PROFESSIONAL DEVELOPMENT MATERIALS
SUPPORTING FACILITATORS AT DIFFERENT LEVELS

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& many more colleagues and graduate students...

PROJECT AIM: ALL INCLUDED IN MATHEMATICS
DRL 1020177
Five year DRK12 R&D grant

To develop and investigate a 40-hour, yearlong professional development program

That focuses on promoting mathematics discourse for all students in elementary classrooms, with attention to ELL

By adapting successful discourse strategies from literacy education to mathematics instruction
2010-11:  - Design and pilot professional learning activities
    - Developed draft of PD materials
2011-12:  - Internal pilot of program (1 cohort; 2nd grade teachers)
    - Revised PD materials and added facilitator supports
2012-13:  - External pilot of program (4 cohorts)
    - Revised PD materials & developed facilitator supports
2013-14:  - Scale up with new facilitators (3 cohorts)
    - Adapting second grade materials to first grade
2014-15:  - Scale up to 1st grade (2 cohorts; 1st grade teachers)
Overall question for AIM at this point:

- How to make sure our materials support facilitators with different facilitation experience who are new to the program?

- How to make the Project AIM PD materials available to others for larger dissemination?
Agenda for the feedback session:

- Project Overview
- Share pieces of the Project AIM PD program for participants & facilitator support materials
- Elicit feedback on
  - The type and amount of support provided to facilitators for each PD program goal
  - The ways in which we are organizing and presenting the materials for facilitators
- Discuss potential next steps for development
AIM Learning Outcomes

- **Discourse**: understand what responsive discourse for all is and how it supports conceptual understanding

- **Content**: understand the importance of mathematics knowledge for teaching for supporting responsive discourse

- **Instruction**: understand how certain discourse strategies support the design and implementation of lessons that promote responsive discourse for all
Equip teachers with familiar or readily-learned pedagogical strategies that they can immediately take back and try in their mathematics instruction.

Strategies provide students with structures for learning how to participate in discourse and we use student participation to discuss discourse with teachers.

Emphasize lesson planning and instructional purposes for using the strategies to promote discourse.

Foundation Documents

- Mathematics Discourse Matrix
- Mathematics Teaching Guide
- Questions to Ask Yourself
### Project AIM Session Map

#### Summer Institute
- **Session 1**: Defining Mathematics Discourse
  - Launch, Explore, Discuss: Discourse Strategies
- **Session 2**: Importance of Mathematics Knowledge for Promoting Responsive Discourse
  - Establishing Norms
- **Session 3**: Organizing Mathematics Lessons for Responsive Discourse: The Launch
  - Task Selection
- **Session 4**: Using the Talk Triangle & the Talk Chain to Scaffold Student Engagement in Responsive Discourse
  - Problem Types
- **Session 5**: Engaging in Responsive Discourse About Subtraction for Teachers
  - Instructional Moves

#### Academic Year Sessions
- **Session 6**: Cultivating a Responsive Discourse Community in Your Mathematics Class
- **Session 7**: Selecting Responsive Discourse-promoting Tasks
- **Session 8**: Examining Different Problem Types
- **Session 9**: Using the Better Questions to Promote Student Engagement in Responsive Discourse
- **Session 10**: Asking Probing & Pressing Questions to Push for Mathematical Connections and Sense-making

#### Building Foundational Ideas Around Mathematics Discourse
- **Session 11**: Examining Instructional Moves for Promoting Responsive Discourse
- **Session 12**: Preparing and Planning for Responsive Discourse
- **Session 13**: Revisiting Foundational Ideas and Strategies for Promoting Responsive Discourse in Mathematics

- **Session 14**: Planning
- **Session 15**: Closure
- Build foundational ideas
- Experience discourse strategies
- Engage in mathematics as adults
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- Develop foundational ideas
- Experience more discourse strategies
- Engage in mathematics as adults
- Apply knowledge & strategies to practice
Understand what responsive discourse for all is and how it supports conceptual understanding

- Define discourse
- Analyze classroom discourse
- Engage in responsive discourse as learners
- Reflect on the nature of discourse in their own classroom
Understand the importance of MKT for supporting responsive discourse
- Focus on narrow content slice
- Analyze instruction to identify evidence of MKT in use
- Engage with mathematics for adults
  - Solving mathematics tasks for adults
  - Examining students’ alternative subtraction methods
- Engage with Addition/Subtraction problem types and task selection.
Instructional Goal

- Understand how discourse strategies support lessons that promote responsive discourse for all
  - Engage in discourse strategies
    - Experience as learners
    - See in action
    - Rehearse as teachers
  - Plan, implement, and reflect on use of strategies
    - Questions to Ask Yourself
    - Discourse strategy handouts
    - Debrief at start of session
  - Map strategies to purposes in Mathematics Teaching Guide
FACILITATOR SUPPORT
General Facilitator Resources

- Front materials
  - PD Storyline
  - Facilitation FAQ

- Session plans & slides
  - Overviews, rationales, key ideas, timing, materials
  - General facilitation guidance
  - Learning format icons
  - Guiding questions

- Separate resources
  - Anticipated participants strategies
  - Annotated transcripts
  - Selecting & sequencing charts
Content-Related Facilitator Support

- Front Material
  - Why Subtraction?
  - Problem Types

- Within session supports
  - Main ideas to highlight
  - Guidance to push on the mathematics
  - Anticipated responses
  - Possible modifications

- Separate resources
  - Annotated case narrative
  - Anticipated solutions to a problem
  - Selecting and Sequencing chart
  - Journal articles (Thames & Ball, 2010)
Instruction-Related Facilitator Support

- Front Materials: Commentaries
  - Foundation Documents
  - Discourse Strategies

- Within session supports
  - Main ideas to highlight
  - Facilitator notes

- Within session supports (cont)
  - Guidance to push on purpose and connections to *Mathematics Teaching Guide* and discourse

- Separate resources
  - Strategy handouts
  - Annotated video transcripts
  - Journal articles (Jackson, Shahan, Gibbons, & Cobb, 2012)
1. What do you think about the amount of support and the level of detail of the support for each goal? What to keep? What to change?

2. What additional information or type of facilitator support related to each goal would be helpful to include either upfront or within the plans?

3. What are some different modes in which we could deliver the facilitator support for each goal?
Session plans begin with an overview, the main ideas, and general facilitation notes.

Information about individual activities is provided in a three column format:
- Column 1 provides information about timing of and materials needed for different activities
- Column 2 outlines the activities
- Column 3 provides additional information for the facilitators
Original Format Evolution

- Added in additional facilitator support in the third column
  - Guiding questions
  - Anticipated Responses
  - Additional Implementation Notes
- Made changes to how much information was provided in Column 2
- Created additional Facilitator Support Documents
Original Format Challenges

- Essential information was contained in multiple documents
- Information was repeated in multiple places within Column 3
- Column 2 instructions did not line up with relevant Column 3 notes
New Format: Positives

- Present material as more of a narrative
- Incorporate as much as possible into one document
- Reduce redundancy
  - Group activities into bigger chunks to avoid repetition of main ideas and rationale/purpose
  - Group relevant information for an instruction
New Format: Remaining Challenges

- No quick view of what to do when to use when implementing
- Very scripted
- What constitutes a bullet is not defined
  - a point already on a slide
  - an additional talking point
  - an additional instruction
- Overwhelming amount of written information
Questions for You

1. How can we make the facilitator support materials more user friendly?

2. What works and what doesn’t work about the current format of the materials?
Questions for You

1. Should we continue to use the moodle platform for larger dissemination?

2. What are other ways to have our materials in a more technological and layered way?
Thank you!

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