Description of the Session 10: Summarizing and moving forward with video workshop

Session 10 concludes the module with a final opportunity to engage in video workshop, which will support participants in consolidating their insights about video workshop as a process to learn from and improve teaching. In this session, participants will engage in a final video workshop experience in their video workshop groups. Groups will engage in multiple rounds of the video workshop process, during which all group members will have opportunities to share video from their teaching. In the second half of the session, participants will debrief the experience of engaging in video workshop as a means to analyze and improve their own practice, and they will consider how they might continue to engage in video workshop beyond the professional development series.

Activities and goals of the session

Activities	Times	Corresponding parts of the session	Goals
I. Preview	5 minutes	Part 1	• Participants will be oriented to the work of the session.
II. Video workshop	80 minutes	Parts 2 & 3	• Participants will be able to reflect on how the CCSS mathematical practices can be focal when using a task from their own curriculum. • Participants will be able to debrief a specific instance of video workshop with colleagues in ways that could enhance the workshop process. • Participants will view video workshop as a process to learn about and improve their teaching. • Participants will be aware of the tools they have that will help them to continue video workshop with colleagues.
III. Wrap up*	5 minutes	Part 4	• Participants will reflect on the major elements of this professional development module.

Preparing for the session

☐ Make copies as needed:

- *Resources:* Handout: Video workshop agenda (Part 2); Handout: Video quick-start guide (Part 3); Handout: Video workshop sample agenda (Part 3); Handout: Video workshop contribution starters (Part 3)
- *Supplements:* Handout: Video workshop contribution starters (Part 2)

☐ Test technical setups: Internet connection, speakers, projector

☐ Set up spaces for the video workshops

Developing a culture for professional work on mathematics teaching (ongoing work of the facilitator throughout the module)

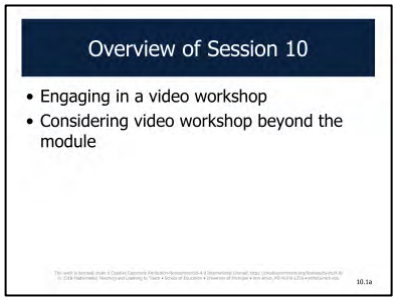
1. Encourage participation: talking in whole-group discussions; rehearsing teaching practices; coming up to the board as appropriate.
2. Develop habits of speaking and listening: speaking so that others can hear; responding to others' ideas, statements, questions, and teaching practices.
3. Develop norms for talking about teaching practice: close and detailed talk about the practice of teaching; supporting claims with specific examples and evidence; curiosity and interest in other people's thinking; serious engagement with problems of mathematics learning and teaching.
4. Develop norms for mathematical work:
    a) Reasoning: explaining in detail; probing reasons, ideas, and justifications; expectation that justification is part of the work; attending to others' ideas with interest and respect.
    b) Representing: building correspondences and making sense of representations, as well as the ways others construct and explain them.
    c) Carefully using mathematical language.
5. Help participants make connections among module content and develop the sense that this module will be useful in helping them improve their mathematics teaching, their knowledge of mathematics, their understanding of student thinking, and their ability to learn from their own teaching.
6. Help participants understand connections between module content and the Common Core State Standards.

*Scope of the module (focal content of this session in **bold**)*

Mathematics	Student thinking	Teaching practice	Learning from practice
• making and justifying/refuting conjectures and generalizations • recognizing and using multiple approaches to solve mathematics problems • understanding features of a "good" mathematical explanation and producing "good" explanations • identifying foundations of mathematical reasoning • using and knowing the mathematical practices identified in the CCSS	• monitoring students' mathematical reasoning • noticing collective elements of mathematical reasoning	• **supporting students' engagement in mathematical practices by teaching them explicitly** • supporting students in explaining their mathematical reasoning • establishing and maintaining an environment that emphasizes reasoning • adapting tasks to nurture mathematical reasoning	• **using norms that support engagement in video workshop** • **understanding the video workshop process** • **learning to analyze teaching and learning in the context of video workshop**

Part 1: Preview (~5 minutes)

Goals	***Instructional sequence***	***Resources***
• Participants will be oriented to the work of the session.	1. Introduce the session and watch Video A.	• Video A (00:23): Session overview

Detailed description of activity	Comments & other resources
1. Introduce the session: This session concludes the module with a final opportunity to engage in video workshop, which will support consolidation of insights into video workshop as a process to learn from and improve teaching and consideration of how to use video workshop beyond this module.  Specifically, participants will: • Engage in a video workshop • Consider the use of video workshop beyond the module Have participants watch the *video* in which Dr. Ball frames the work of the session.	

