

# PRACTICE-BASED PROFESSIONAL DEVELOPMENT: DILEMMAS IN BALANCING PEDAGOGIES OF ENACTMENT AND PEDAGOGIES OF INVESTIGATION

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# COMPLEMENTARY APPROACHES TO PROFESSIONAL DEVELOPMENT

- Many common approaches to professional development rely solely on analyzing teaching practice (i.e., pedagogies of investigation) and these support teachers' abilities to notice and name teaching practice
- Growing interest in using pedagogies of enactment (i.e., approximations of teaching practice) that allow for the practicing of teaching, but these approaches also bring challenges
- Major challenge for the field is determining the balance between pedagogies of investigation and pedagogies of enactment in professional development

*Source for pedagogies of investigation and pedagogies of enactment:*  
Grossman, Hammerness, & McDonald (2009)

# SESSION FOCUS

- Examine pedagogies of (1) investigation and (2) enactment in professional development.
- Consider the roles of goals for participants' learning and the skills that participants bring: What is an appropriate balance?
- Focus on two areas of teachers' work to ground the conversation:
  - Leading a discussion.
  - Cultivating students' positive mathematical identities.

# EXAMINING AN EXAMPLE OF USING THE PEDAGOGY OF ENACTMENT



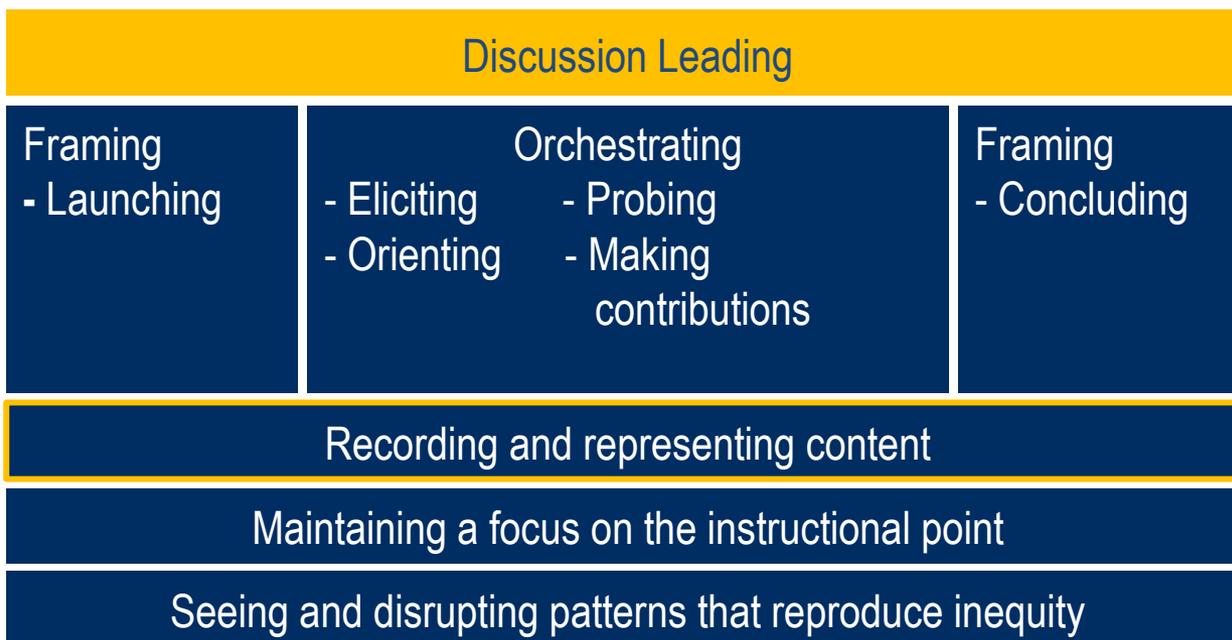
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# THE WORK OF LEADING A DISCUSSION



# AN EXAMPLE: REPRESENTING AND RECORDING STUDENT THINKING IN A DISCUSSION

Teachers:

1. Plan for recording students' thinking in a number talk for the problem 203-99
2. Practice listening to student ideas
3. Engage in "live" recording on a whiteboard or chart paper
4. Discuss a set of recordings

# PLAN FOR RECORDING

- Anticipate three different ways that students might solve 203–99 mentally
- Plan for how each of these approaches might be recorded on the board. Consider:
  - How will you organize the work so that students see the process?
  - How will you organize your board so that students can make sense of the different methods?
  - How will you use visual cues?
  - If someone came into your room at the end of the discussion, what would they understand about the strategies by looking at the recording?



