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Let’s Talk About Talk

CGI National Conference

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Today’s Objective

- Teachers will understand the importance of teacher moves that will increase the levels of student engagement.
# Levels of Classroom Discourse

<table>
<thead>
<tr>
<th>Level</th>
<th>Teacher Role</th>
<th>Questioning</th>
<th>Explaining Mathematical Thinking</th>
<th>Mathematical Representations</th>
<th>Building Student Responsibility within the Community</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Teacher is at the front of the room and dominates conversation.</td>
<td>Teacher is only questions. Questions serve to keep students listening to teacher. Students give short answers and respond to teacher.</td>
<td>Teacher questions focus on correctness. Students provide short answer-focused responses. Teacher may fill in an explanation.</td>
<td>Representations are missing, or teacher students keeping ideas to themselves or just providing answers when asked.</td>
<td>Culture supports students keeping ideas to themselves or just providing answers when asked.</td>
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<tr>
<td>2</td>
<td>Teacher encourages students to ask questions of one another.</td>
<td>Student-to-student talk &amp; student initiations. Students ask questions to contrast strategies. Many questions ask &quot;why&quot; and call for justification. Teacher follows student explanations closely. Teacher may still guide discourse.</td>
<td>Students begin to defend their answers, to keep students listening to teacher. Students ask questions to contrast strategies. Students defend and justify their answers with little prompting from the teacher.</td>
<td>Students follow and help shape the descriptions of others' math thinking through math drawings and may suggest edits in others' math drawings.</td>
<td>Students believe that they are math learners that their ideas and ideas of their classmates are important. They can contribute significantly.</td>
</tr>
<tr>
<td>3</td>
<td>Students carry the conversation themselves. Teacher only guides from the periphery of the conversation. Teacher waits for students to clarify thinking of others.</td>
<td>Students ask questions to contrast strategies. Students defend and justify their answers with little prompting from the teacher.</td>
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Fig. 11. Levels of classroom discourse. From Hufford-Ackles, Fuson, and Sherin (2014), table 1.

**Time to Reflect!**
Orchestrating Classroom Discourse

- **Design of Instruction**: writing or selecting a problem or task

- **Anticipating** likely student responses to cognitively demanding mathematical tasks

- **Monitoring** students’ responses to the tasks during the explore phase

- **Selecting** particular students to present their mathematical responses during the discuss-and-summarize phase

- Purposefully **sequencing** the student responses that will be displayed

- Helping the class **make mathematical connections** between different students’ responses and between students’ responses and key ideas

Purposeful Pedagogy Model (TDG; Cognitively Guided Instruction) and Orchestrating Classroom Discourse (Stein et al.)
What strategies do you use to keep your students engaged during the share out?
While viewing…

Take note of:

- What questions/moves is the teacher doing to keep students engaged and to help students make mathematical connections?

- How do the students respond?
What Did You Notice?
Your Turn

The zookeeper has 4 cups of frog food. His frog eats $\frac{1}{3}$ cup of food each day. How long can he feed his frog before the food runs out?
Anticipating Likely Student Responses

• Considering a 4th grade class, how do you think students might approach this task?
  ◦ How might students interpret the problem?
  ◦ What strategies, both correct and incorrect, might students use?
  ◦ As a teacher, what strategies would you like your students to learn for this problem?
Number Yourselves 1 – 5

1. Teacher – practice asking questions to keep the students making mathematical connections

2. Student – you will explain the student strategy provided

3. Student

4. Student

5. Student
Reflection

What ideas from this session are you planning on implementing in your classroom?
Thank You!

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