

vol 6 issue 2 spring 2015

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NCSM and NCTM Annual Conferences: Shining the Light on Mathematics

Join us in Boston to renew your enthusiasm for mathematics education at the biggest conferences of the year: NCSM and NCTM. We are proud to have an opportunity to exhibit at the NCTM Annual Conference for the 27th consecutive year!

For six days total, leaders in mathematics education will flood Boston to join their peers and learn about a variety of topics presented by the most influential speakers in mathematics education.

Topics at NCSM and NCTM include:

- ◆ Tools for Mathematics Leaders
- ◆ Advancing Formative Assessment
- ◆ Implementing the Common Core
- ◆ Assessing the Common Core

Take a look inside for more details about our sponsored lunch at NCSM on Monday, April 13th, where Dr. Sonja Goerdt will share her expertise about using manipulatives and teaching the Common Core. ■

ASSM

*MTP Hosted Break
Break on the Cape*
Saturday, April 11th,
2:25 p.m.-2:45 p.m.

NCSM

Booth# 214

*The Four Essential Elements of RTI:
A Supervisor and Teacher's
Perspective*

Tuesday, April 14th,
10:00 a.m.-11:00 a.m.
Room #153B

NCTM

Booth# 1133

*The Four Essential Elements of RTI:
A Middle Schooler's
Perspective*

Friday, April 17th,
8:00 a.m.-9:00 a.m.
Room # 107A

*Formative Assessment and
Hands-On Instruction for RTI
and CCSS Success!*

Friday, April 17th,
9:30 a.m.-10:30 a.m.
Room # 107A



4850 Park Glen Road
Minneapolis, MN 55416
phone 800.852.2435
fax 952.546.7502
www.movingwithmath.com



Moving with Math® Sponsored Lunch at NCSM Using Manipulatives with Classroom Instruction

We are excited to celebrate the 35th anniversary of Math Teachers Press, Inc. by sponsoring the make-your-own lunch on Monday, April 13th, at NCSM!

Join us in the Exhibit Hall from 12:00 p.m. to 1:15 p.m. to hear Mathematics Professor Dr. Sonja Goerdts speak about how supervisors can support teachers in implementing the use of manipulatives to improve student achievement.

Dr. Goerdts will be referencing the NCSM position paper recommendations on integrating manipulatives into instruction effectively across all grade levels. She will also talk about her experiences helping teachers implement the research-based Concrete-Representational-Abstract (CRA) pedagogy to increase student success in mathematics and how it relates to the NCSM position paper about manipulatives.

The CRA approach, which is the foundation of all *Moving with Math* programs, relies heavily on the use of *concrete* manipulatives in the classroom to move students to *representational* drawings, and then to using *abstract* mathematical notation.

Our research-based CRA instruction and easy-to-use assessment tools made *Moving with Math* the RTI leader it is today, pro-

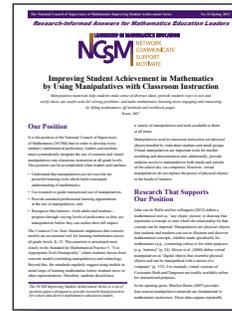
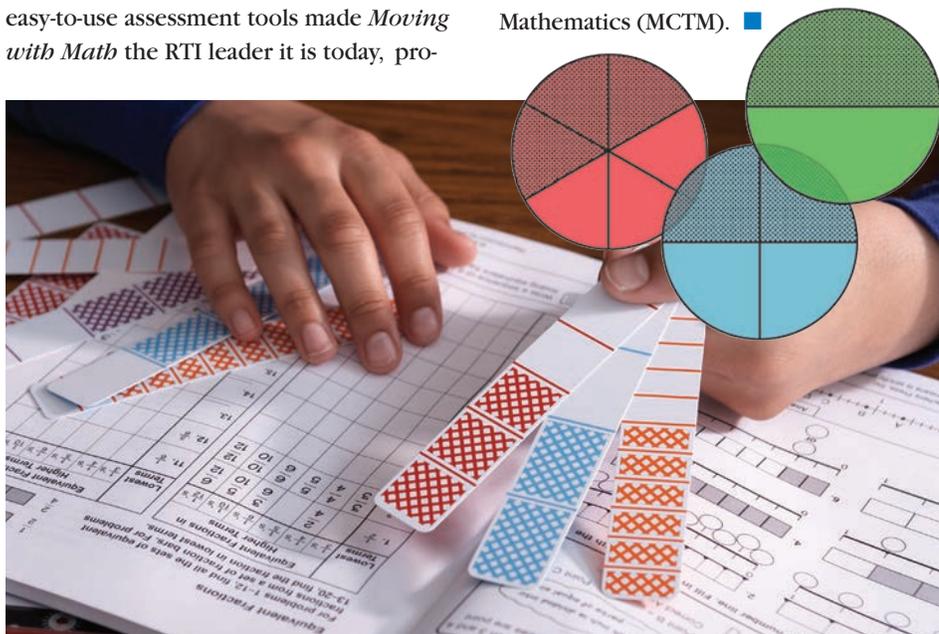
viding programs that meet the needs of students, teachers, and administrators.

