



MAKING IT HAPPEN:

SUPPORTING INSTRUCTIONAL CHANGES NEEDED FOR THE COMMON CORE STATE STANDARDS

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Who We Are

**Math Solutions,
founded by Marilyn Burns,
has been
transforming instruction
for over 30 years
by providing
the highest quality
professional learning,
coaching, and
award-winning
resources.**



What keeps you up at night?

With the rigorous demands of new standards and assessments, high expectations for all students are more critical than ever.

How do we help teachers achieve this belief and practice in the classroom?

Session Goal:

Examine an district wide coaching project that used practical steps to assist teachers in building equity by examining instructional decisions and incorporating 'math talk' in their lessons.

Yesterday's Classroom

Link to view video clip:

<http://mathsolutions.com/2014-NCSM-Clips-Making-It-Happen>

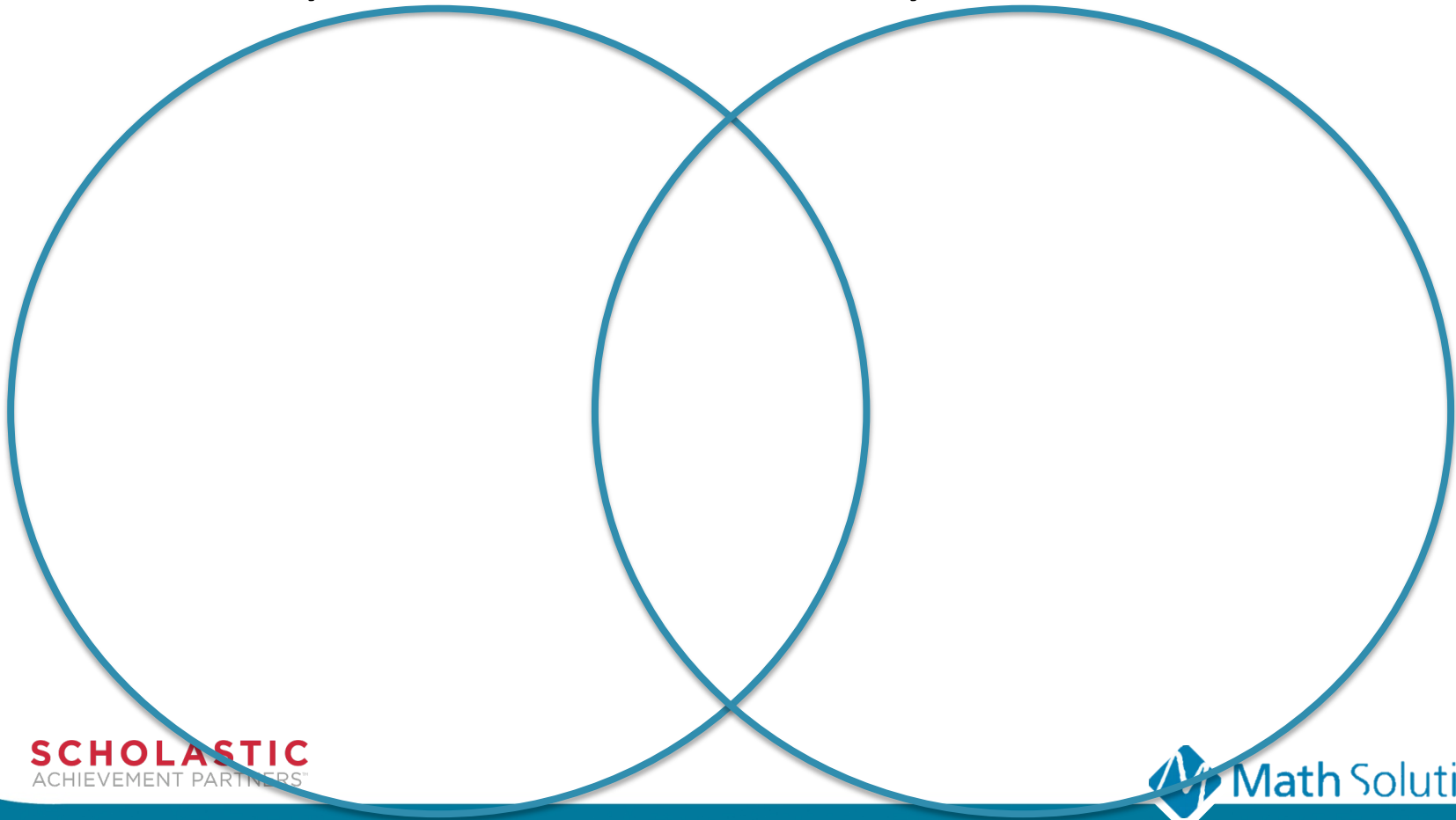
Today's Classroom

Link to view video clip:

<http://mathsolutions.com/2014-NCSM-Clips-Making-It-Happen>

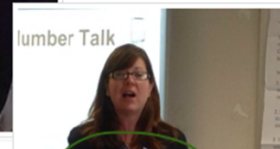
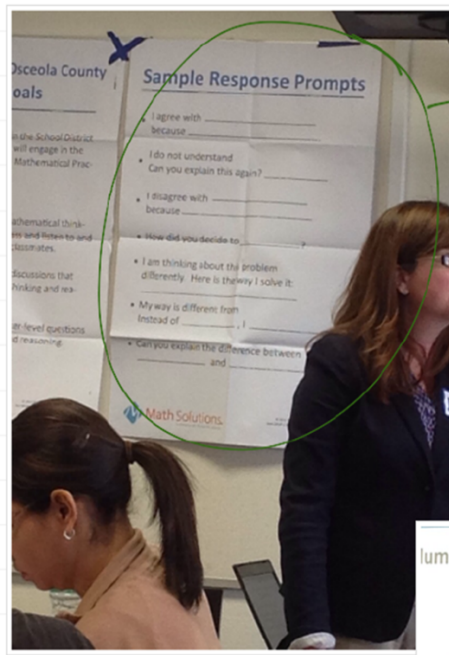
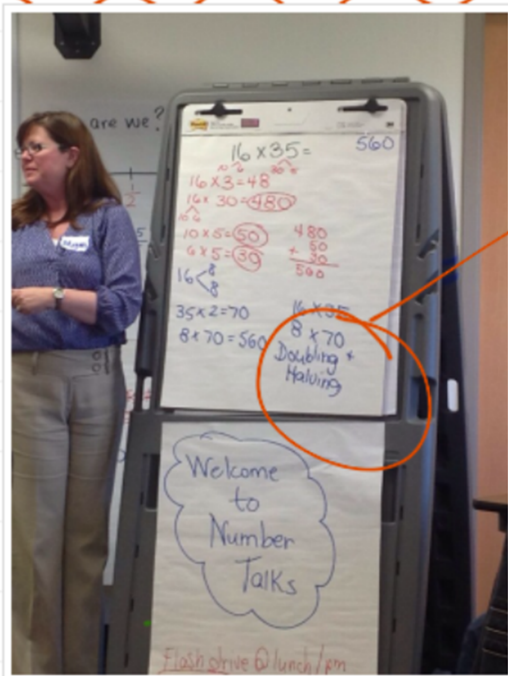
Compare and Contrast 2 videos:

- Yesterday's Classroom: Today's Classroom:



The Shift

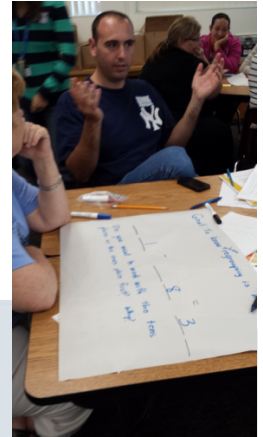
How do we support teachers in making these instructional shifts?