Part 2: Engaging in Video Workshop #4 (~65 minutes)

Goals

- Participants will be able to reflect on how the CCSS mathematical practices can be focal when using a task from their own curriculum.
- Participants will be able to debrief a specific instance of video workshop with colleagues in ways that could enhance the workshop process.

Instructional sequence

1. Introduce Part 2 and explain the way in which video workshop work will proceed the session.
2. Engage in Video workshop – Round #1.
3. Engage in Video workshop – Round #2.
4. Engage in Video workshop – Round #3.

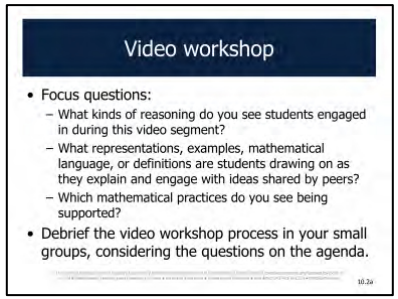
Resources

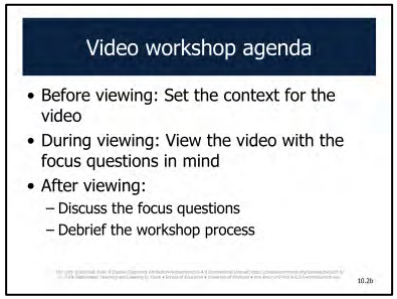
- Handout: Video workshop agenda

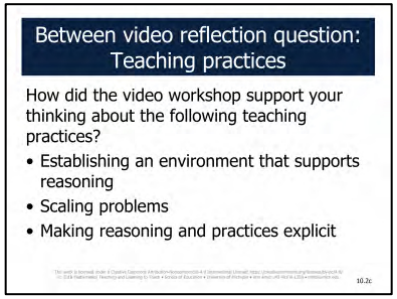
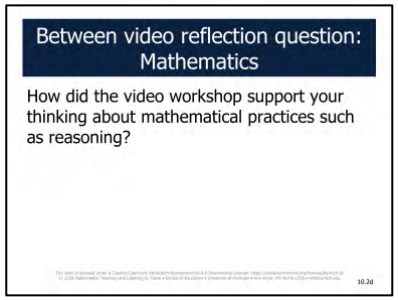
Supplements

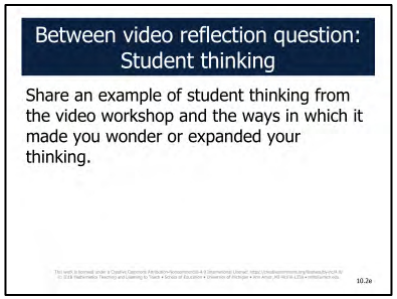
- Handout: Video workshop contribution starters

Detailed description of activity	Comments & other resources
1. Introduce Part 2: This part is a final opportunity to engage in video workshop as a means to learn from and improve one's own teaching. In this module, video workshop has been used to support learning about student thinking, mathematical reasoning, and practices that teachers can use to enhance students' learning. Review the parts of the video workshop and note the following about each: • Setting the context: Consider noting any routines seen in the segment that might be unfamiliar to others in your video workshop group • View video with the focus questions in mind: The focus questions for this video workshop center around noticing the conjectures shared by students, the language, logic, and representations used by students to justify their conjectures and the teaching moves used to support students' engagement in reasoning and/or mathematical practices • Discuss the focus questions: o What kinds of reasoning do you see students engaged in during this video segment? o During this video segment, what representations, examples, mathematical language, or definitions are students drawing on as they explain and engage with ideas shared by peers? o During this video segment, which mathematical practices do you see being supported? What specific teaching moves are used to support individuals' and the class's engagement in reasoning or the mathematical practices?	*It is important to continue to reinforce the idea that the purpose of the video workshop is to look at <u>teaching</u> not the teacher. A focus on teaching rather than the teacher often helps participants feel more comfortable sharing excerpts of their teaching with the small group.* *In line with the work participants did in the previous parts, the focus questions shift in this session to explicitly focus on the conjectures that students share, how they justify their conjectures (logic, language representations) and teacher moves that support students' engagement in reasoning and/or mathematical practices.* *If participants found the contribution starters helpful feel free to continue to encourage their use. You could ask participants to use the "contribution starters" to make points about mathematical practices. Handout: Video workshop contribution starters is included in the supplements section.*





