



# STAAR

Supporting the Transition from Arithmetic  
to Algebraic Reasoning

## **Characterizing the Facilitator's Role in the Problem-Solving Cycle Model of Professional Development**

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<http://www.colorado.edu/education/staar>



# STAAR: Supporting the Transition from Arithmetic to Algebraic Reasoning

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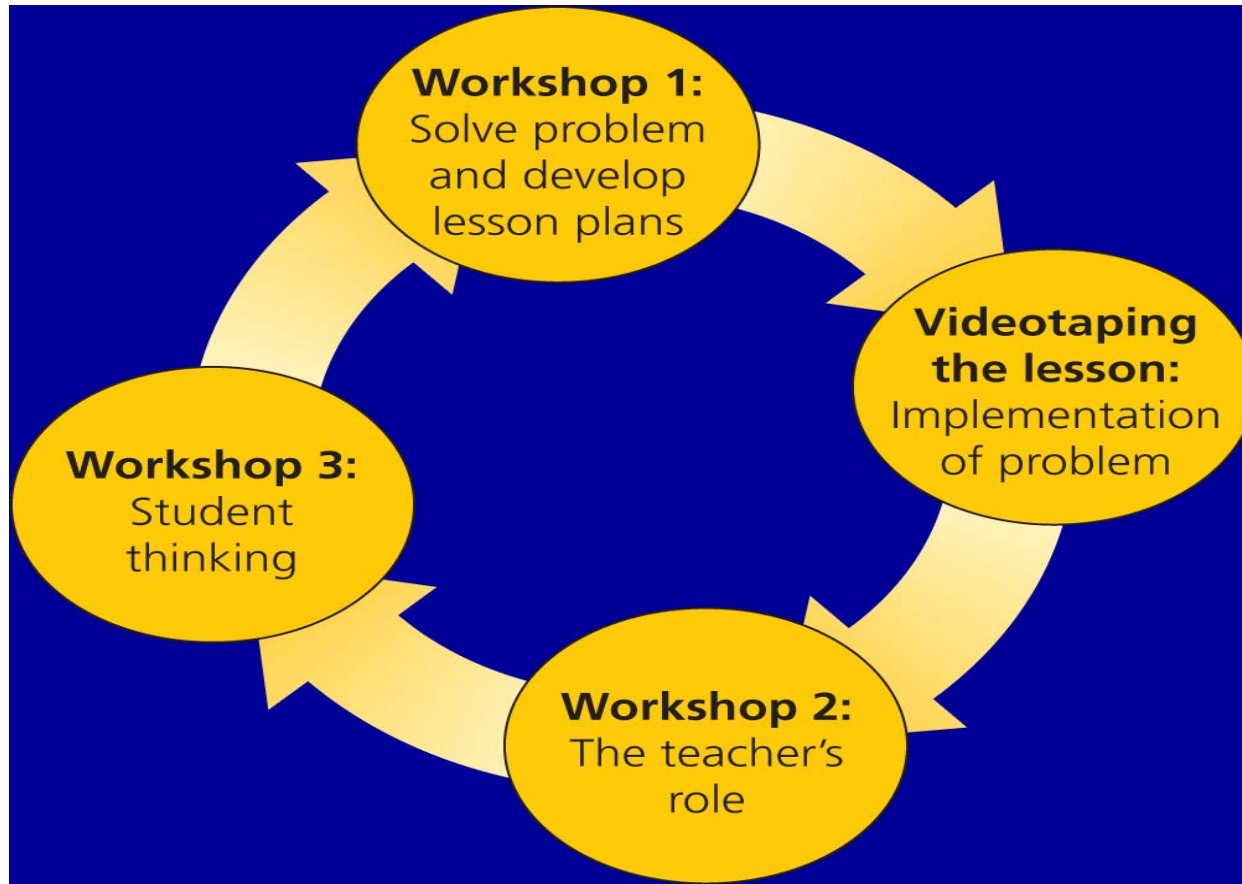


# Situative Perspective on Teacher Learning

- Teacher learning
  - A social process
  - Situated in social and cultural contexts
- Tools for teacher learning
  - Professional learning communities
  - Artifacts of practice
- Community around video