District Goals

- Students will share their mathematical thinking and reasoning in math class and listen to and respect the thinking of their classmates.
- Students will participate in discussions that illustrate their mathematical thinking and reasoning.
- Students will respond to higher-level questions using mathematical thinking and reasoning.

Project Overview



Component 1

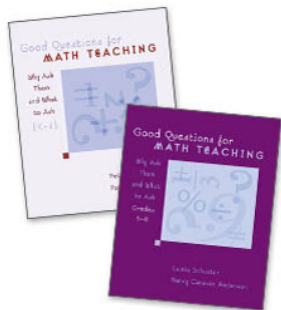
- Needs Assessment
- Online Survey & Walk-Throughs

Component 2

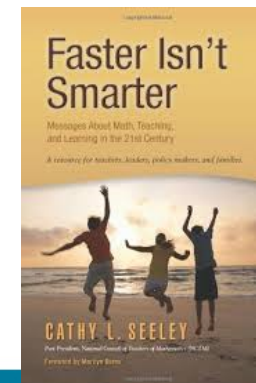
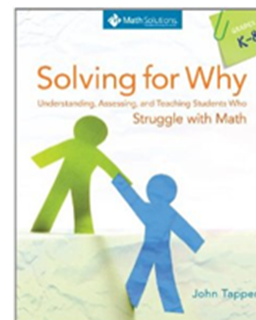
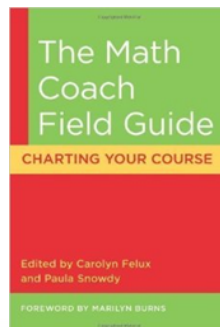
- Leadership Professional Learning
- 2 days for administrators

Component 3

- Foundational Professional Learning
- 3 days for teachers gr. 2-8



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Solutions.

