Building District Capacity to Address Student Access & Equity: A Research-Practice Partnership to Develop Teacher Leaders

Hilda Borko
Anthony Muro Villa III

TDG Workshop 2018
Overview of the Session

- The research-practice partnership
- The Problem-Solving Cycle: Using VBDs to explore access and equity
- The Teacher Leader Preparation: Preparing to facilitate VBDs
- Reflections on adapting partnerships
THE RESEARCH-PRACTICE PARTNERSHIP
Research-Practice Partnership Team

Stanford Team
• Hilda Borko, Janet Carlson, & Ben Domingue
• Florencia Gomez Zaccarelli
• Kelly Bowles, David Lang, Michael Jarry-Shore, Suki Jones Mozenter, & Anthony Muro Villa III
• Alissa Fong & Susan Million

University/District Partnership Coordinator

SFUSD Team
• STEM Director
• Program Administrator for Mathematics
• Mathematics Content Specialists
• 6 Middle Grades Math Coaches
• 17 Mathematics Teacher Leaders

This work is supported by the National Science Foundation under Grant No DRL 1417261. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the NSF.
RPP Goals

• Develop and test a large-scale, system-level PD program aligned with the SFUSD Vision
• Build capacity in SFUSD to conduct site-based PD
• Refine theories of teacher and leader learning
SFUSD’S Vision 2025

• **Mission statement.** Every day we provide each and every student the quality instruction and equitable support required to thrive in the 21st century.

• **SFUSD’s five-year strategic plan** places access and equity, student achievement, and accountability at the forefront of every child’s education. The ideas and actions in the plan focus on one central idea: every child has the right to be well-educated.
The Starting Point

- SFUSD
  - Dimensions of Teaching and Learning
  - New task-based Mathematics Core Curriculum
- CSET
  - Problem-Solving Cycle (PSC) Model
  - Teacher Leader Preparation (TLP) Model
SFUSD’s Dimensions of Teaching and Learning

### Dimensions of Teaching and Learning

**Agency, Authority and Identity**

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.

<table>
<thead>
<tr>
<th>Students ...</th>
<th>Teachers ...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Routinely ask questions and make comments that reveal deep engagement with the learning objectives.</td>
<td>Effectively use a wide variety of questioning techniques to encourage student-to-student discussion and to move student thinking forward.</td>
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<tr>
<td>Are productively engaged at all times, show ability to analyze, evaluate and synthesize content.</td>
<td>Apply new concepts they have learned to real-world or creative situations.</td>
</tr>
<tr>
<td>Hold one another accountable for justifying their answers by citing evidence and/or elaborating on their thought processes, when needed.</td>
<td>Express their thinking, justify their findings and apply new concepts they have learned to real-world or creative situations.</td>
</tr>
<tr>
<td>Build on the contributions of others, assume considerable responsibility for the success of academic conversations, initiate topics and make unsolicited contributions.</td>
<td>Analyze and synthesize information from individual students and provide feedback in their role, using opportunities for the next meeting.</td>
</tr>
<tr>
<td>Take charge of their learning and construct new knowledge by defining tasks, planning, monitoring, changing course of action, and dealing with specific obstacles.</td>
<td>Consistently use instructional scaffolding to facilitate equitable, active student participation.</td>
</tr>
<tr>
<td>Have opportunities to show and apply their understanding in multiple ways.</td>
<td>Encourage student independence facilitating seamless transitions for the next.</td>
</tr>
<tr>
<td>Marshal willpower and regulate their attention when encountering complex tasks and in the face of distractions.</td>
<td>Consistently provide opportunities for students to develop their cognitive and metacognitive skills.</td>
</tr>
<tr>
<td>Assume responsibility for seamless transitions.</td>
<td>Consistently use instructional scaffolding to facilitate equitable, active student participation.</td>
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### Access to Content

The extent to which classroom activity structures, scaffolds (when appropriate), and opportunities for extension provide equitable access and invite and support all students to develop the capacity to understand content that is complex, ambiguous, provocative and personally or emotionally challenging. Scaffolding, when provided, does not lower the cognitive demand or the grade level expectations, allowing all students to experience the complexity of the task. The rigor involved in the learning experience promotes depth of understanding and attention to accuracy and detail.

