

*What Happens in the Classrooms of
Math Teachers' Circle Participants?*

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NSF Discover Research K12 Grant

- Three year pilot grant to study various aspects of MTCs
 - Impact on Mathematical Knowledge for Teaching
 - National Data Collection
 - Impact on Classroom Practice

Next: Research Question

Motivation and Goals for Study

■ Motivation

- Spread
- Partnerships
- Perceived need for MTCs
- Self-report data
- High-retention rates

■ Goals

- Descriptive case studies
- Areas for future research
- Formative feedback for national program

Next: Classrooms

Research Question(s)

- How does ongoing participation in a MTC impact the classroom teaching of mathematics?
- Describe what happens mathematically in the classrooms of MTC participants.

Data Collection and Analysis

■ Collection

- Nine participants from three MTC sites
- Video in Fall 2012, Spring 2013, Spring 2014
- Semi-structured interviews after video
- Lesson plans for video days

■ Analysis

- Watched by researchers
- Look for “hunches”
- Write up summary of lesson with supporting evidence

Next: Open Discussion

Classrooms of MTC Participants

- Look a lot like other classrooms
 - Range of teaching styles
 - Range of student involvement in reasoning and sense making
 - Range of proficiency with mathematical language
 - Range of questioning skill
- Too little info for any generalizations
- Descriptive case studies of specific teachers

Next: Research Questions

Case Study – Lisa Dixon

- MS and ABD in biology
- University level teaching experience
- Middle school teachers since 2009
- Began participating in MTC in Fall 2010
- Attended all sessions since
 - Multiple summer workshops – at least 5, total of 23 days
 - Academic Year Sessions – at least 20

Next: Open Discussion

Case Study – Lisa Dixon

- Attributes tremendous amount of her professional growth to MTCs
 - Community of support
 - Modeling instructional practices
 - Developing mathematical proficiency
- Sees power in the dual role of learner and teacher

Next: Contact Info

Case Study – Lisa Dixon

- I use the kids words and let the kids do it.
- When I'm walking around, I know it is successful when the students aren't frantically asking for help – instead they are frantic to show off what they have done.
- I'm increasing the rigor – my students engage in mathematical conversations, interact with the math, make sense of it...even parents are calling in noticing a difference.

Next:

Case Study – Lisa Dixon

- **Developing Leader**
 - Department Chair
 - School Instructional Leadership Team
 - School Data Coordinator
 - MTC Leadership Team Member
 - MTC Co-director
 - Math Students' Circle Co-Director

Next:

Summary

- Lots of work in progress
- MTCs have strong impact on some teachers
 - Need more info on what types, why, etc.
- MTC impact on teacher leadership

Next:

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