Project Overview

Component 4

- Model lessons



Component 5

- Job-embedded coaching for Math Leader cohort



Who to Support



Gr. 2-5

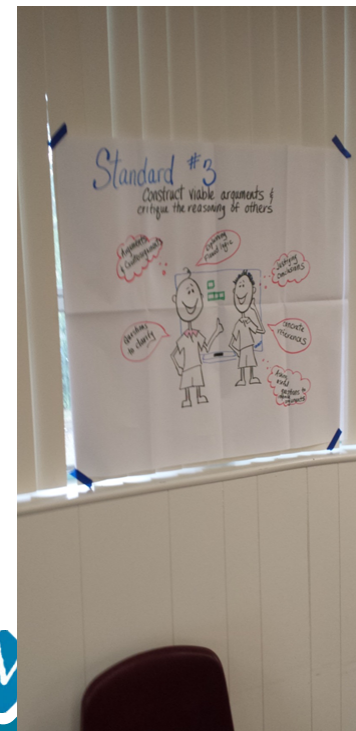
Gr. 6-8



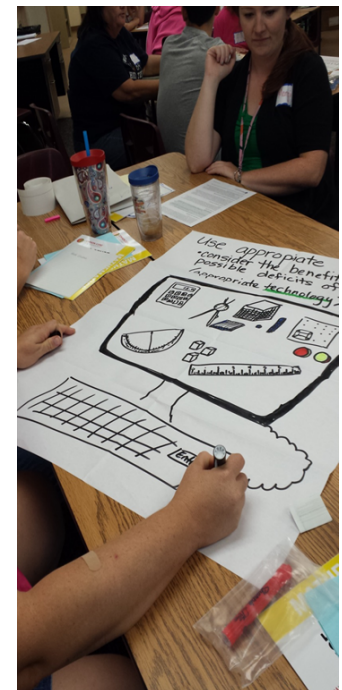
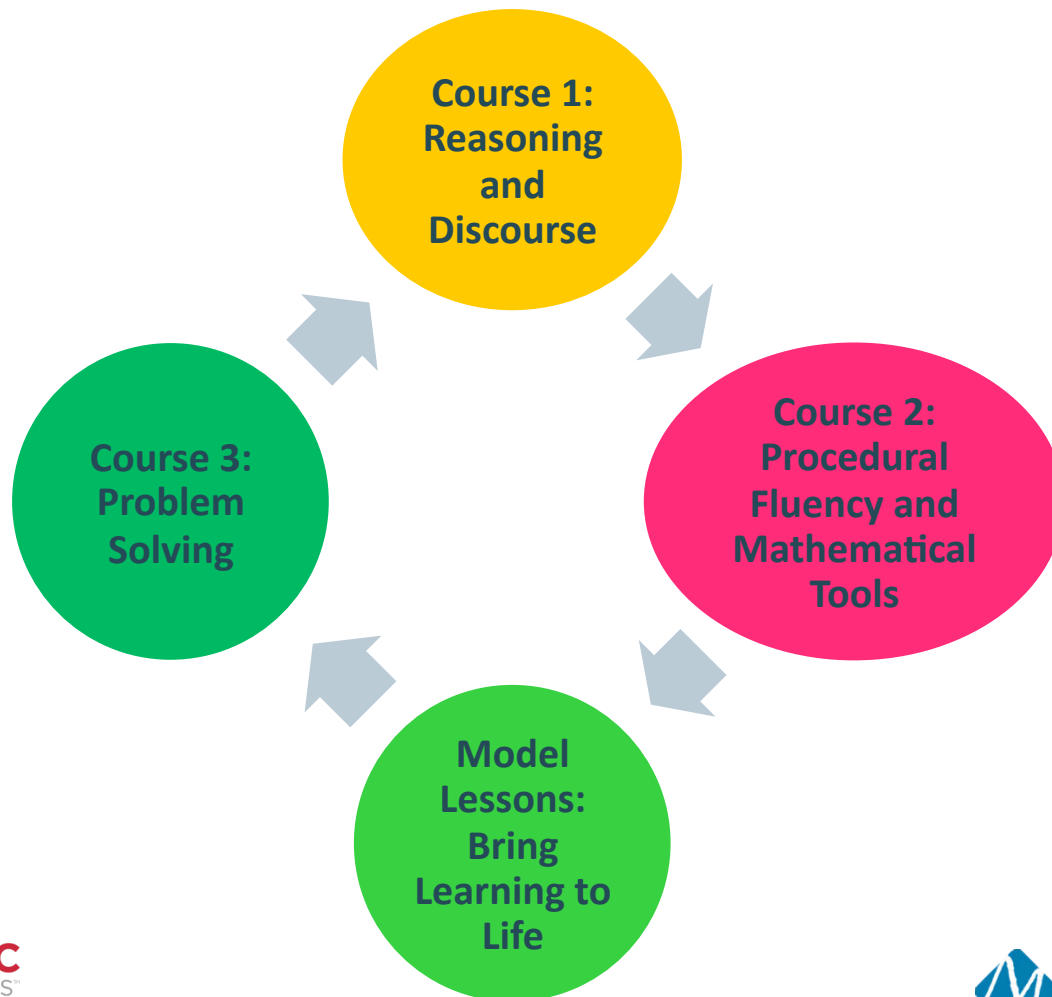
High

Administrators

**Math Coaches
Gr. 2-8**



Our Plan to Support in the *Shift*



Let's experience some of the support we
provided for the educators....





Math Solutions®

FOUNDED BY MARILYN BURNS

LOGICAL REASONING AND CLASSROOM DISCOURSE

“The **brain** is a
muscle.
Giving it a **hard**
workout makes
it **stronger.**”

– Carol Dweck, Ph. D.
Author of *MindSet*

SCHOLASTIC
ACHIEVEMENT PARTNERS™



Positive Influences of Math Discourse

- Talk can reveal understanding and misunderstanding.
- Talk supports robust learning by boosting memory.
- Talk supports deeper reasoning.
- Talk supports language development.
- Talk supports the development of social skills.