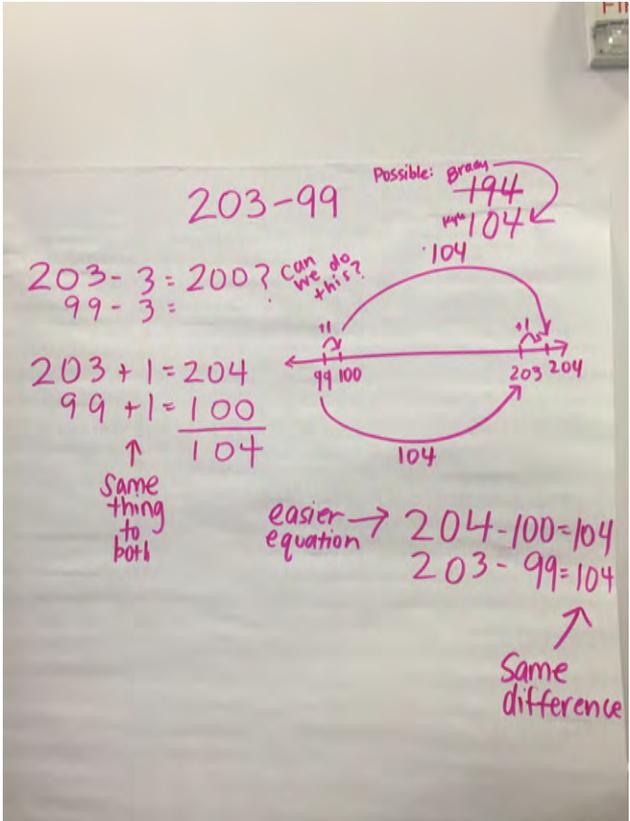
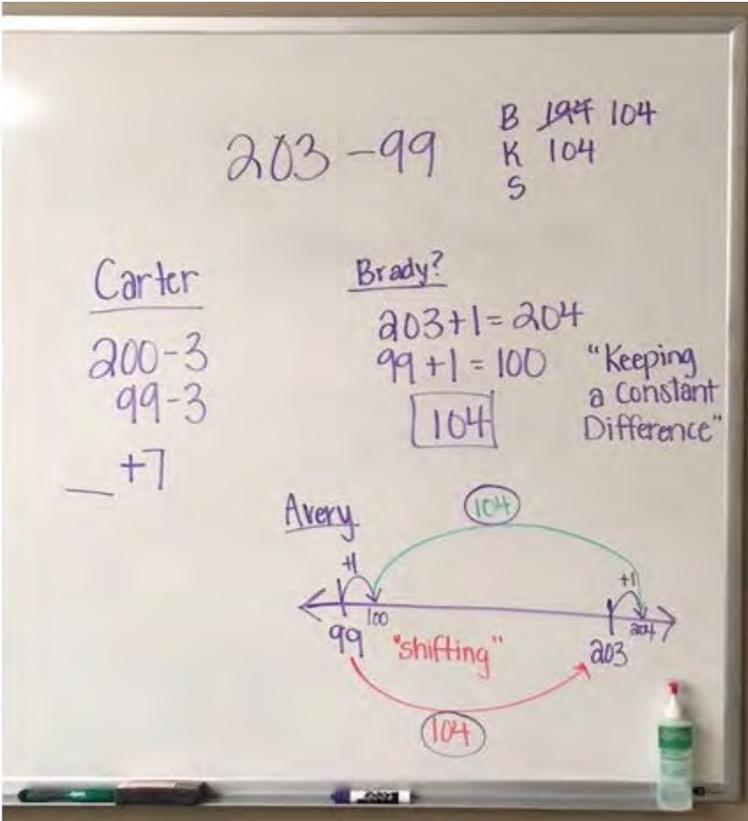
# PRACTICE LISTENING TO STUDENT IDEAS



# ENGAGE IN “LIVE” RECORDING



# EXAMPLES FROM THE RECORDING ACTIVITY



# DISCUSS A SET OF RECORDINGS

- Facilitator selects three recordings that represent a range of recording choices
- Discussion focuses on:
  - the components of each recording and what they show/hide about student thinking
  - the organizational choices and implications for supporting the class in understanding student thinking



# THE COMPLEMENTARY EXAMPLE: COMPARING RECORDS OF STUDENT THINKING

Teachers:

- Consider the purpose of recording student thinking in a mathematics discussion
- Examine two different representations of the same discussion content
- Discuss key considerations for the recording and representing of mathematical ideas

# EXAMINING AN EXAMPLE OF USING THE PEDAGOGY OF INVESTIGATION



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# CULTIVATING POSITIVE MATHEMATICAL IDENTITIES<sup>1</sup>

## Positive Mathematical Identities

- Seeing oneself as mathematically competent
- Viewing mathematical competence as worthwhile and related to things that one cares about
- Connecting being mathematically competent to other aspects of one's identity (being able to be oneself)

## Supporting Their Cultivation

- Developing a broad sense of what it means to be mathematically competent
- Representing multiple diverse images of who is mathematically competent
- Deliberately disrupting racialized and gendered patterns in who is positioned as mathematically competent in class

<sup>1</sup>This slide draws on Charles Wilkes' work on "smartness" in mathematics (2019, 2020).