<table>
<thead>
<tr>
<th>Students ...</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Articulate the purpose of the lesson and its connection to their knowledge.</td>
<td>Make the purpose of the lesson clear, including where it is situated within broader learning, linking that purpose to student interests.</td>
</tr>
<tr>
<td>Have opportunities to make their own sense of content-specific ideas.</td>
<td>Facilitate opportunities for students to construct new knowledge and to make connections to their prior knowledge and experience.</td>
</tr>
<tr>
<td>Demonstrate what they are learning through ability to explain, interpret, apply, shift perspective, empathize and self-assess their thought processes.</td>
<td>Consistently use students’ learning styles, interests, and needs to plan diverse learning activities (including hands-on learning), group students, and differentiate the content, process or product.</td>
</tr>
<tr>
<td>Demonstrate strategic thinking by reasoning, developing a plan or sequence of steps to arrive at one more possible response to the content under study.</td>
<td>Ensure all student groups and/or pairings are strategic, purposeful and flexible, based on student characteristics.</td>
</tr>
<tr>
<td>Contribute to explaining concepts to their peers</td>
<td>Frequently anticipate typical student misunderstandings or misconceptions and are prepared with alternative and differentiated lesson activities and materials.</td>
</tr>
<tr>
<td>Independently seek new sources to expand understanding of the content being taught.</td>
<td>Provide ample opportunities for supportive interventions and challenging extension activities.</td>
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</tbody>
</table>

Who does and does not participate in the work of the class? How can more opportunities for each student be created?
The Problem-Solving Cycle (1 Semester)

1. Solve Problem and Develop Lesson Plans
2. Teach and Videotape the Problem
3. Video-Based Discussion of Instruction and Student Thinking
4. Video-Based Discussion of Student Thinking and Instruction
Teacher Leadership Preparation Model

- Summer Academy
  - Conduct Introduction to PSC

- Conduct PSC Workshop 1: Mathematics and Planning
  - Leader Support Meeting 1

- Leader Support Meeting 2
  - Conduct PSC Workshop 2: Video Analysis

- Conduct PSC Workshop 3: Video Analysis
  - Leader Support Meeting 3
PSC WORKSHOP 2: EXPLORING STUDENT AUTHORITY THROUGH VIDEO-BASED DISCUSSIONS
Do the Math

c.

<table>
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<tr>
<th>Figure Number</th>
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<td>3</td>
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Figure 8
## Norms for Video-Based Discussion

<table>
<thead>
<tr>
<th>Do</th>
<th>Don’t</th>
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<tbody>
<tr>
<td>• Focus on the teaching</td>
<td>• Focus on the teacher</td>
</tr>
<tr>
<td>• Discuss mathematical reasoning</td>
<td>• Criticize the teacher</td>
</tr>
<tr>
<td>• Discuss instructional strategies</td>
<td>• Praise the teacher</td>
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<tr>
<td>• Impact on student learning</td>
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Familiarize yourself with this clip
What evidence do we have of the students taking charge of their learning?
PREPARING TO LEAD A VBD FOCUSED ON STUDENT AUTHORITY
Preparing to Lead a VBD

Pedagogies of Practice (Grossman et al., 2009)
- Modeling
- Debriefing
- Rehearsals
Modeling a VBD

[VIDEO REMOVED]
Debriefing a VBD

Turn and talk:

• What did you notice about the facilitation moves you saw used during the VBD
Debriefing a VBD
Preparing to Facilitate a VBD: Access to Content

• Goal: Recognizing productive struggle

• Focal Question: What evidence is there of students struggling productively?
Preparing to Facilitate a VBD: Access to Content

• What is your goal for a VBD using this clip?
• What focal question would you use to get at that goal?
### Preparing to Facilitate a VBD

In preparation for your rehearsal, you may also wish to consider:

- Who will say what and in what order?
- Who will record contributions on the board?
- How will contributions be recorded?
- What will you do to establish an environment where it is safe to discuss instructional practice?

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is the focal question for your video-based discussion?</td>
<td>In preparation for your rehearsal, you may also wish to consider:</td>
</tr>
<tr>
<td>What are your back-pocket questions?</td>
<td>- Who will say what and in what order?</td>
</tr>
<tr>
<td>What are some responses you might hear to these questions?</td>
<td>- Who will record contributions on the board?</td>
</tr>
<tr>
<td>What are some responses that may be challenging to your facilitation?</td>
<td>- How will contributions be recorded?</td>
</tr>
<tr>
<td>How might you respond to these challenging responses?</td>
<td>- What will you do to establish an environment where it is safe to</td>
</tr>
<tr>
<td></td>
<td>discuss instructional practice?</td>
</tr>
</tbody>
</table>
Rehearsing a VBD
Discussion

• What new insights do you have for using video-based discussions in mathematics professional learning to support access and equity for each and every student?
• What new insights do you have for preparing teacher leaders to lead VBDs focused on access and equity?
REFLECTIONS ON ADAPTING A RESEARCH-PRACTICE PARTNERSHIP
The SFUSD Context

- New Curriculum
- Dimensions of Teaching & Learning
- PSC Model
- Leadership
Adaptations to the PSC & TLP

- New Curriculum
- Dimensions of Teaching & Learning
- PSC Model
- Leadership

- Time for “doing the math”
- Video clips highlighting agency, authority, & identity
- Focus questions about agency, authority, & identity
- Modeled video-based discussions
- Debriefing facilitation after a video-based discussion
Thank you!

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• To learn more about the PSC and MLP models:
  • www.cset.stanford.edu/psc (under construction)