Detailed description of activity	Comments & other resources
Explain to participants that, in this session, there will be multiple rounds of video workshop so that everyone will have an opportunity to share a video. After each round of video workshop, the whole group will reconvene to reflect on what they learned in the workshop. Then, participants will return to their video workshop groups for another round of video workshops. Distribute copies of the *Handout:* Video Workshop Agenda and have participants get into their video workshop groups to begin the first round of video workshop.	
2. Have participants engage in Video Workshop Round #1 in their video workshop groups. Allow participants about 15 minutes to engage in the first round. Then, bring the video workshop groups back together. Show the *Slide: Between video workshop reflection questions – Teaching practice* and have participants discuss the focus questions for 5 minutes. • How did the video workshop support your thinking about the following teaching practices? ○ Establishing an environment that supports reasoning ○ Scaling problems ○ Making reasoning and practices explicit 	*This is the first time in their work on video workshop that participants have used a task from their own curriculum to support work on the CCSS mathematical practice. You may want to encourage participants to discuss the challenges and supports they have for selecting and working on reasoning and the mathematical practices through tasks like these. For instance, depending on how their district is supporting work on the practices it could be relatively easy to select the tasks for doing this work, but that it is harder to think about how to make the practices explicit to students.* *The between video workshop reflection questions could be used in any order. Depending on the needs of your group, you may wish to reorder them.*
3. Have participants engage in Video Workshop Round #2 in their video workshop groups. Allow participants about 15 minutes to engage in the second round. Then, bring the video workshop groups back together. Show the *Slide: Between video workshop reflection questions – Mathematics* and have participants discuss the focus question for 5 minutes. • How did the video workshop support your thinking mathematical practices such as reasoning? 	

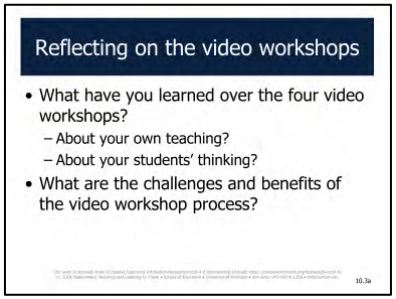
Detailed description of activity	Comments & other resources
4. Have participants engage in Video Workshop Round #3 in their video workshop groups. Allow participants about 15 minutes to engage in the third round. Then, bring the video workshop groups back together. Show the *Slide: Between video workshop reflection questions – Student thinking* and have participants discuss the focus question for 5 minutes. • Share an example of student thinking from the video workshop and the ways in which it made you wonder or expanded your thinking. 	

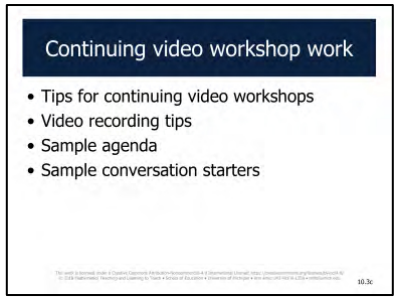
Part 3: Considering video workshop beyond the module (~15 minutes)

Goals	***Instructional sequence***	***Resources***
• Participants will view video workshop as a process to learn about and improve their teaching. • Participants will be aware of the tools they have that will help them to continue video workshop with colleagues.	1. Introduce Part 3 and discuss the focus questions related to what has been learned by participating in video workshop. 2. Discussion focus questions related to video workshop moving forward and watch and discuss Videos A-C as time and interest permit. 3. Distribute handouts.	• Video A (00:55): Teacher insight – Becoming comfortable using video to work on teaching • Video B (01:02): Teacher insight – Having a focus for your use of the video • Video C (00:37): Teacher insight - Strategies for video recording • Handout: Video quick-start guide • Handout: Video workshop sample agenda • Handout: Video workshop contribution starters

Detailed description of activity	Comments & other resources

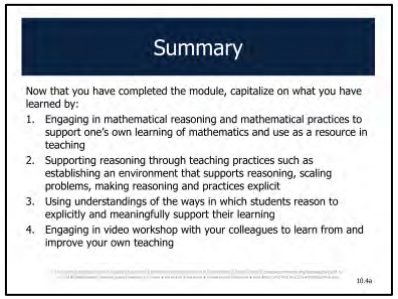
1. Introduce Part 3: This part focuses on debriefing the experience of engaging in video workshop, in a larger sense, as a means to analyze and improve one's own practice. It includes a focus on what has been learned about collecting video or work samples to support improvement in one's teaching and trying video workshop with colleagues.
 	