# ACKNOWLEDGING COMPETENCE

A set of practices that deliberately deploy the power of teaching to:

1. Broaden and label what being competent in a given area means
2. Intervene to position who (and what) is seen as competent in class
3. Support individual children to develop their academic identities and competence

Sources: E. Cohen and R. Lotan, complex instruction; J. Boaler's work; *Smarter Together: Collaboration and Equity in the Elementary Mathematics Classroom* (Featherstone, Crespo, et al., 2011)

# WHAT DOES “ACKNOWLEDGING COMPETENCE” REQUIRE IN TEACHING?

## IN GENERAL

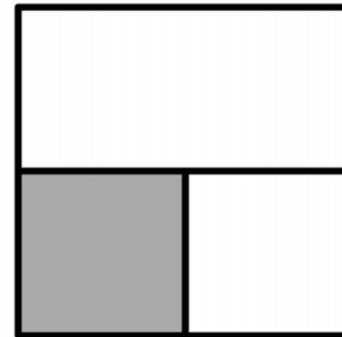
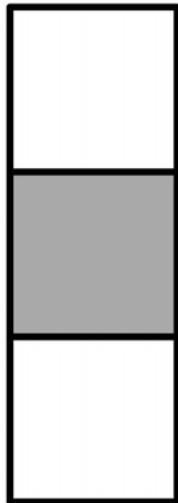
1. Broaden and label what being competent in a given area means
2. Intervene to position who (and what) is seen as competent in class
3. Support individual children to develop their academic identities and competence

## IN MATHEMATICS

1. Be able to see what is “mathematical” and what is “competent”
2. Have techniques for making these moves to intervene in ways that are sensitive to children
3. Strategically using these techniques with particular children in authentic and well-timed ways

This slide draws on work done by the University of Michigan Mathematics Methods Planning Group

# WHAT FRACTION OF THE RECTANGLE IS SHADED GRAY?



Example 3: Investigating practice



# SUPPORTING THE DEVELOPMENT OF POSITIVE MATHEMATICAL IDENTITY

- What might typically happen next?
- How might that affect Antar's sense of mathematical identity?
- What do you see in Antar that might enable you to support the development of a positive mathematical identity?

# REFLECT

How is acknowledging competence  
different from praise?

# EXTENDING THE WORK TO INCLUDE ENACTMENT

- Watch the entire video clip (approx. 5 minutes)
- Have teachers work in small groups to identify competence that they notice in children
- Plan whom to acknowledge competence and what to say
- Practice concluding the discussion by acknowledging competence of two children, including exactly how to say it

# USING TECHNIQUES AND STRATEGIES FOR ACKNOWLEDGING COMPETENCE

*Identify the competence to be highlighted. Consider how to disrupt hierarchies of status in class by which child is to be highlighted as competent.*

- Call out an individual child's competent move or contribution publicly (“\_\_\_ just shared a very important idea”)
- Ask a child to explain another child's contribution that the teacher highlights
- Ask the class to identify things that were part of an important contribution by one of the children
- Write something publicly that a child or children came up with or contributed that is important

# BALANCE BETWEEN PEDAGOGIES OF INVESTIGATION AND ENACTMENT



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# POTENTIAL CHALLENGES IN PROFESSIONAL DEVELOPMENT

## Pedagogies of Investigation

- Can feel unrealistic because they slow down the thinking that teachers must engage in quickly in practice
- Require careful scaffolding to prevent teachers from making overgeneralizations about children

## Pedagogies of Enactment

- Can take extra prompting to get teachers to engage in work they do every day rather than describing what they would do
- Carry great risk of essentializing students when working on issues of equity

# COMPLEMENTARY OPPORTUNITIES FOR TEACHER LEARNING

## Pedagogies of Investigation

- Build analytical habits of mind necessary for skillful teaching
- Allow teachers to consider the impact of multiple pathways of practice
- Provide opportunities to carefully examine and problem solve around injustices in classroom practice

## Pedagogies of Enactment

- Allow teachers to try out new teaching moves
- Intertwine analysis with enactment
- Allow analytical questions or issues to arise at critical moments during instruction

