CSET | Center to Support Excellence in Teaching

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

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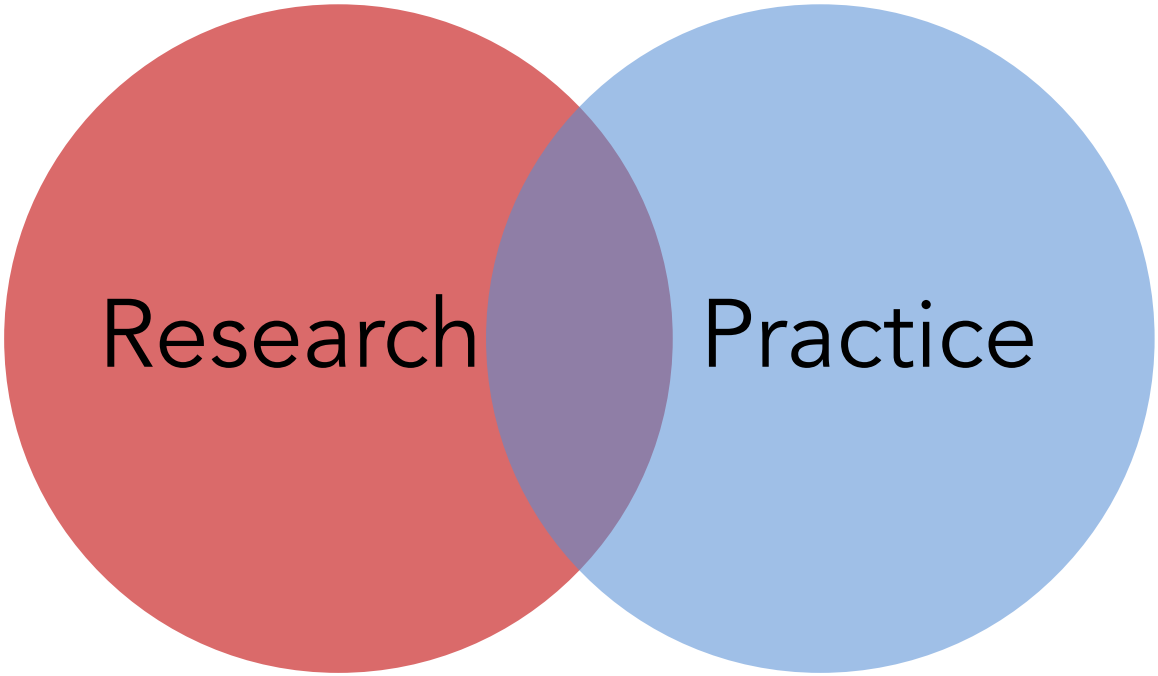
TDG Workshop 2018

Stanford | GRADUATE SCHOOL OF EDUCATION

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



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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

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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

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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.

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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

