



# Building on Discourse Virtual – Session 6

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Rev 5/31/23 (ce)

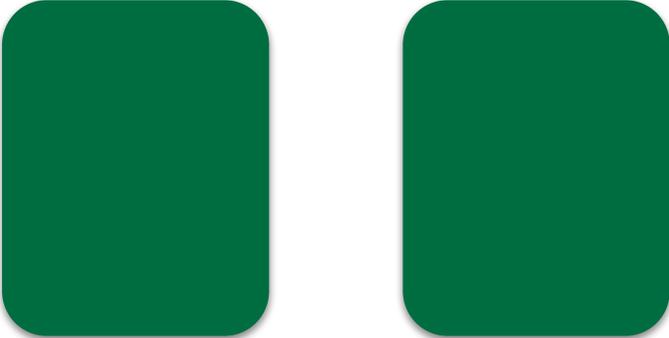
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# Welcome to Building on Discourse!

Session 6: Taking Action to Implement Mathematical Discourse



**Session Facilitators**



*Name*                      *Name*

**Support**



**Regional  
Professional  
Learning  
Coordinator**

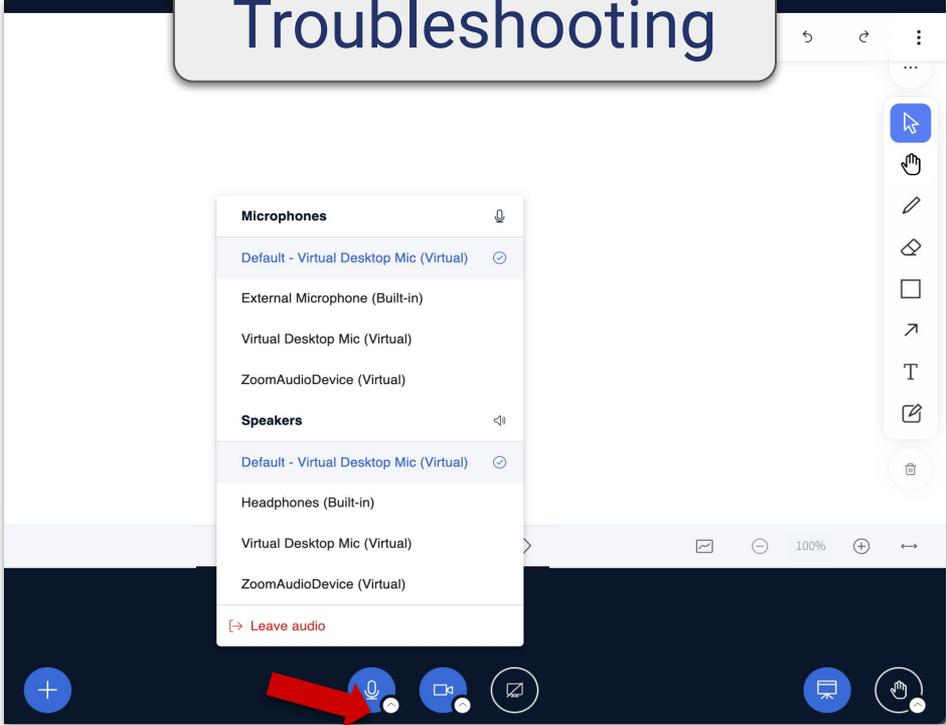
# Tech Tip



## Audio



## Troubleshooting



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# Opening

## Session 6 Outcomes



### Together we will:

- + Experience the Effective Mathematics Teaching Practices through the design of the *5 Practices*.
- + Better understand how facilitating meaningful mathematical discourse develops an equitable, student-centered classroom.
- + Gain strategies to address important elements of implementing mathematical discourse in the classroom.

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# Agenda

## Session 6



### **Focus: Building on Discourse**

- Icebreaker
- Sharing Math Authority
- Round 2
- Closure

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# Welcome

## Equity Principles



- + The goal of teaching is to help all students transition from dependent to independent learners.
- + Relationships are of vital importance.
- + Student uniqueness is an asset, not a deficit.
- + Reflection is a crucial part of growth.

Click on your name and set your status to thumbs up if you are ready to begin.



**CPM uses these principles to guide our vision and mission of More Math for More People.**

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# Agenda

## Session 6



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# Icebreaker

How Many?



## How Many?



**Recorder/Reporter:** Post your team's responses in the Public Chat.

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# Agenda

## Session 6



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# Sharing Math Authority

Focusing Learning

## **Learning Target:**

Construct an understanding of shared math authority and how it contributes to a positive classroom culture.

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# Sharing Math Authority

What?



## Elevator Talk with your Icebreaker Team

**Type your thoughts** about the following question.

*What does it mean to share math authority?*

**Facilitator** & **Recorder/Reporter**

**Task Manager** & **Resource Manager**

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# Sharing Math Authority

What?



*“The extent to which **students have opportunities** to conjecture, **explain, make arguments, and build on one another's ideas**, in ways that contribute to their development of **agency** (the capacity and willingness to engage academically) and **authority** (having command of the content), **resulting in positive identities** as sense-makers, problem solvers, **and creators of ideas.**”*

*(San Francisco Unified School District)*

Crew Analogy:

**The coxswain (teacher)** is the **person in-charge** and the **rowers (students)** provide the **power for movement** in a discussion.

