

Professional Development Module Facilitator's Guide

Title: Facilitating Productive Discourse

Targeted Audience: 6th-12th grade secondary math teachers

Description: This module is a 3-hour professional development module. As background, Facilitators may want to provide a picture of what successful math students do, connecting these behaviors to the Standards for Mathematical Practice and the level of classroom “talk they imply. Participants will begin by choosing norms for their collaborative work. Next they will read and discuss “Let’s Talk” (Stein, 2007) in order to establish common background. Then participants will use the “Levels of Classroom Discourse” rubric (Hufferd-Ackles, Fuson, and Sherin, 2004) to describe and assess current discourse practices in their own classrooms. Using two resources as a vision of productive discourse in the math classroom, participants will learn about creating classroom norms that establish a safe space for productive discourse. Participants will then learn six discourse moves to use during instruction to facilitate productive discourse. Finally, participants will connect this learning to their classroom by creating a plan for implementation.

The **Facilitator Talk** inserts are intended to provide guidance for the facilitator in modeling both the environment-shaping norms and the discourse moves that advance dialogue, understanding, and collegiality.

Outcomes and Success Indicators

Outcome #1: Teachers will define mathematical discourse at the secondary level.

Success Indicators:

Participants will create:

1. *Definition*
2. *Examples*
3. *Non examples*
4. *A list of characteristics*

Outcome #2: Teachers will recognize benefits of discourse to teaching and learning.

Success Indicators: *Reflection on the process (benefits, roadblocks, extended learning) and identification of next steps*

Outcome #3: Teachers will understand classroom discourse as a group dynamic that develops with effort and over time.

- Success Indicators:**
1. At end of workshop, teachers will provide reasonable assessment of current level of classroom discourse.
 2. At end of workshop, teachers will identify targets and timeline for deepening each dimension of the “Levels of Classroom Discourse” rubric.

Outcome #4: Teachers will learn to generate and reinforce classroom norms for student and teacher behavior during discourse.

- Success Indicators:**
1. At end of workshop, teachers will provide an action plan regarding establishing norms with rationale for decisions.
 2. At end of workshop, teachers will be able to describe differences in roles of facilitator, leader and co-learner.
 3. In the classroom, teacher will visibly post norms (developed in collaboration with students) as evidence of progress towards a supportive environment for discourse.
 4. In classrooms, in collaboration with students, teacher will craft a rubric to evaluate and provide feedback on discourse norms.

Outcome #5: Teachers will facilitate discourse, encouraging students to extend thinking and to make connections to others’ ideas and to important mathematical concepts.¹

- Success Indicators:**
1. At end of workshop, each teacher will create an action plan, identifying strategies and timeline for implementing discourse moves.
 2. In classroom, teacher will identify and use a set of moves for facilitating discourse.

Time Frame: 3 hours

Agenda:

	<ol style="list-style-type: none">1. Welcome, icebreaker, norms, and agenda2. Establishment of the importance of discourse3. ACTIVITY 1: Reading and processing the article “Let’s Talk” (Stein, 2007)4. ACTIVITY 2: Review of discourse rubric and self-evaluation	<i>The PowerPoint that is included for the presentation of this module can be used at the discretion of the</i>
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	<ol style="list-style-type: none"> 5. ACTIVITY 3: Highlighting of the importance of norms to discourse; viewing of video for evidence of norms 6. ACTIVITY 4: Exploring teacher discourse moves and watching for teacher moves in video clips 7. REFLECTION & ACTION: Using rubric to create action plan <p>Facilitator Talk: <i>Each of us—and each of our students—brings knowledge and talent to the table. Establishing group norms creates the space in which talents can flourish and knowledge can be tapped. So with that said, and with these norms... let's get to flourishing!</i></p>	<p><i>facilitator. It was designed to help the facilitator model the promotion of productive discourse.</i></p>
10 min	<p><u>Welcome, Outcomes, Icebreaker, Norms and Agenda</u></p> <ol style="list-style-type: none"> 1. Welcome and introduction of facilitators and participants 2. For the icebreaker, the facilitator poses this question: There are several books on a bookshelf. If one book is the 4th from the left and 6th from the right, how many books are on the shelf?" 3. After spending a minute or so solving the math problem and possibly sharing with a partner their thoughts, participants are then asked, "What's on your shelf?" <ol style="list-style-type: none"> a. "What's on your shelf?" is designed to create dialogue between participants. After the participants determine that there are nine books on that shelf, have them list three of their own books and make one of them a favorite professional resource. b. Then, have the group stand and mingle. (Facilitator can add own ideas here on how this should mingling look.) Each participant looks for at least two people in the room that have either a book in common or is very similar. As participants find others with similar books on their list, introductions should be made. Encourage teachers to share their names, their teaching spot, and maybe their favorite fishing hole (hobby) and/or watering hole (restaurant). To bring the group back together, facilitate a short discussion about commonalities and interesting differences in their "bookshelves." 4. Share facilitator-generated norms (for now). 	<p><u>Optional PowerPoint:</u> slides 1-6 to be used in the opening of this workshop</p>

