic motivation may be required to complete these tasks, and our innate curiosity is diminished.

Mon., Mar. 22nd
Professional Development Day
SCHOOL CLOSED

Traditional schools get students to complete their work through extrinsic motivation, like grades and incentives. Inquisitiveness and curiosity are not encouraged and embraced as they are in a Montessori classroom. Maria Montessori, on the other hand, believed that intrinsic motivation would be the driving factor behind developing inquisitive, lifelong learners. Montessori classrooms are embedded with ways to encourage intrinsic motivation. One of those ways is to provide choice in student learning. Choice is one of the eight pillars of a Montessori education, as stated by Angeline Lillard in Montessori: The Science behind the Genius.



"The bottom line is, if you're not the one who's controlling your learning, you're not going to learn as well," says lead researcher Joel Voss, a neuroscientist at Northwestern University. In Sugata Mitra's famed Ted Talk, "Can Kids Teach Themselves?", he discusses what he learned when he put a computer in a hole in a Delhi, India wall. He found that uneducated children become self-directed and can teach themselves all kinds of things.

SELF-DIRECTION IS THE KEY TO SUCCESS

Some small-scale, real-world studies have been conducted to understand the impact of self-direction on learning and engagement, including a study conducted by Mitra. In Mitra's small study, 8 and 9 year-old children were given questions from 10th and 11th grade physics and biology papers. They were told to use their computers to come up with answers. They could work together, but no teacher was involved. After using their computers for 45 minutes, they were given tests to see how much they learned on their own. Their average test scores on three sets of questions were 25%, 26% and 13%. Three months later the same children were tested again, without any prior knowledge of another test. The school did NOTHING to further their knowledge or teach them anything about physics and biology in the interim. The scores rose to 57%, 80% and 16% respectively. This suggests that the children continued researching the questions on their own time.

At José Urbina López Primary School, a very underprivileged school in Mexico, an enterprising teacher, Juarez Correa, realized that both he and his students were incredibly bored and disengaged from the government-mandated curriculum. Test scores were very poor- it was a waste of time for everyone. He stumbled across Mitra's work and began experimenting. So at the start of 2011 school year, he rearranged the desks and asked the students when they arrived, "So, what do you want to learn?" By providing choice and freedom to explore, discover and find answers, Correa noticed a huge shift in his students- they were becoming super-engaged, curious and excited about learning. Not even Correa could have predicted what was about to happen when his students took their standardized exams in 2012.

To everyone's shock, language scores were very high, even the class' lowest score was well above the national average. Their math scores were another story. 63 percent fell into the Excellent category on the math test, which had never happened before at that school. Juarez Correa's class, in fact, posted the highest math score in the entire country and one of his students received the highest individual math score in Mexico. The other students weren't far behind. Ten students scored in the 99.99th percentile for math. Juarez Correa credits student-directed teaching methods for his classroom's success. When students are given the freedom to take ownership of

their learning, their interest expands and their understanding increases.

Time and again, TRM teachers will confirm that they see the benefits of self-directed learning from our students. This skill will serve our children for their entire lifetime. "Intriguing research shows that when students have intrinsic motives for learning — when they engage not for external reward but because they find the activity itself interesting and gratifying — they become more likely to attach meaning to their work, explore new topics, and persist in the face of learning challenges." Usable Knowledge (Harvard Graduate School of Education), *How to Foster Authentic Student Motivation and Build a Classroom of Engaged, Tenacious Learners*.

Two separate studies, one from the University of Louisville and MIT's Department of Brain and Cognitive Sciences and another conducted at UC Berkeley, wanted to understand the impact of no instruction on young children's ability to problem-solve. Both studies found that kids given no instruction were much more likely to come up with novel solutions to a problem. "The science is brand-new, but it's not as if people didn't have this intuition before," says coauthor Alison Gopnik, a professor of psychology at UC Berkeley.

Peter Gray, a research professor at Boston College who studies children's natural ways of learning, argues that "human cognitive machinery" is fundamentally incompatible with traditional schools' model of teaching. Gray points out that once we impose curriculum standards upon young children, their innate drive to learn, which is motivated by curiosity and playfulness, gets extinguished. "We're teaching the child that his questions don't matter, that what matters are the questions of the curriculum. That's just not the way natural selection designed us to learn. It designed us to solve problems and figure things out that are part of our real lives."