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# Sharing Math Authority

## Team Presentations



## How is the math authority being shared?

**Tip #1:** Avoid judging students responses.

**Tip #2:** Give students time to think.

**Tip #3:** Ask questions in ways that include everyone (*focusing vs funneling*).

**Tip #4:** Ask questions in ways that include everyone (*no hands up rule*).



What are other ways to share math authority in your classroom?  
Post to the Public Chat.

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# Sharing Math Authority

Reflection on Learning Target and Success Criteria

## **Learning Target:**

Construct an understanding of shared math authority and how it contributes to a positive classroom culture.

## **Success Criteria:**

1. Explain shared math authority and how it impacts classroom culture.
2. Name strategies to help share math authority.

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# Sharing Math Authority

## Action Plan



Record some thoughts in your rough draft thinking space.

*How do you currently share math authority with your students?*

*What shifts might you make to share math authority?*

### **Action Plan (Portal):**

In the upper right dropdown menu, click on the **Action Plans**.

Select **Discourse Action Plan**.

Find the box titled **Day 3 Rough Draft Thinking**.

Click in the box to record your thoughts.

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## Session 6



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## Session 6



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# Closure

Focusing Learning

## **Learning Target:**

Synthesize your understanding of implementing meaningful mathematical discourse.

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# Closure

## Testimonials



*“Don’t be afraid to try! ... Everytime I did it, it got easier and more efficient. ...You get more comfortable as you go.”*

- Michelle Musumeci

*“I think whenever you have the framework like The 5 Practices, it really helps give you that lens of what you are trying to get out of your class period. The goal of the time we have together is to foster a productive discussion that advances everybody’s understanding.”*

- Michael Moore

Using the **5 Practices** model **helps teachers** provide each and every **student with access to high-quality mathematics.**

*“The 5 Practices have taken my teaching to a whole other level. I am putting a lot more intentionality into my planning.”*

- Michelle Saroney

*“Even if it feels like a failure the first time, or even if it feels its taking a lot more time than you anticipated, that time is going to be earned back when students have that conceptual understanding.”*

-Jennifer Mossotti

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# Closure

## Summary



*“Simply put, the **5 Practices** can equip teachers in supporting students’ work on **challenging tasks** without lowering the demands of the task. In particular, by **anticipating** what students are likely to do when solving the task (including not being able to get started) and the questions that can be asked to **assess and advance** their understanding, the teacher is in a much better position to provide **scaffolds** that support students’ engagement and learning **without taking over the thinking** for them.”*

(Smith & Stein, 2018)

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# Closure

## Cliff Notes Gallery Walk



## Gallery Walk

**Individually** review the *5 Practices* Cliff Notes.

1. As you review, **make notes** on any wonderings you might have in the speaker notes of each slide.
2. **Offer clarifying** thoughts to any wonderings on a slide.
3. Be sure to **save this copy** of the “*5 Practices* Cliff Notes” for future use.



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# Closure

Reflection on Learning Target and Success Criteria

## Learning Target:

Synthesize your understanding of implementing meaningful mathematical discourse.

## Success Criteria:

1. Create the *5 Practices* Cliff Notes to use when planning a rich task lesson.
2. Connect strategies to promote discourse, and formulate a plan for implementation in your classroom on a daily basis.

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# Closure

## Action Plan



*“She doesn’t talk too much. She lets us try instead.”*

*—Maddie B., 6th Grade Student*



**Revisit** each of the action items to **revise and edit** your connections to the *5 Practices*.

*How do you plan to implement the 5 Practices?*

*What **practices** can you add to your current practice **daily**?*

### Action Plan (Portal):

In the upper right dropdown menu, click on the **Action Plans**.

Select **Discourse Action Plan**.

Click in the box to record your thoughts.

# Closure

## 5 Practices Review

1. Anticipating
2. Monitoring
3. Selecting
4. Sequencing
5. Connecting



### 5 Practices for Orchestrating Productive Math Discussions

Margaret S. Smith & Mary Kay Stein, NCTM & Corwin Press, 2011 [www.nctm.org](http://www.nctm.org)

#### 1. Anticipating

- Do the problem yourself
- What are students likely to produce?
- Which problems will most likely be the most useful in addressing the mathematics?

#### 2. Monitoring

- Listen, observe, identify key strategies
- Keep track of approaches
- Ask questions of students to get them back on track or to think more deeply

#### 3. Selecting

- CRUCIAL STEP – what do you want to highlight?
- Purposefully select those that will advance mathematical ideas

#### 4. Sequencing

- In what order do you want to present the student work samples?
- Do you want the most common? Present misconceptions first?
- How will students share their work? Draw on board? Put under doc cam?

#### 5. Connecting

- Craft questions to make the mathematics visible.
- Compare and contrast 2 or 3 students' work – what are the mathematical relationships?
- What do parts of student's work represent in the original problem? The solution? Work done in the past?

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# Closure

## Outcomes



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# Closure

- + Parking Lot
- + Attendance & Feedback

Either scan the QR code

**OR**

Enter passcode in the Portal

**XXXXXX**

- + Suggested Next Steps:

- Complete the On-Demand Module

