

# Facilitating Productive Discussions in Professional Development Settings

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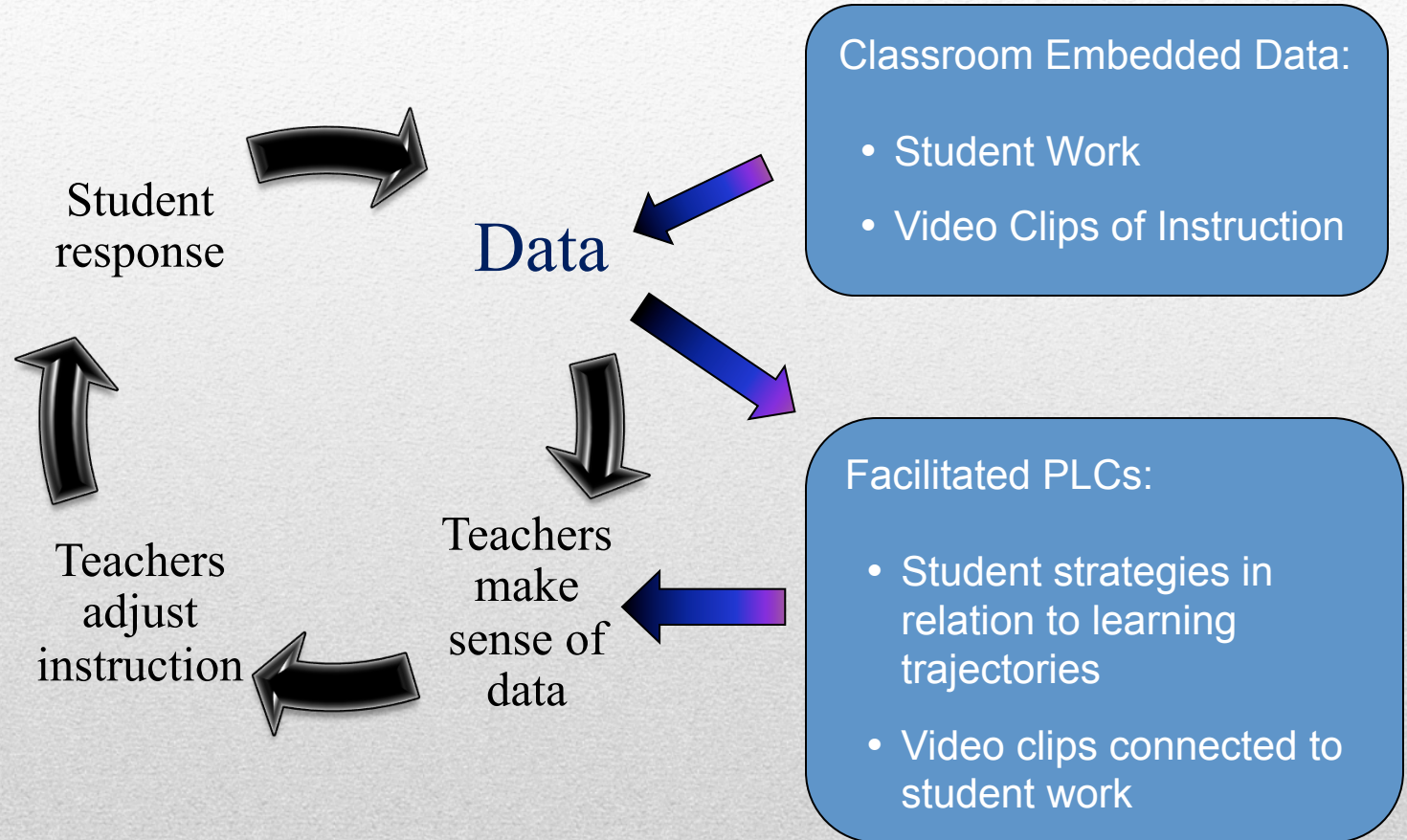