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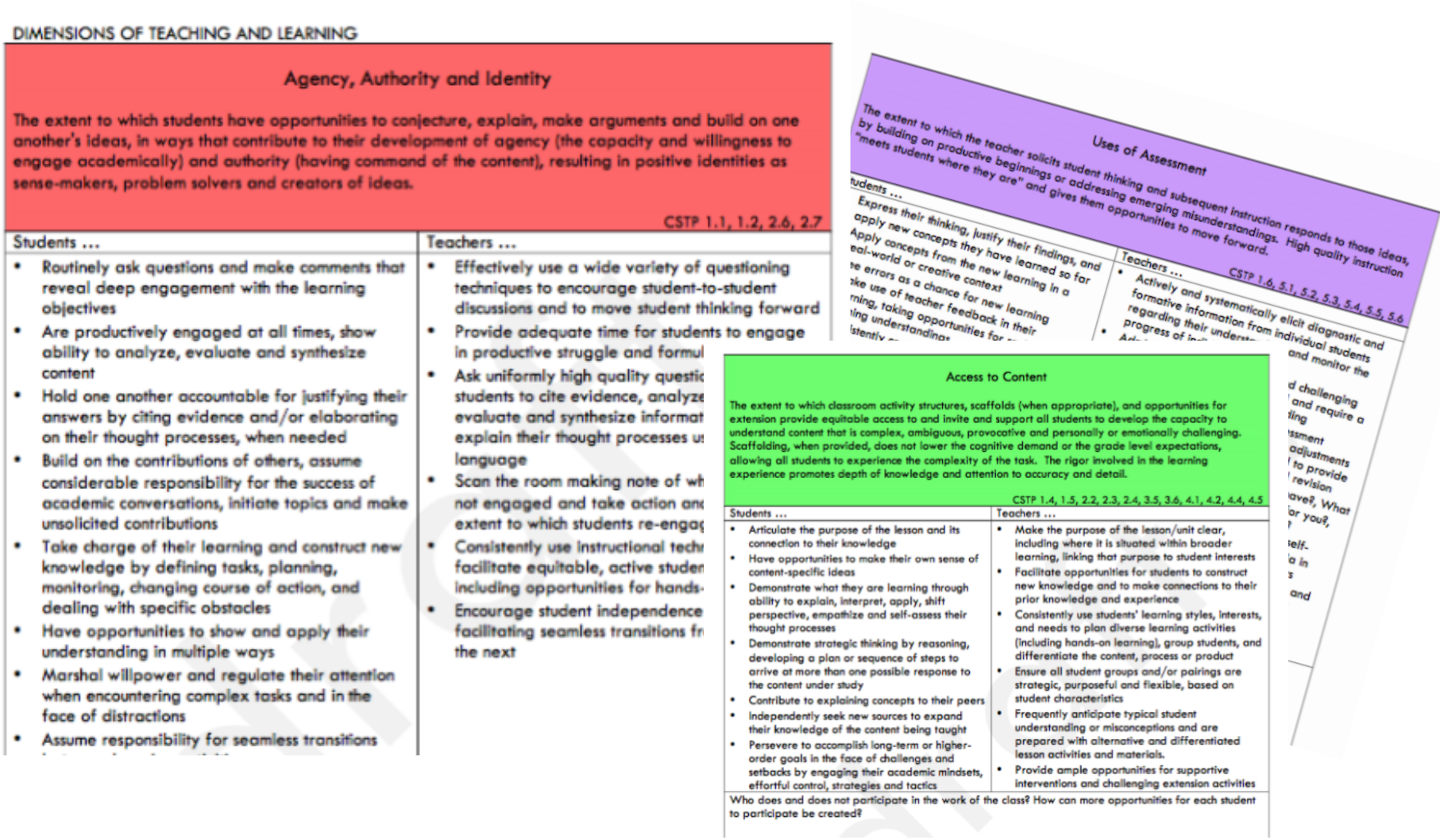
SFUSD's Dimensions of Teaching and Learning



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.

CSTP 1.1, 1.2, 2.6, 2.7

Students …	Teachers …
• Routinely ask questions and make comments that reveal deep engagement with the learning objectives • Are productively engaged at all times, show ability to analyze, evaluate and synthesize content • Hold one another accountable for justifying their answers by citing evidence and/or elaborating on their thought processes, when needed • Build on the contributions of others, assume considerable responsibility for the success of academic conversations, initiate topics and make unsolicited contributions • Take charge of their learning and construct new knowledge by defining tasks, planning, monitoring, changing course of action, and dealing with specific obstacles • Have opportunities to show and apply their understanding in multiple ways • Marshal willpower and regulate their attention when encountering complex tasks and in the face of distractions • Assume responsibility for seamless transitions	• Effectively use a wide variety of questioning techniques to encourage student-to-student discussions and to move student thinking forward • Provide adequate time for students to engage in productive struggle and formul • Ask uniformly high quality questi students to cite evidence, analyze evaluate and synthesize informat explain their thought processes u language • Scan the room making note of wh not engaged and take action an extent to which students re-engag • Consistently use instructional tech facilitate equitable, active stude including opportunities for hands- • Encourage student independence facilitating seamless transitions fr the next

Uses of Assessment

The extent to which the teacher solicits student thinking and subsequent instruction responds to those ideas, by building on productive beginnings or addressing emerging misunderstandings. High quality instruction "meets students where they are" and gives them opportunities to move forward.