Have participants to consider and discuss the following questions:
• What have you learned over the four video workshops?
  ○ About your own teaching?
  ○ About your students' thinking?
• What are the challenges and benefits of the video workshop process?
	This segment is designed to help participants see and reflect on how they might continue to make use of video workshops with colleagues in order to continue to analyze and improve their own teaching. One of the four core elements of this professional development module is to learn a method for being able to learn from and improve one's own practice. Throughout this segment, be attentive to making sure that participants are understanding key aspects of the process of engaging in video workshop and that the tips that they are providing would be likely to support others in meaningfully engaging in the video workshops.



Detailed description of activity	Comments & other resources
2. Show the *Slide: Video workshops – Moving forward.* Tell participants that the debriefing conversation will shift to considering video workshop moving forward. Remind participants that in each of the debriefings of video workshop, they have discussed the following: • Understanding the process • Analyzing teaching and learning • Building productive norms  Have participants discuss the following focus questions in whole group: • What tips would you give to someone trying to collect video or work samples that would support improvement in their teaching? • What tips would you give to someone trying video workshop with colleagues? As time and interest permit, watch *Videos A-C* in which teachers in the professional development series share their ideas related to continuing to engage in video workshop. • Video A: Teacher insight – Becoming comfortable using video to work on teaching • Video B: Teacher insight – Having a focus for your use of the video • Video C: Teacher insight - Strategies for video recording After viewing each clip, ask participants if the video spurred any additional thoughts.	*Video A: In this video, a teacher talks about her transition in video workshop from focusing on herself to focusing on her teaching practice and students' thinking. She acknowledges that it takes time to become comfortable with viewing videos of one's own teaching.* *Video B: In this video, a teacher reflects that a 5-minute segment of video is a good-sized segment to discuss with colleagues. She also points out that discussions can be more focused when they are guided by specific focus questions.* *Video C: A teacher shares a strategy for filming her teaching for the purposes of video workshop. She explains that, if she films her lesson in segments and stops recording during transition times, it is easier for her to watch her video and choose a segment for video workshop.*
3. Show the *Slides: Continuing video workshop work.* Distribute the *Handouts* listed in the resources section to participants. Explain that these resources are useful resources if participants plan to continue to engage in video workshop. 	*Depending on your context, you might encourage participants to continue to meet and work with their video workshop colleagues after the professional development series ends and/or to work with colleagues who did not participate in the professional development to begin a video workshop group.*

Part 4: Wrap up (~15 minutes)

Goals	***Instructional sequence***	***Resources***
• Participants will reflect on the major elements of this professional development module.	1. Summarize the work of the session. 2. Summarize the work of the module and watch *video*.	• Video A (02:52): Module summary

Detailed description of activity	Comments & other resources
1. Summarize the session by emphasizing that participants: • Engaged in a video workshop • Considered the use of video workshop beyond the module 	
2. Summarize the work of the module. This marks the end of the module on reasoning and explanation in elementary mathematics teaching. This module focused on the following core elements of elementary teaching: • *Mathematics:* deepening skill with mathematical reasoning, explanations, and language • *Student thinking:* examining the ways students make sense of and explain mathematics • *Teaching practice:* supporting mathematical practices in the classroom • *Learning from practice:* engaging in video workshops as a means to support teaching Watch the *video* in which Dr. Ball summarizes the work in the module. Invite participants to share any general thoughts or reactions to the work in the module. The summary slide shows ways in which participants can capitalize on what has been learned through participating in the module.	*Note: Extra time is allotted here to allow for site-based wrap up of the professional development series.*

List of Common Core State Standards Mathematical Practices

1) Make sense of problems and persevere in solving them.
2) Reason abstractly and quantitatively.
3) Construct viable arguments and critique the reasoning of others.
4) Model with mathematics.
5) Use appropriate tools strategically.
6) Attend to precision.
7) Look for and make use of structure.
8) Look for and express regularity in repeated reasoning.