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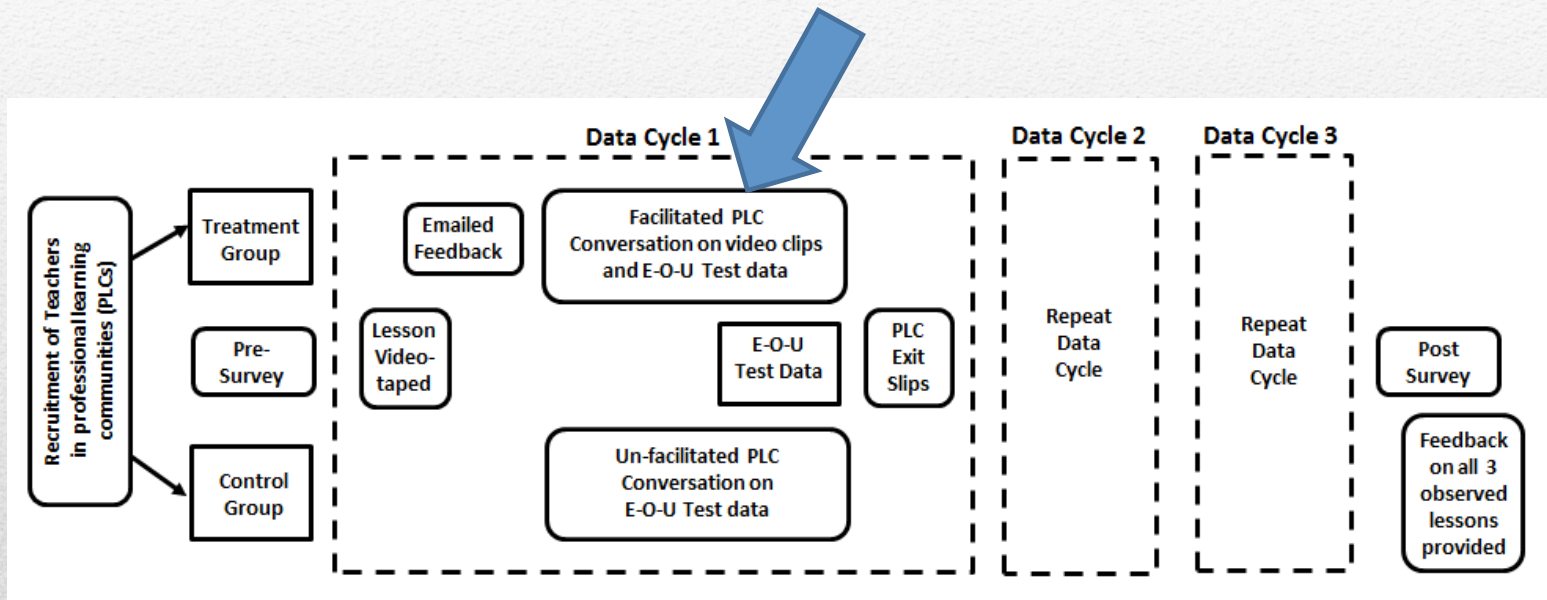
## Need for research on how to facilitate productive discussions with teachers around instructional practices