	<p>Facilitator Talk: <i>Getting to know one another creates a safer space in which to take the risks necessary for growth. Since talk of classroom norms will occur after the reading of the article, you may want to point out that with students (and even adults who work together over extended periods of time) norms need to be derived by consensus and described in more detail than appears in this slide.</i></p>	
20 min	<p><u>Activity #1</u></p> <ol style="list-style-type: none"> In table groups, participants work to complete the Frayer model on mathematical discourse; this is a formative pre-assessment of current understanding. Participants will have the opportunity to revisit and revise their Frayer model upon completion of the learning opportunity. <ul style="list-style-type: none"> Teams of 2 or 3 complete Frayer model template (5-7 minutes) Table groups of 5 to 8 synthesize and record on poster paper, transferring collective understanding onto larger Frayer (10-12 minutes) (this does not get posted at this time, but will be revisited) 	<p>Frayer template (folder)</p> <p><i>Let's Talk</i> (Stein, 2007; see link)</p> <p>Optional close reading article (see folder)</p> <p>PowerPoint slides 6-11</p>
20 min	<ol style="list-style-type: none"> Participants read the article, "Let's Talk: Promoting Mathematical Discourse in the Classroom." A slide on close-reading annotation marks is provided. Participants will identify characteristics and attributes of mathematical discourse upon completion. Participants work as a table to come to consensus and add characteristics to Frayer model based on reading. Share the slide "5 Reasons Talk is Important." Ask teachers to consider which reasons are most relevant to their current classroom situation. <p>Facilitator Talk: <i>Talk protocols like those found at nsfharmony.org underscore the idea that discourse doesn't just happen—most students do not walk into the classroom with a toolset geared toward listening. Neither do all adults. Here are additional questions for discussion of protocols:</i></p> <p><i>How did it encourage listening? "Tell me more _____"</i></p> <p><i>How did it encourage shared understanding? "Who can add on to what _____ said?"</i></p>	

	<p><i>Did you find the group “got better” as the process unfolded? What might that say about group dynamics? Do groups, like individuals, learn and get better? “Let’s pause for 30 seconds and think about this question before offering a response.”</i></p>	
<p>10 min</p> <p>30 min</p> <p>5 min</p>	<p>Activity #2</p> <p>2. Introduce the Levels of Classroom Discourse rubric developed by Hufford-Ackles, Fuson, and Sherin to describe the levels of classroom discourse through which teachers and their students advance.</p> <ol style="list-style-type: none"> Encourage participants to spend a few moments scanning the rubric while reflecting upon the culture within their own classroom. Using a highlighter, participants should mark behaviors representing the current reality within their classrooms. 	<p>Optional PowerPoint slide 12</p> <p>Levels of Classroom Discourse rubric developed by Hufford-Ackles, Fuson, and Sherin</p> <p>Highlighters</p>
<p>15 min</p> <p>20 min</p>	<p>Activity #3</p> <p>1. Think-Pair-Share: What are characteristics of a classroom environment that encourage productive discourse?</p> <p>Facilitator Talk: Follow-up the Think-Pair-Share by eliciting characteristics from the pairs and recording them on chart paper. <i>“Okay, let’s put our heads together—what characteristics did you come up with?”</i> Think about using these discourse moves as you take suggestions and record them:</p> <ul style="list-style-type: none"> <i>“What I hear you saying is _____. Do I have that right?”</i> <i>“_____, can you give an example of that?”</i> <i>“Can someone expand on what _____ is saying?”</i> <p>2. Distribute Sample Norms and ask participants in pairs to circle norms they would like for their classrooms. Then discuss as a whole group why it is important to involve students in creating norms.</p> <p>Facilitator Talk: <i>What Are Norms And Why Do We Need Them?</i></p>	<p>Optional PowerPoint: slides 13-17 for activity two</p> <p>View video (Grade 7 Classroom Norms)</p> <p>Notes for Norms</p> <p>Sample Norms handout</p> <p>Norms Non Examples display</p>