CSTP 1.6, 5.1, 5.2, 5.3, 5.4, 5.5, 5.6

tudents …	Teachers …
Express their thinking, justify their findings, and apply new concepts they have learned so far Apply concepts from the new learning in a eal-world or creative context e errors as a chance for new learning ke use of teacher feedback in their rning, taking opportunities for ing understandings istently	• Actively and systematically elicit diagnostic and formative information from individual students regarding their understa progress of

Access to Content

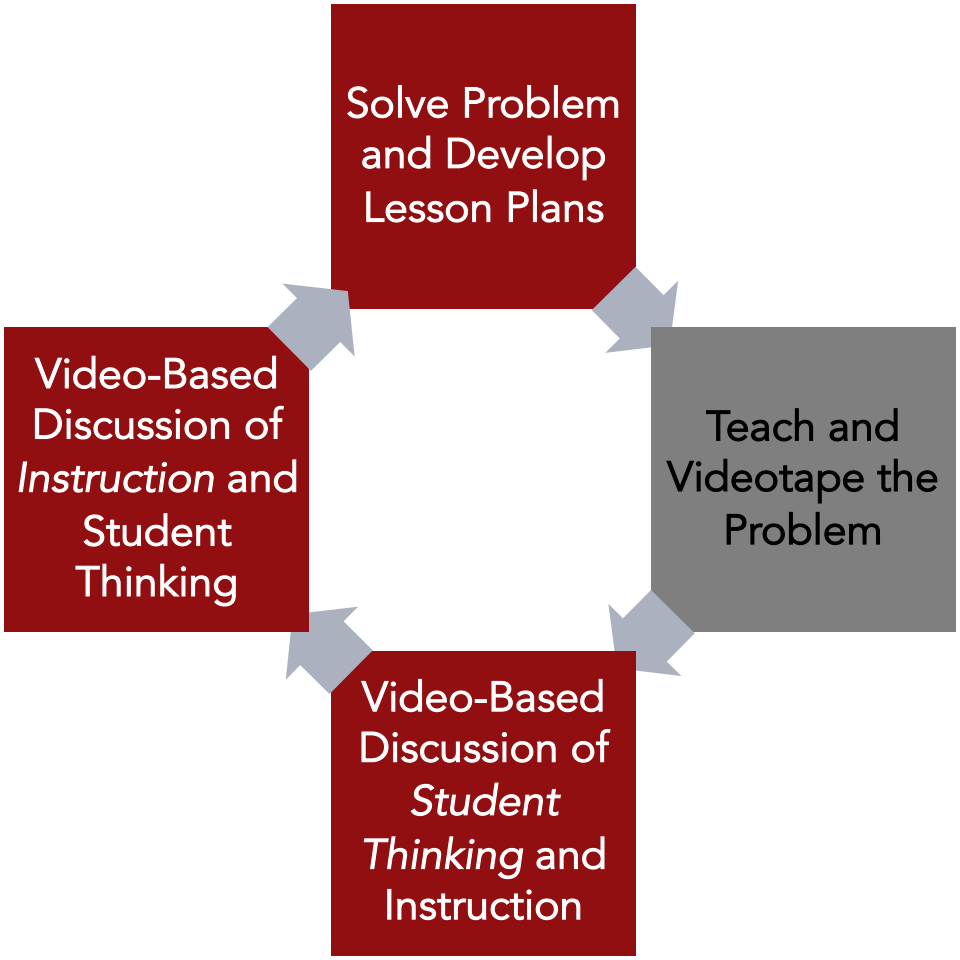
The extent to which classroom activity structures, scaffolds (when appropriate), and opportunities for extension provide equitable access to and invite and support all students to develop the capacity to understand content that is complex, ambiguous, provocative and personally or emotionally challenging. 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 knowledge and attention to accuracy and detail.