- Why?
  - Recent math education research shows the importance of integrating student thinking into classroom practice.
  - CCSSM places new demand on teachers to understand how students learn math concepts (Daro, Mosher & Corcoran, 2011).
  - Also new pedagogical skills--orchestrating classroom discussions in mathematics to elicit and build on student thinking (e.g., Ball, 1993; Lampert, 2001; Nelson, 2001; Sleep, 2012; Stein et al., 2008).
  - How?
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# Conceptual Framework



# Intervention



# Research Questions, Sample, and Methods

## Research Questions

- What moves were made by facilitators to shape discussion of student work and video clips around student thinking and instructional practice?
- In what ways did these moves engage teachers in making connections between student thinking and instructional practice?
- What moves are made by facilitators to help to maintain the focus in PLC conversations around student thinking?

## Sample

- Treatment group: 14 PLCs, 35 teachers, 10 schools, Grades 1-5

## Methods

- Field notes and/or transcripts for PLC meetings
  - Audio-recorded interviews with facilitators
  - Brief teacher interviews after the PLCs
  - Teacher interviews at the end of the year
  - Written artifacts from the PLCs
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# Content of the PLC Meetings

Valuable and useful forms of data; items that:

- are of high cognitive demand
- allow teachers to see student thinking
- provide a range of strategies for teachers to analyze
- connect student learning to instruction

*Strategies for 32 - 7 (2<sup>nd</sup> Grade)*

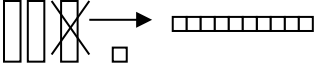
Drawing out 32 and crossing out 7

- Miscounting
- Drawing randomly
- Drawing 32 in groups of ten

Counting back from 32 to 25 on number line or hundred's chart

- Counting back by ones
- Counting by tens

Representing the number in tens and ones and breaking apart ten to take 7 away



Taking 7 from 32

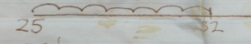
- $32 - 2 = 30$ ,  $30 - 5 = 25$

*Strategies for 32 - 7*

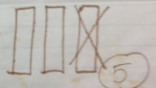
Miscounting  
Drawing 32 randomly

Draws 32 in groups of 10  
and crosses out 7

Counting back from 32 to 25  
on number line



100's chart



Representing number in tens and ones  
and broke apart ten to take away  
5

$32 - 2 = 30$

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$30 - 5 = 25$

# Instructionally Productive Discussions

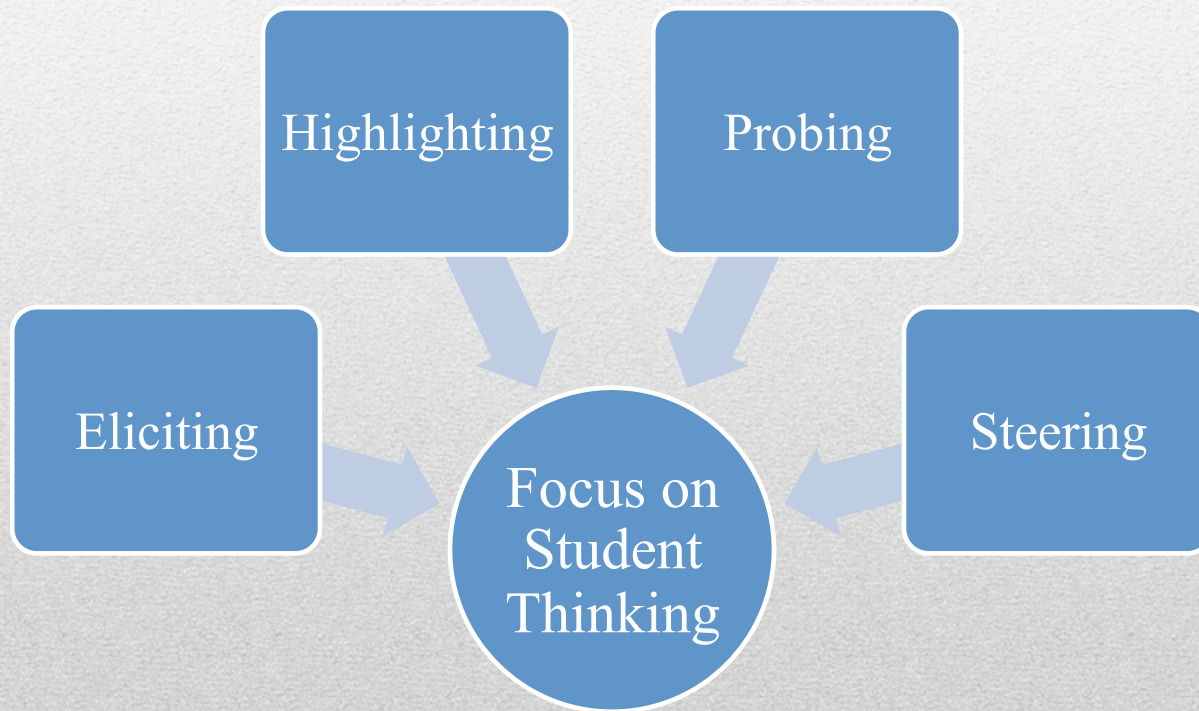
- Focus on student thinking
- Instructional practice centered on student thinking

