



Feature Article: Montessori,
Maslow, and Self-Actualization



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Math Tracks:

What Pace in Math Is Best for the Middle School Child?

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The Pressure to Push

It's 3:30 p.m. and I am in a team meeting with our middle school faculty, working on curriculum modifications for next year. The spring breeze refreshes the normally stuffy interior room where we sit, gathered around a rectangular table, papers strewn about and laptops open for business. It is April, and our attention is split between issues in the current year and ordering and planning for next year. A student enters our small workroom. "Mrs. Morrison, there's a parent on the phone for you." At 4:10 p.m. I return to find the meeting has ended and my colleagues are packing up for the day. I interrupt their exit to share yet another

story of a parent inquiring which math level her child will be in next year. Despite the fact that we send math placement notifications home in June, this is the fourth call this month, highlighting the anxiety many of our parents place on math. "I now know the topic I'll choose for my action research project for Secondary I training this summer," I announce. "Math tracks in Montessori middle schools and what serves the child best in preparation for high school." My colleagues nod their heads in approval with the slightest of smirks, their eyebrows arched, conveying that knowing look that only a colleague can express.

I am the program director for a Montessori middle school in Princeton, NJ. Having completed Elementary I and II teacher education and having co-founded our middle school program 17 years ago, I am back in the classroom as a student now that Secondary teacher education is offered in our region. To my delight, the work is stimulating, relevant, and thought-provoking. One of our most exciting endeavors has been to complete a research project to provide real data for pressing questions that teacher education students face. This article describes my project.

My Questions

- ▶ What serves middle school students best in preparing them for high school math?
- ▶ Should we be rushing middle school students through algebra so they can complete high school geometry?
- ▶ What do we do about the culture of status that has evolved in regard to fast-track math?
- ▶ How do we help parents relax and trust our assessment of which math track is best for their child?
- ▶ What does the Montessori view have

to contribute on math education of the preadolescent?

Action Research Project & Survey Design

The research project assignment was straightforward and refreshing:

1. Come up with a real problem in your school or program that you want resolved.
2. Design a survey using the easy, free, survey website, SurveyMonkey™ to gather data from the relevant population.
3. Research data that is already available on the topic.
4. Write up the results of your research, share it, and develop an action plan based on the findings.

With my program instructors' help and a SurveyMonkey™ tutorial, I was set to go. I created three surveys rather than one because I wanted to gather evidence from three groups: alumni of our school, math department heads of the high schools our students attend most, and other middle school program heads (Montessori, private, and public). I researched the history of math education in the United States, current middle school math standards, and studies that had been done in the area of middle school math education. I gathered email addresses for the populations I needed to interview. I hit "send invitation" on my SurveyMonkey™ site and waited. A summary of what I learned and the results of my study follow.

Background: Our Math Program

Although secondary teacher education is more available and middle school educators within Montessori schools are taking advantage of that, there are many differences among

schools with regard to curricula, schedules, and interpretations of what constitutes a "Montessori" program at the third plane of development. Add to that the fact that many of our schools are competing with private preparatory schools and have an increasingly demanding and academically focused parent population, and many middle school Montessori educators find themselves in need of more direction on specifics within their programs.

In the early years of our middle school program, math classes began as an extension of our elementary model, with students working individually to complete their studies, with small groups or individual lessons from a teacher. Most of our graduates moved on to take geometry in high school. Over the years, with the continued presence of some mathematically gifted students, we began to track our middle school students into separate groupings for seventh and eighth grade rather than meeting their needs within one math setting. Some would go on to take algebra over 2 years while others proceeded twice as fast through the algebra curriculum so that they could complete a high school-equivalent geometry class in their eighth grade year.

It did not take very long for some students and their parents to covet the perceived "gifted" spots in accelerated mathematics. Some parents were led by a misguided perception that such a path would improve students' chances of being accepted into the private high school of their choice, while others just wanted to know their child was challenged, not bored, in mathematics. Still others had hopes of their child choosing a career in math or science and felt the accelerated path would insure this would happen. Some parents and students were willing to do anything to get into this "gifted" spot, from summer tutoring to extra work during the summer and