Research continues to demonstrate that choice leads to inquisitiveness, autonomy and self-direction, and these skills reap countless benefits to students, both in school and through their whole lives.

MONTESSORI MIDDLE SCHOOL- THE PERFECT PREPARATION

Middle School is a precarious time for young people.

The social challenges are enormous and are demonstrated through increasing depression and anxiety found in this age group.

Academic challenges for this age group include: keeping middle school students engaged and preparing them for high school. Their primary focus tends to be toward social engagement, and their academic performance can suffer as a result. The Montessori middle school has been designed to consider this inherent need for social engagement, while developing students who are engaged deeper in their coursework. They become adaptable self-starters who often take on leadership roles. As stated earlier, offering choice leads to self-directed learning and increases their motivation, independence and engagement in a classroom environment. Choice is also one of the strongest factors that motivates middle school students to want to read.

Doug McCann, from the Psychology Department of York University, Toronto, Canada, believes that a Montessori environment which emphasizes independence and personal responsibility, is the exact type of environment that leads to an accomplished student who is independent, self-directed and prepared for high school and college. "Montessori fosters what great leadership demands: thinkers who are diligent and inventive, collaborative and independent. . . . One must be able to see the "big picture" without overlooking the critical details. A Montessori experience strengthens these skills and makes for a stronger student. What I've witnessed in Montessori schools is remarkable. Students are engaged in focused, thoughtful learning. . . . The Montessori Method provides a foundation for dealing with the university environment." (M: The Magazine for Montessori Families, 2006, p. 6)

Public high schools experience hundreds of thousands of kids dropping out each year. Of those who do graduate, almost a third are not prepared for college. "The fundamental basis of the system is fatally flawed," says Linda Darling-Hammond, a professor of education at Stanford and founding director of the National Commission on Teaching and America's Future. In 1970, the top three skills required by Fortune 500 companies were the three Rs: reading, writing, and arithmetic. In our changing, post-pandemic world, the top skills in demand, according to Fast Company, are now self-direction, creative/critical thinking, adaptability and empathy.

These are the exact skills that are nurtured in Montessori classrooms- those that will develop self-directed, curious, engaged leaders of tomorrow.

MIDDLE SCHOOL CLASSROOM (7th-8th Grade)

This month the Poinciana students have been working on the Civil War and Reconstruction Unit. Students have been acquiring the knowledge and wisdom from these difficult years of our history that were full of separation, turmoil, hard decisions and great achievements for our nation. Their unit of study resulted in a culminating poetry project that encompassed all of their research. The students had to write poems from the perspective of three different people of their choice during the time period. Self-motivation and a great deal of independence was required to complete various activities and lessons in this challenging unit of study.

The Middle School students' poems were all read aloud in a poetry anthology and recital that was celebrated on February 4th.





figure from the time period who interests them, and while researching their chosen figure, they have been writing memoirs as practice leading up to the final demonstration of understanding which translates a memoir of their historical figure into a monologue which they will perform.

In their novel studies, the students have all been reading novels that are rooted in the same time period. The students work both independently and collaboratively in groups to research and write. Teachers are available as guides to offer support and structure, however the project requires the self-direction needed to be organized and follow the individual parts to completion. The children learn to take a large project and break it into smaller parts that can easily be managed. They learn the skills of prioritizing and time management as they work through their various parts of the project.

LOWER ELEMENTARY CLASSROOMS (1st-3rd Grade)

The Lower Elementary classrooms have been working on a classic Montessori project in a modern way. Our second unit's big question is "What is Home?" How does that affect who I am? How do I fit in? Is change a positive or negative change?"

To learn more about our home on planet Earth, we have been studying biomes, landforms, climate and weather, soil, plants and animals, natural resources and how fundamental needs of humans are met in various environments. Our presentation of knowledge will be each student creating an imaginary island of their choice. They are given the freedom to use their creativity to design what they wish, so long as the island contains landforms and biomes, plants and animals. Students may include humans who live on their island and tell how their fundamental needs are met. While the island is imaginary, the information presented must be realistic and based on science.

UPPER ELEMENTARY CLASSROOM (4th-6th Grade)

The children in the Upper Elementary program have been immersed in the cultural topic of The Revolutionary War. They are provided the choice and autonomy to choose the specific focus of their research. They were asked to choose a historical