➤ Framing

➤ Discussion Moves

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# Four Productive Facilitation Moves





## Goals

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- Focusing discussion on student strategy, understanding, or big ideas of assessment item or video clip.
- Eliciting teachers' ideas or reactions to build on.
- Getting a range of student strategies.

## Example

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Solve the problem. Show your work.

2. If 10 pencils fit in a box, how many boxes can you fill with 58 pencils? How many pencils will be left over?

*Facilitator: What different strategies did your students use to solve this problem?*

*Teacher1: They drew all 50 items. When we were doing this unit we let kids get away with any way they could show us.*

# Eliciting

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Eliciting

Highlighting

Probing

Steering

## Goals

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- Emphasizing the big ideas.
- Naming ideas and concepts that teachers are expressing.
- Directing attention to salient features of student work or classroom interaction.
- Validating teacher's contributions.

## Example

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*Teacher1 : I'm telling kids you can't do this anymore. It takes too long.*

*Facilitator: You're thinking about efficiency...*

*Teacher1 : I have kids that were ready for 10s and 1s as a strategy.*

*Facilitator: So there was a group of kids who drew all 58.*

*Teacher1: Then going back and circling. It's not efficient...*

# Highlighting

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Eliciting

Highlighting

Probing

Steering

## Goals

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- Deeper thinking about a particular idea or strategy.
- Focusing in on the big ideas.
- Clarifying ideas and concepts.
- Pushing teachers to support reasoning with evidence.

## Example

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*Teacher 1: Now we need to employ better strategies to get the answer.*

*Facilitator: Why do you think some children are still doing that?*

*Teacher 2: I think it's reassurance for them to draw everything out...*

*Teacher 1: It was exactly a month ago, the assessment. I think we hadn't focused that much on teaching them the more efficient strategies.*

# Probing

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Eliciting

Highlighting

Probing

Steering

## Goals

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- Moving the discussions more directly towards facilitator's goals.
- Bringing the discussion back from a digression.
- Putting ideas into a framework.
- Answering a question posed by the teacher.

## Example

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*Facilitator: There's a conceptual piece that maybe they need to think about 10 objects in a group.*

*Teacher 1: I have a lot of kids who've used the algorithm at home and I'm not a big fan of that. I tell them they can't use it unless they can explain it to me. I do have some kids who can explain why it works. It is a shortcut . . .*

*Facilitator: You're saying you want to make sure they have that conceptual piece*

# Steering

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Eliciting

Highlighting

Probing

Steering

## Goals

---

- Focusing discussion on student strategy, understanding, or big ideas of assessment item.
- Eliciting teachers' ideas or reactions to build on.
- Getting a range of student strategies.