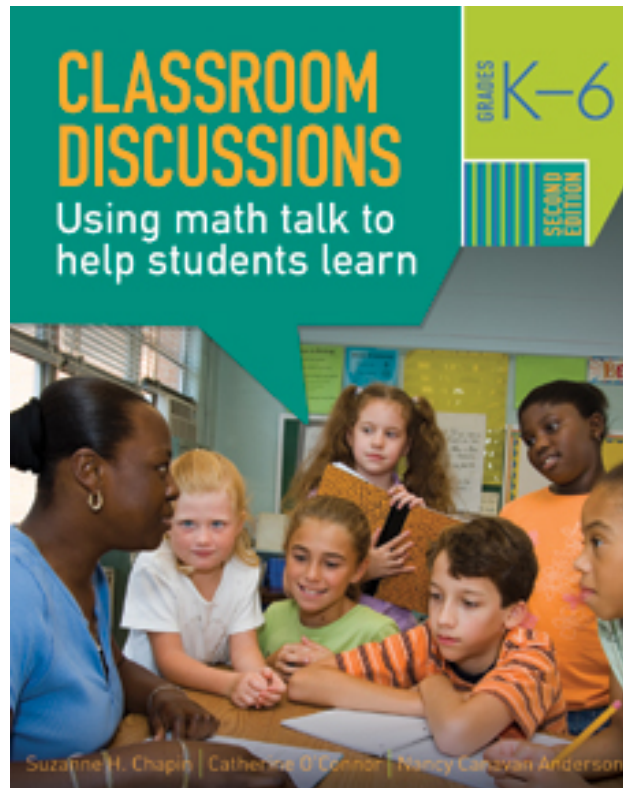
Project Challenge

Scores on TOMA-2	Beginning
Below Average	73%
Average	
Above Average	23%
Superior/ Very Superior	4%

Classroom Discussions: Using Math Talk to Help Students Learn. Math Solutions Publications, 2001.

Talk Moves

- Revoicing
- Repeating
- Reasoning
- Adding on
- Waiting



Talk Moves

- **REVOICING**: *“So you’re saying that ...”*
- **REPEATING**: *“Can you repeat what he/she just said in your own words?”*
- **REASONING**: *“Do you agree or disagree and why?”*
- **ADDING ON**: *“Would someone like to add on?”*
- **USING WAIT TIME**: *“Take your time ... we’ll wait while you think ...”*

Digit Place

Guess

Digits Correct

Places Correct

Processing Digit Place

- What strategies did you develop to play the game?
- What role did communication play in supporting you in the game?
- How did playing with someone enhance your thinking?

Building a Bridge with Talk Formats

- Whole-class discussion
- Small-group discussion
- Partner talk

Classroom Discussions: Using Math Talk to Help Students Learn, 2009

Practices

Express Regularity in
Repeated **Reasoning**

MODEL WITH
Mathematics

Make Sense
of Problems &
Persevere

Use **Appropriate** Tools

Look for &
Make Use of
Structure

Reason Abstractly &
Quantitatively

Attend to
Precision

CONSTRUCT
Viable
Arguments

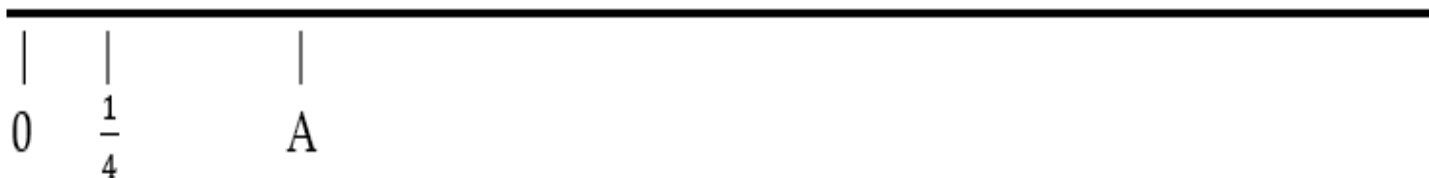
Where do we begin?