CSTP 1.4, 1.5, 2.2, 2.3, 2.4, 3.5, 3.6, 4.1, 4.2, 4.4, 4.5

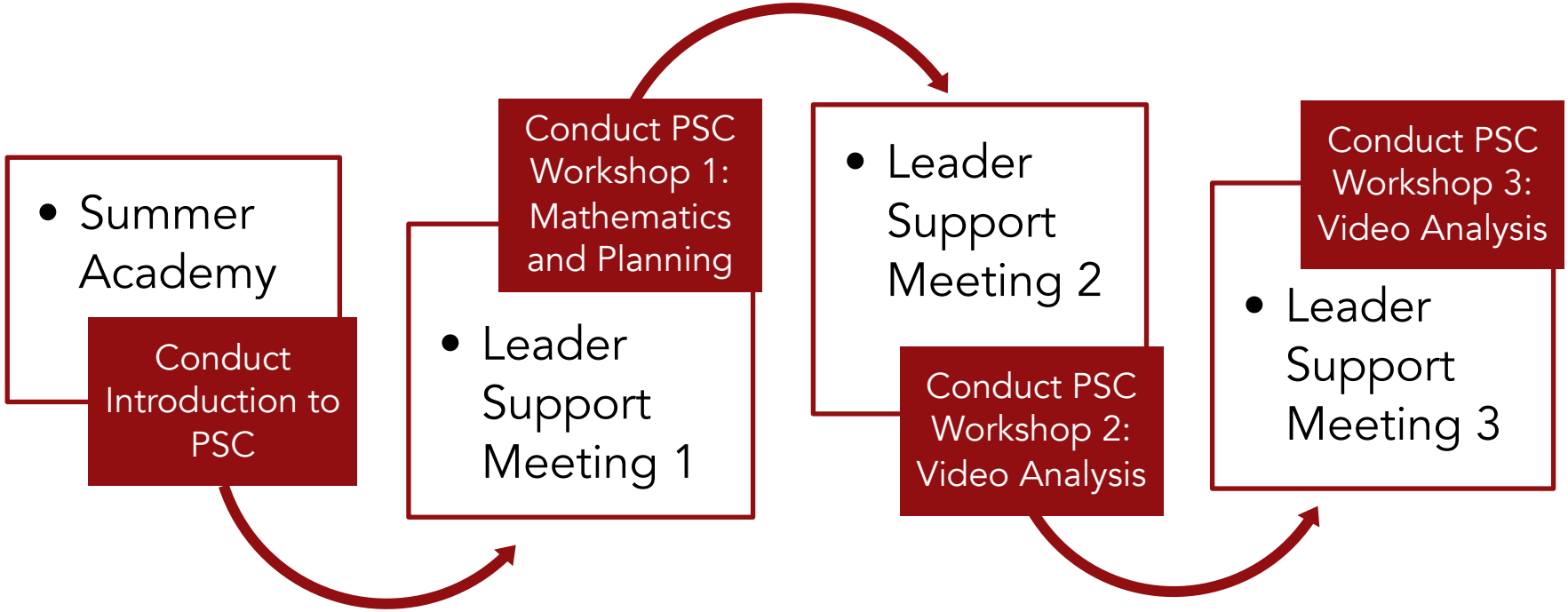
Students …	Teachers …
• Articulate the purpose of the lesson and its connection to their knowledge • Have opportunities to make their own sense of content-specific ideas • Demonstrate what they are learning through ability to explain, interpret, apply, shift perspective, empathize and self-assess their thought processes • Demonstrate strategic thinking by reasoning, developing a plan or sequence of steps to arrive at more than one possible response to the content under study • Contribute to explaining concepts to their peers • Independently seek new sources to expand their knowledge of the content being taught • Persevere to accomplish long-term or higher-order goals in the face of challenges and setbacks by engaging their academic mindsets, effortful control, strategies and tactics	• Make the purpose of the lesson/unit clear, including where it is situated within broader learning, linking that purpose to student interests • Facilitate opportunities for students to construct new knowledge and to make connections to their prior knowledge and experience • 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 • Ensure all student groups and/or pairings are strategic, purposeful and flexible, based on student characteristics • Frequently anticipate typical student understanding or misconceptions and are prepared with alternative and differentiated lesson activities and materials. • Provide ample opportunities for supportive interventions and challenging extension activities

Who does and does not participate in the work of the class? How can more opportunities for each student to participate be created?

The Problem-Solving Cycle (1 Semester)



Teacher Leadership Preparation Model



PSC WORKSHOP 2: EXPLORING STUDENT AUTHORITY THROUGH VIDEO-BASED DISCUSSIONS

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Do the Math

c.

Figure Number	Number of Tiles
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1	
2	
3	12

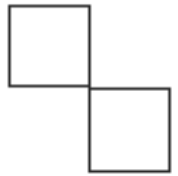

Figure 8

Norms for Video-Based Discussion

Do	Don't
• Focus on the teaching • Discuss mathematical reasoning • Discuss instructional strategies • Impact on student learning	• Focus on the teacher • Criticize the teacher • Praise the teacher

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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