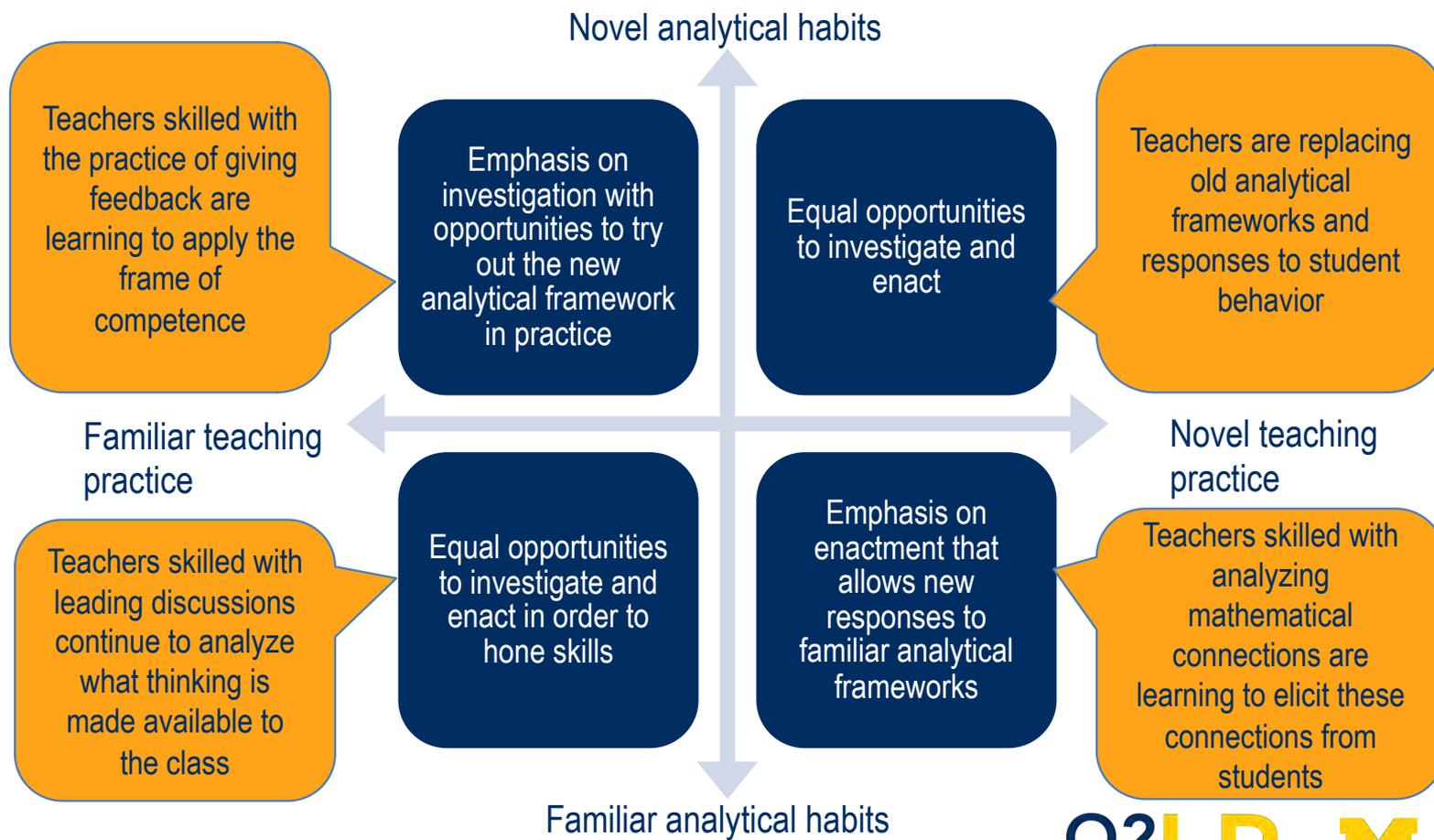
# QUESTIONS FOR ACHIEVING BALANCE IN PROFESSIONAL DEVELOPMENT SERIES

Considering the overarching goal for the series:

- What analytical habits of mind are being supported in relation to that goal? How are these different from or similar to habits that are likely established in their current practice?
- What teaching practices, strategies, or moves are being supported in relation to that goal? How are these different from or similar to their current teaching practice?
- Across the two, analytical habits of mind and teaching practices, which involves the biggest shift?

*Source for analytical habits of mind: ASCD (2008)*

# ACHIEVING BALANCE ACROSS A PROFESSIONAL DEVELOPMENT



# DISCUSSION

- How might these considerations support you in designing learning opportunities for teachers?
- What criteria do you use to determine whether pedagogies of investigation or enactment will best support teacher learning?