Link to view video clip:

<http://mathsolutions.com/2014-NCSM-Clips-Making-It-Happen>

Which is a Better Choice?

Which is a better choice, $\frac{3}{5}$ or $\frac{7}{8}$ for the location A on the number line?



What do you notice?

Link to view video clip:

<http://mathsolutions.com/2014-NCSM-Clips-Making-It-Happen>

What Is Discourse?

Discourse[dis•course] *noun*

the way ideas are exchanged and what the ideas entail

- Who talks? About what? In what ways?
- What do students write? What do they record? Why?
- What questions are important?
- Whose ideas and ways of thinking are valued?

High Quality Math Talk

“Our goal is not to increase the amount of talk in our classrooms, but to increase the amount of high quality talk in our classrooms—the mathematical productive talk.”

—From Classroom Discussions: Using Math Talk to Help Students Learn by Susan Chapin, Catherine O'Connor, and Nancy Canavan Anderson. Math Solutions Publications, 2001.

Progress Monitoring

Needs
Assessment

Course
Evaluations

On-going
district
reporting

On-line
surveys

Walkthroughs

So, how's it going????

COMMENTS What else would you like to tell us? May we use it in marketing materials? Circle ☒ Y / N

Thank you for this day of focusing on teaching mathematics for deeper understanding! It was wonderful to collaborate with other teachers! I am looking forward to the model lessons and parts 2 + 3!

Item No JP-1643

1022 CCSSRD 2-5 MB Kissimmee FL

So, how's it going????

COMMENTS What else would you like to tell us? May we use it in marketing materials? Circle Y / N

Thank you so much for all of the great activities, ideas, and food-for-thought! I feel like everytime I attend math solutions I come away a better teacher!

Item No JP-1643

I 105 CCSSRPF 6-8 BK Kissimmee FL

So, how's it going????

COMMENTS What else would you like to tell us? May we use it in marketing materials? Circle Y/N

I love the practical uses you learn in this class. You feel you could go back to your classroom tomorrow and try it with your own students.

Item No JP-1643

1106 CCSSRPF 6-8 BK Kissimmee FL

So, how's it going????

11. What was the most beneficial part of this model lesson experience for you?

Count	Response
1	Being able to observe all the concepts that she touched upon during the lessons.
1	I observed in action all the instructional strategies learned in Math solutions.
1	It was beneficial to see Megan use the talk moves.
1	Planning together as a group
1	Seeing the math talks and lesson done in person.
1	The model lesson with third graders.
1	The new way to review, teach and preview a lesson all in one
1	Watching Megan perform the lesson in the class.
1	Watching Megan put it in action.
1	Watching it in action. It was helpful to watch it happen with students after planning it start to finish.
1	All too often we go to workshops and trainers give us tools we Can take back to out classroom , but it was helpful to see it in a real classroom setting with kids that we work with everyday.

So, how's it going????

11. What was the most beneficial part of this model lesson experience for you?

Count	Response
1	Students clarifying knowledge and concepts through probing questions
1	While setting up the model lesson together as a group, alternatives were discussed to accommodate different classroom needs. This made it easier for me to see how I could do the same thing for my specific classroom needs.
1	Planning together with others, not just from our school but from our district. Then being to see the lesson being modeled and debriefing. The questioning piece was very beneficial to see in action.
1	Watching an experienced teacher think on their feet with 15 teachers and 22 students watching and evaluating.

12. What are you wondering about after this experience?

Count	Response
1	How I can get my students to take more part in class discussions.
1	When is the next one for Osceola County?! Send Brenda again!
1	How can the paradigm shift be sold to students, parents and community that teachers need to let students think and share their thoughts on academics so we can guide them to truly understand concepts and to remove misconceptions.

Next Steps to Support Shift

K-12 Focus

Content Focus

Continued Support



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