

**42nd NCSM Annual Conference, San Diego, California**  
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***It was an honor to be selected as one of the recipients of the 2010 Iris Carl Grant.***

Attending the NCSM Annual Conference, *Charting a Course to Mathematics Leadership*, was a learning experience that I will not soon forget. I attended a variety of sessions that opened my eyes to new technology, teaching strategies, and research-based best practices that could be implemented in our classrooms. Mike Schmoker, keynote speaker, shocked us with *Brutal Facts*, such as only 7% of low-income students will ever earn a college degree. His presentation discussed administrative team protocols that focused on *what* gets taught. He stressed the importance of ensuring instruction is continuously improving, as measured by common assessments, by reviewing *how well* curriculum is taught. He pointed out how simple yet consistent checks for understanding throughout a lesson can positively impact student achievement. He discussed tangible, measurable “small wins” and how they should be reported and celebrated at meetings. Mike Schmoker was an inspiring speaker; when I returned home I immediately purchased his new book, *RESULTS: The Key to Continuous School Improvement*.

***MIND Research Institute’s, Matthew Peterson, PhD, made an impressive presentation*** that introduced me to MIND Institute. Dr. Peterson did not learn how to read until he was in fifth grade and now is Co-Founder, Senior Institute Scientist, and Chief Technical Officer of the MIND Research Institute. He earned undergraduate degrees in Biology, Electrical Engineering, and Chinese Language and Literature from UC Irvine, and then went on to earn a PhD in Neuroscience from UC Berkeley. I sat in awe of Dr. Peterson as he shared the software he created which teaches mathematics students using MIND’s unique non-language-based approach. Students gain a conceptual understanding of mathematics through visual concepts rather than verbal. One of these programs was developed to help students become fluent in mathematics facts. The software utilizes the generating effect (learning by generating rather than by being told) to move students from acquisition to demonstration, until finally they are at a maintenance stage of mathematics fact fluency. The software develops automaticity with understanding by teaching facts visually and conceptually, practicing through interactive proofs, and receiving informative feedback about speed and accuracy. The program also utilizes the working memory strategy by initially reducing the working memory load during acquisition, then improving working memory through training, training with distracters after acquisition, and finally training certain skills to automaticity. Dr. Peterson is remarkable and the concepts behind his mathematics program can be utilized in any classroom.

***Concepts from Singapore Mathematics have become more widely used in U.S.*** classrooms, yet U.S. teachers are not having the same success as Singapore teachers. A presentation by Andy Clark identified professional development as the key to the success of mathematics instruction in Singapore. It is what teachers know that affects the instruction that children receive. Teachers in Singapore reportedly receive 100 hours of professional development each year.

***There are so many other presentations I attended during the conference,*** but I will comment on just one more. If you haven’t heard of *Number Talks* then you are missing out! Carolyn Felux and Sherry Parrish (both from Math Solutions) presented a new resource and DVD, *Number Talks: Helping Children Build Mental Math and Computation Strategies*. The goals of computation should be accuracy, efficiency, and flexibility. *Number Talks* develop these computation skills through 5- to 15-minute purposefully crafted computation problems that are solved mentally. Students are given time to come up with an answer, all answers are shared and recorded, and then students are asked to defend their answers. There are no papers or pencils used during number talk discussions; all recording is done by the teacher on the board. To successfully implement *Number Talks* in your classroom you must create procedures and

expectations which include selecting a designated location, providing appropriate wait time (holding your finger to your chest when you have a solution), accepting, respecting, and considering all answers, and encouraging student participation. The teacher's role is to facilitate the discussion, to listen to student thinking, and to learn with the students. Purposefully crafted computation problems include using landmark numbers  $99 + 99 = (100 + 100) - 2$ , doubles  $16 + 15 = (15 + 15) + 1$ , compensation  $16 + 38 = 14 + 40$ , grade level emphasis, common student strategies for each operation, scaffolding  $4 \times 25$  to  $6 \times 25$  to get them to be able to solve  $12 \times 25$ , and having students anchor what they are doing to things that they already know such as money. It was a wonderful experience to be able to attend sessions at the 42nd NCSM Annual Conference and bring the information back to my school. The wealth of knowledge I received at this conference is amazing. Thank you to NCSM for affording me the opportunity to grow professionally.