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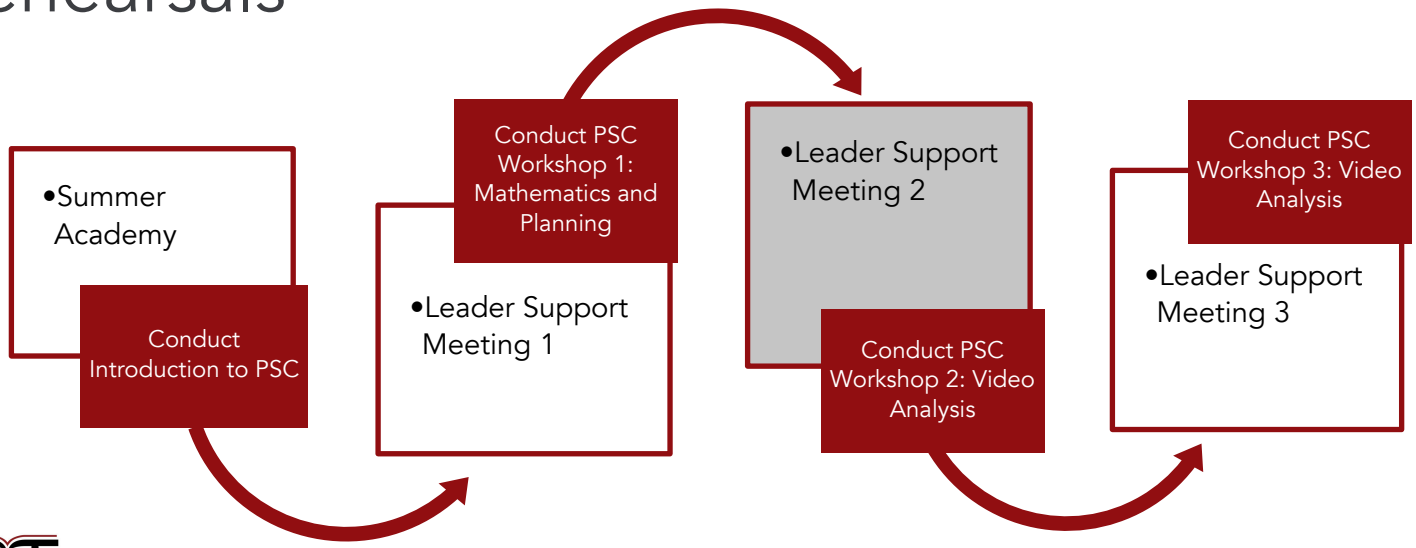
Preparing to Lead a VBD

Pedagogies of Practice (Grossman et al., 2009)

- Modeling
- Debriefing
- Rehearsals



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Modeling a VBD

Debriefing a VBD

Turn and talk:

- What did you notice about the facilitation moves you saw used during the VBD

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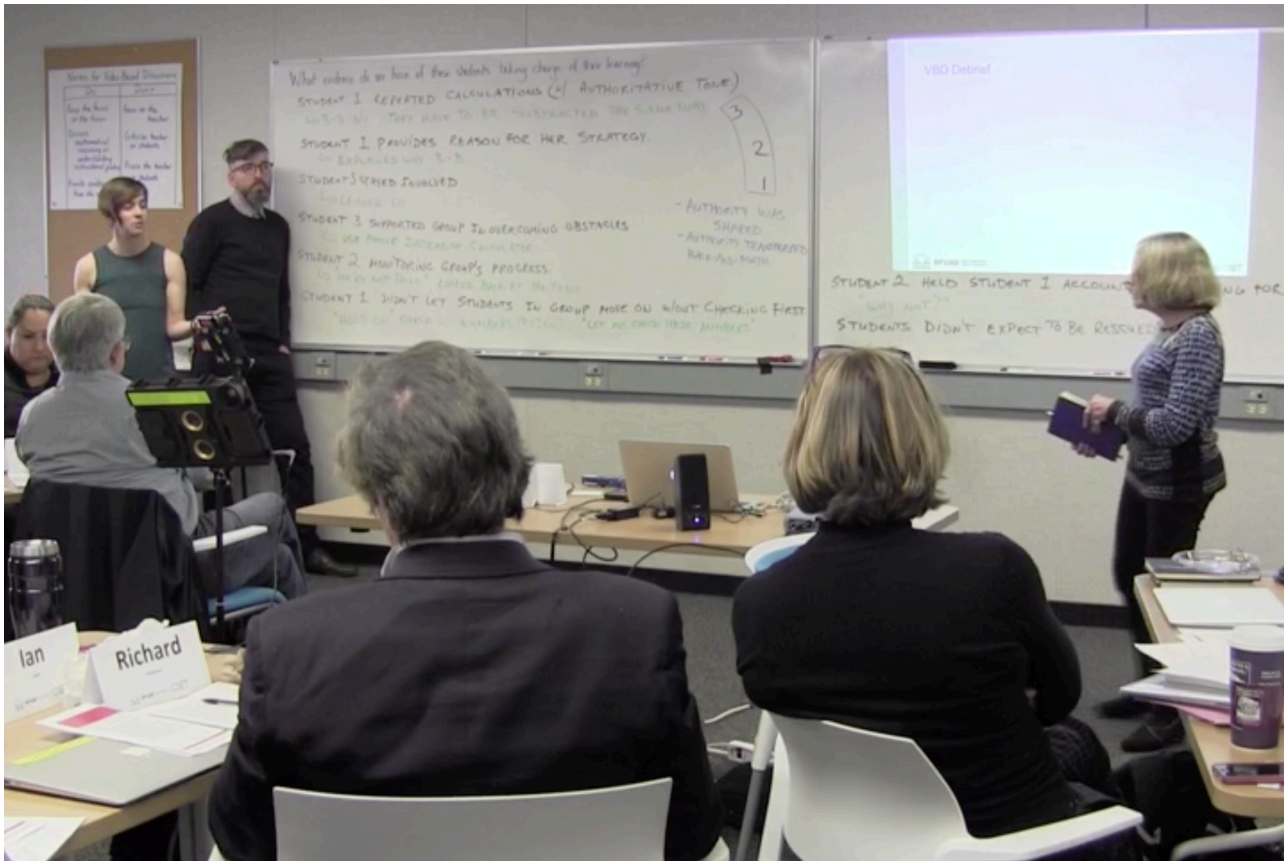
Debriefing a VBD