We are fortunate to have Dr. Goerdts contribute her experience with the CRA approach to this session. She started her career as a high school math teacher. She then earned her PhD and now teaches mathematics and mathematics education courses at St. Cloud State University (SCSU).

In addition to serving as an educator for more than two decades, Dr. Goerdts was a member of the committee called to Reston, VA, in 2009, to provide a formal response to the draft of the Common Core State Standards for School Mathematics. She was also instrumental in developing the Minnesota MathCorps, a statewide tutoring program focused on utilizing the CRA approach to help struggling learners reach grade level in mathematics.

Her current research interests and practices include using the CRA instructional approach to increase student understanding of mathematics at all levels, including college-level calculus.

Dr. Goerdts also holds the position of Vice President of Mathematics Education for the Minnesota Council of Teachers of Mathematics (MCTM). ■



NCSM Position Paper Highlights No. 11 Spring 2013

The National Council of Supervisors of Mathematics (NCSM) has prepared a set of positional papers to provide research-based practices for schools and districts.

In position paper No. 11, titled *Improving Student Achievement in Mathematics by Using Manipulatives with Classroom Instruction*, NCSM says, “in order to develop every student’s mathematical proficiency, leaders and teachers must systematically integrate the use of concrete and virtual manipulatives into classroom instruction at all grade levels.”

This position can be accomplished when leaders and teachers:

- ◆ Understand that manipulatives are not toys but are powerful learning tools which build conceptual understanding of mathematics;
- ◆ Use research to guide instructional use of manipulatives;
- ◆ Provide sustained professional learning opportunities in the use of manipulatives; and
- ◆ Recognize that learners—both adults and students—progress through varying levels of proficiency as they use manipulatives before they can realize their full impact.¹

Find a list of all of the position papers in this series at <http://www.mathedleadership.org/resources/position.html>

1. The National Council of Supervisors of Mathematics Improving Student Achievement Series, Improving Student Achievement in Mathematics by Using Manipulatives with Classroom Instruction No. 11, Spring 2013.



Spotlight Interview: Sonja Goerdts

The Essence of the Common Core



How have you integrated preparing future educators for CCSS success into your instruction?

As I prepare future teachers, my students and I work to understand the current standards movements in the United States, including CCSS. I help the students engage in efforts to understand the similarities and differences between the NCTM standards and the CCSS standards. I also help them to understand the impact these standards will have on their teaching. Most of the methods courses I teach focus on preparing students to truly embed the CCSS Mathematical Practice Standards into their teaching. My goal is to also help them learn specific strategies for aligning instruction

and assessments with the standards and using the assessments to inform their instruction. I want them to engage in standards-based instruction to best support all students.

What is the “essence” of the Common Core?

The “essence” of the Common Core is to unite the country in addressing the crisis facing our country today—the need for students with greater proficiency in mathematics and science. Yet, in education, we know a single new standards document is not going to magically resolve all of these issues. It is the teachers in the classroom that have the greatest impact on the students and their learning. For that reason, I consider the Mathematical Practices established by CCSS as the essence of the document. In general, these are pedagogical strategies that research suggests best support all students in learning mathematics.

What do you like about the *Moving with Math*® curriculum? What benefit of the program do you value the most?

The primary reason I agreed to engage in a professional relationship with Math Teachers Press is because of the CRA approach that is foundational to all of their *Moving with Math*® curriculum. The Concrete-Representational-Abstract approach focuses on introducing mathematical concepts using *Concrete* materials (manipulatives), then progressing to the *Representational* or pictorial phase, and finally to the more *Abstract* symbolism of the mathematical concepts. Most all of the future teachers I prepare, preschool, elementary, and secondary, will attest to the fact that I work to help them embed this strategy of instruction into all of their lessons. ■



Web-Based Assessment Suite



The *Moving with Math*® **Web-Based Assessment Suite** is an additional option that provides teachers with immediate reports to easily differentiate instruction, monitor progress, and provide accountability to all stakeholders.

How it Works

The *Web-Based Assessment Suite* allows students to easily take assessments at any time, wherever there is a computer and internet access. The program shows only one test question per screen in either multiple choice or open-ended format, based on the district administrator’s decision.