<p>10 min</p>	<p><i>Norms are the framework from which team members, including students and teachers, commit to conduct learning. Attention to their development and adherence to them ensure the success of the group and facilitate the members' ability to deal with critical issues. Norms are comprised of several components that clarify team dynamics. When students generate the norms, it creates self-awareness of behaviors that impact learning.</i></p>	<p>Optional resource: http://www.edutopia.org/blog/establishing-classroom-norms-todd-finley</p>
<p>25 min</p>	<p>3. Participants will view a video from a seventh-grade <i>Connected Math</i> classroom to identify possible classroom norms.</p> <p>“Think about these questions as you watch the video, recording evidence from the video on the Notes for Norms handout:</p> <ul style="list-style-type: none"> ● How would you describe the classroom norms and expectations for students in this classroom? ● How is the teacher facilitating the development of students’ understanding and reasoning? <p>a. View video (Grade 7 Classroom Norms)</p> <p>b. Have participants share observations within a small group.</p> <p>4. Refer participants to Sample Norms handout again.</p> <p>Which norms were present, if any, in the video? Which norms do you easily use? Which norms are difficult to use/maintain? Which norms do students struggle following/using?</p> <p>5. Now, watch the video again: View video (Grade 7 Classroom Norms). As participants view the video this second time, they should be mindful of the norms they have just viewed. Did they miss anything the first time? Which norms from their lists can they “check off” as being present in the classroom?</p> <p>6. Display the “nonexample norms.” What sort of a culture do these norms encourage? When would they be useful? Not useful?</p>	

5 min.	<p>Activity #4</p> <ol style="list-style-type: none"> 1. Have participants read the section of the Research Brief starting on p. 4, “Use Teacher Discourse Moves.” 	Optional PowerPoint slides 19-
2-3 min.	<p>Facilitator Talk: Let’s Think-Pair-Share this question: what connections might you initially make between what you know about the Levels of Discourse and these productive discourse moves?</p>	“Use Teacher Discourse Moves” research brief
5 min.	<ol style="list-style-type: none"> 1. Have six large poster papers with the six discourse moves as headings. The task: match a given sentence-starter/stem to the discourse move it exemplifies. (Use sentence starters from the yellow sections of the Teacher Discourse Moves poster.) Participants will draw a sentence stem out of a bowl and attach it to the appropriate poster. Participants who end up at the same discourse move poster will work together in the next task. 	Six Discourse Moves-six posters with the heading of each move
20 min.	<p>Facilitator Talk: <i>Facilitator’s note: the number of sentence stems is dependent upon the number of participants. If you have 12 or more, create two copies of each stem. That way you will have at least two (depending upon where they place them) at each poster. For fewer participants, make multiple copies of just a few stems. Then you may need to have groups move to new posters during the next phase until some stems have been added for each discourse move.</i></p> <ol style="list-style-type: none"> 2. After they’ve sorted themselves, show the PowerPoint slide of the Teacher Discourse Moves poster. Talk about how they’ve done in terms of sorting their sentence stems. 3. Using a marker, have participants create and record sentence-starters/stems for each “Discourse Move” poster. They have 53.5 seconds at each poster to add as many meaningful sentence-starters/stems as they can. (Yes, facilitators, set that timer for quirky one-minute-ish moments.) 4. View short video clips and have participants name the talk move. <ol style="list-style-type: none"> a. Video Clip 1: 7th and 8th grade math classroom comparing linear functions. <p>Facilitator Talk:</p> <ul style="list-style-type: none"> ● <i>What moves does the teacher use?</i> 	<ol style="list-style-type: none"> 1. Waiting 2. Inviting student participation 3. Revoicing 4. Asking students to revoice 5. Probing 6. Creating opportunity to interact <p>One sentence-starter stem per participant. Examples:</p> <ol style="list-style-type: none"> 1. “I would like someone to add on to what _____ said.” 2. “Thank you, _____. Now let’s open it up for some questions and comments.” 3. “I heard you say…” 4. “I would like some think time.” 5. “Can you expand on that?” 6. “Who can explain what _____ is

5 min	<p>2. ACTION</p> <p>Participants have set some goals via the rubric. Now, what are the first steps in reaching them? Have each participant sketch a 3-2-1 Implementation Outline based on new learning. Include:</p> <ul style="list-style-type: none">3 norms/expectations they believe will promote discourse in their classroom;2 discourse moves to add to their current repertoire;1 date on which they will pull out the Hufford-Ackles rubric and assess their progress. <p>3. COLLABORATION</p> <p>On a small piece of paper or sticky note, each person, without discussing or sharing with others, should write <u>one</u> word to describe the experience with this module. Then at a table with four or more participants, they should put their words together to create a sentence, adding the fewest words possible to collectively describe their moments and learning today. Each group then shares out their statement. Facilitator may elect to write sentences out on a poster paper for a visible artifact.</p>	
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