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Preparing to Facilitate a VBD: Access to Content

- Goal: Recognizing productive struggle
- Focal Question: What evidence is there of students struggling productively?

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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?

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Preparing to Facilitate a VBD

What is the focal question for your video-based discussion?
What are your back-pocket questions?
What are some responses you might hear to these questions?
What are some responses that may be challenging to your facilitation?
How might you respond to these challenging responses?

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?

Rehearsing a VBD

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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?

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REFLECTIONS ON ADAPTING A RESEARCH-PRACTICE PARTNERSHIP

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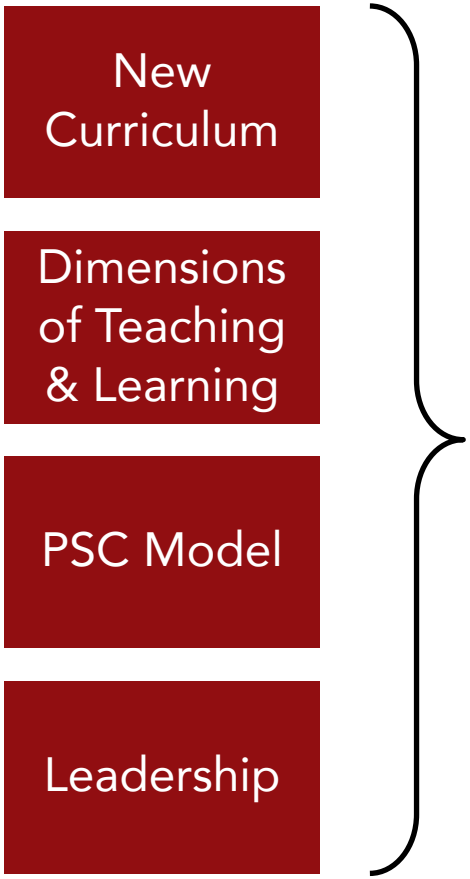
The SFUSD Context



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!

- Contact information:
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  - anthony1@stanford.edu
- To learn more about the PSC and MLP models:
  - www.cset.stanford.edu/psc (under construction)

- Borko, H., Jacobs, J., Koellner, K., & Swackhamer, L. (2015). *Mathematics professional development: Improving teaching using the Problem-Solving Cycle and Leadership Preparation models*. New York: Teachers College Press.
- Borko, H., Carlson, J., Mangram, C., Anderson, R., Fong, A. Million, S., Mozenter, S., & Villa, A. M. (2017). **The role of video-based discussion in model for preparing professional development leaders.** *International Journal of STEM Education*, *4*(1). doi:10.1186/s40594-017-0090-3.

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