Decision-making reports are available immediately after the student has completed any assessment. These reports help teachers plan instruction for whole class, small group, or individual intervention.

This year, we have added the *Global Assessment Package*—another series of tests for Tier 3 students. Reports from these assessments will include a *Class Average Line*, an *Individual Student Progress Report*, and an *Individual Growth Line*. ■

Web-Based Assessment Suite Reports

PLANNING REPORTS

- Student Progress Report (IEP)
- Percent Correct by Objective
- Students Grouped by Missed Objective

POST-TEST REPORTS

- Change in Mean Score by Student, Class, and School
- Change in Passing Rate by Class, Grade, School, and District
- Increase in Percent of Students Passing by Grade, School, and District



NEW! Individual Growth Lines Per Objective, Student, and Class

ourmission

To help all students succeed in math, especially those who struggle the most, while making the job of the teacher easier.

upcoming exhibits & workshops

April 8–11, 2015: San Diego, CA
(CEC) Council for Exceptional Children
Booth# 1234

April 13–14, 2015: Boston, MA
(NCSM) National Council of Supervisors
of Mathematics Annual Conference

Box Lunch Sponsor: April 13
35th Anniversary of Success
Using the Essential Elements
of RTI—Emphasis on C-R-A

Workshops:
4 Essential Elements of RTI: From a
Supervisor and Teacher’s Perspective

April 15–18, 2015: Boston, MA
(NCTM) National Council of Teachers
of Mathematics Annual Conference
Booth# 1133

Workshops:
4 Essential Elements of RTI From a Middle
Schooler’s Perspective

Workshops:
Moving with Math Exhibitor Workshop

May 1–2, 2015: Duluth, MN
Minnesota Spring Mathematics Conference

May 7–8, 2015: Dearborn, MI
Michigan Association for Bilingual
Education

June 22–23, 2015: New Orleans, LA
National Charter School Conference
Booth# 1136

June 24–26, 2015: Houston, TX
CAMT Conference

Workshops:
4 Essential Elements of RTI for
Algebra TEKS

Workshops:
Even Fractions are Better (and Easier)
with Chocolate!

For a complete list visit:
www.movingwithmath.com

a message to our valued partners on our 35th Anniversary...

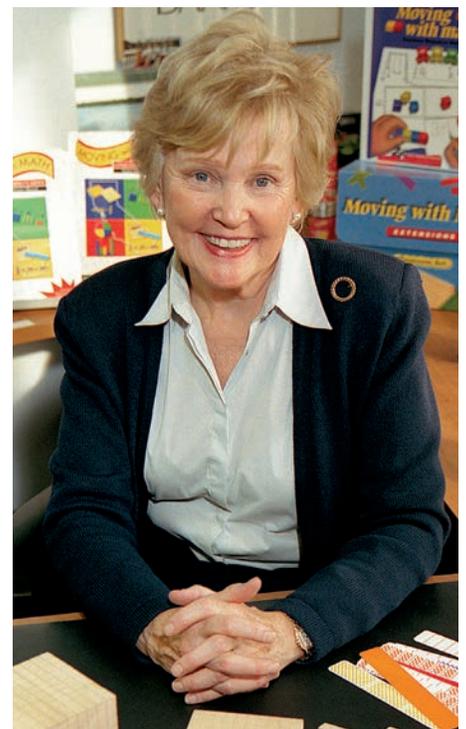
Reflections on our 35th Anniversary

On the occasion of the 35th anniversary of *Moving with Math* from Math Teachers Press, Inc., it is appropriate to acknowledge with appreciation the contributions made by the University of Minnesota, the Minneapolis Public Schools, and you the educators.

The University of Minnesota provided an outstanding math education, and Dr. William M. Bart, Professor of Educational Psychology, gave succinct advice for reaching students at Southwest High School having language barriers. To reach those recent immigrants, who were 13 to 20 years old from five Southeast Asian countries with little or no formal education, he advised, ***“First you must develop a test to find where the students are in their mathematical background, then read Piaget and teach everything using manipulatives.”***

During the next four years, the seeds of *Moving with Math* were developed as manipulatives were used with every lesson from Kindergarten to Pre-Algebra.

Dr. B. Ross Taylor, the math director of the Minneapolis Public Schools and also founder of NCSM, provided further opportunities for understanding the needs of the



struggling student. As a co-author of the Minneapolis Benchmark Tests, we learned to first identify the most discriminating objectives between the upper and lower quartiles and then provide scaffolded activities to provide success with these objectives.

Thanks also to each of you educators who have given *Moving with Math* the opportunity to improve achievement for all, but especially those who struggle the most.

Caryl K. Pierson