## Example

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*Facilitator: Let's look at some more samples.*

*Teacher 2: This one they grouped 10s.*

# Eliciting

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Eliciting

Highlighting

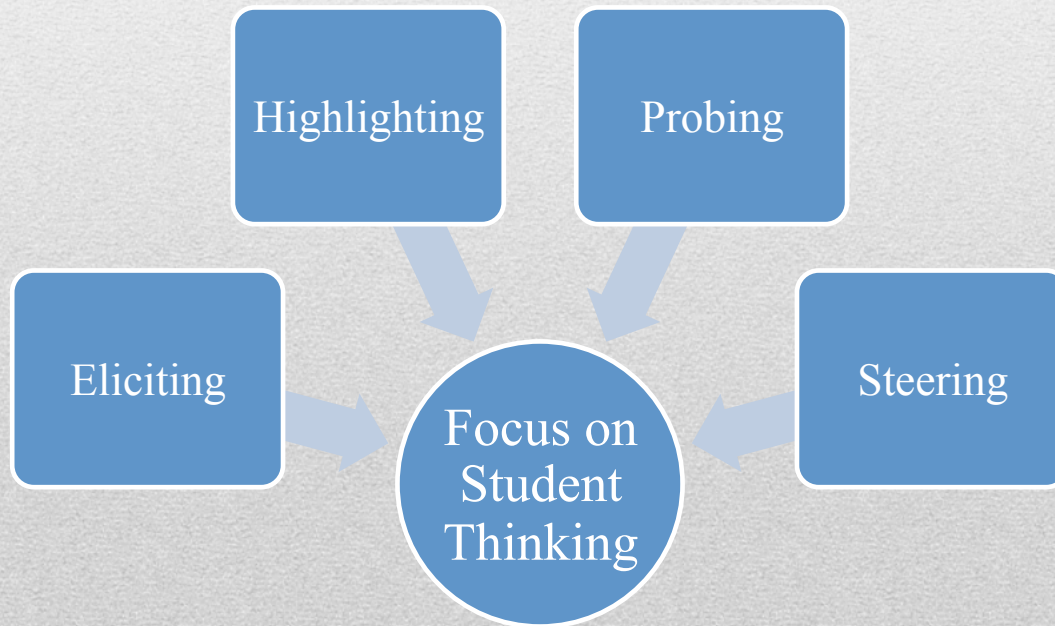
Probing

Steering

# Focusing

Wood (1998) and Herbal-Eisenmann & Bergfolye (2005)

Directing teachers' attention towards a salient idea and then stepping back and letting them respond and make sense of the ideas.

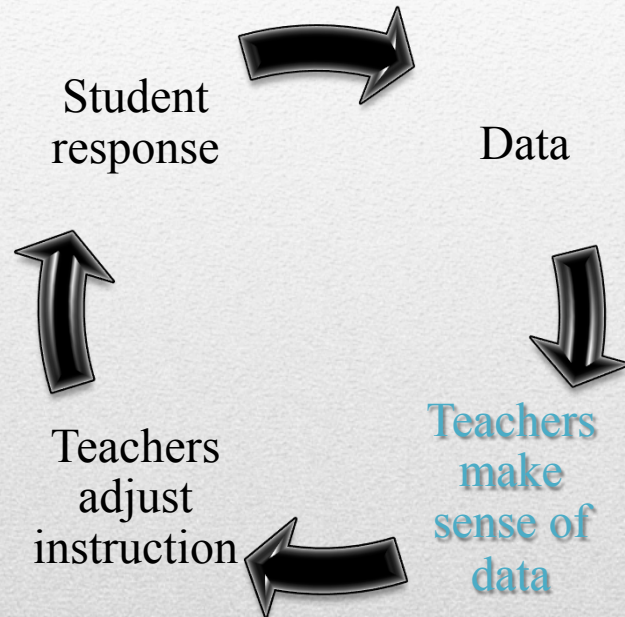


# Challenges

- Norms of the district, school and PLC
  - Expertise/knowledge and skills of facilitator
  - Digressions
    - Standards
    - Assessment
    - Curriculum
  - Scoring
  - Role of facilitator as insider/outsider
  - Focusing vs. Funelling
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# Conclusions

- What:
  - Classroom-embedded data that makes student thinking visible
- How:
  - **Framing** around strategies not performance
  - **Facilitation moves** to sustain focus on student thinking and move it forward







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