# The Problem-Solving Cycle

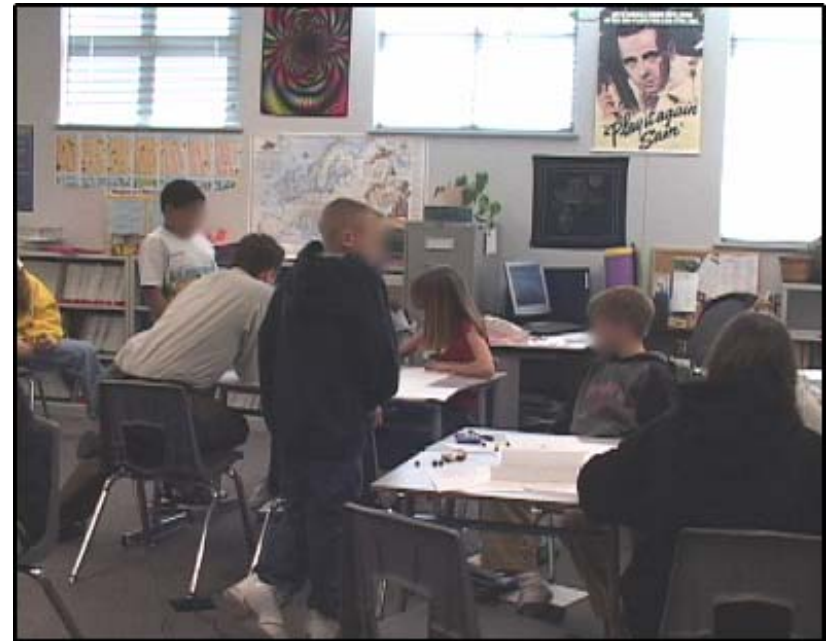




# Workshop 1: Doing for Planning



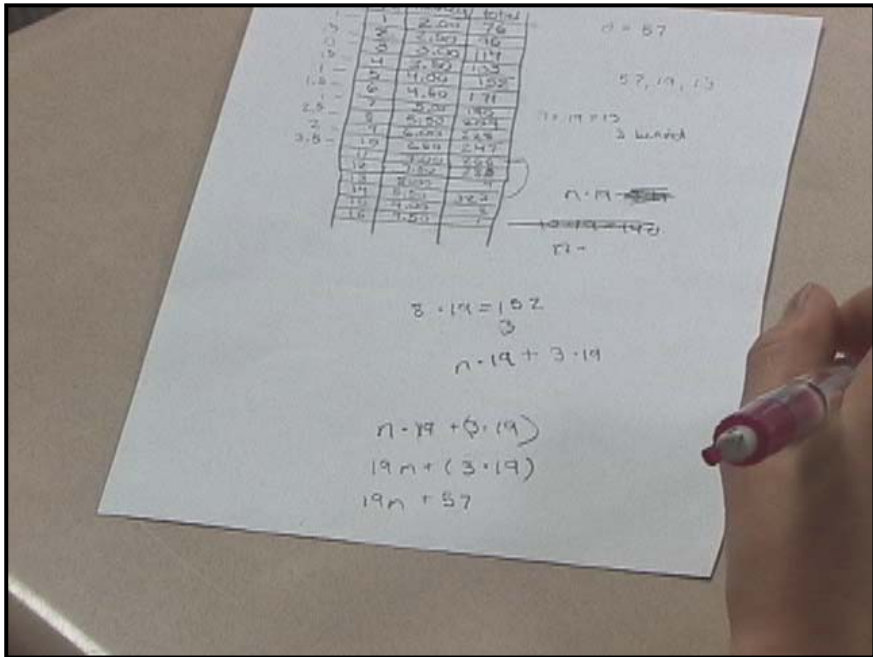
**Solving the problem**



**Teaching the lesson**



# Workshop 2: The Teacher's Role



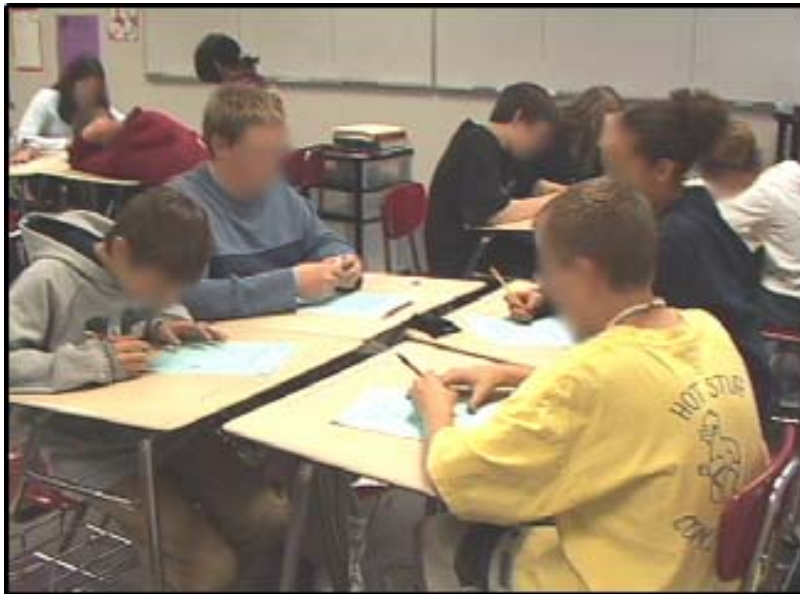
Student work



Discussing the video



# Workshop 3: Student Thinking



**Small group work**



**Reconsidering the problem**



# Scaling Up the PSC Model

## Design Experiment

- To develop, implement & study the model

## Preparing to Scale Up the Model

- Documented the 3 iterations of the PSC
  - Interviewed facilitators & teachers
  - Videotaped workshops
  - Collected artifacts
- Analyzed the role of the facilitator
- Developed a Facilitator's Guide





# The Facilitator's Role in Workshop 1 (Doing for Planning)

## Selecting the Task

- Multiple concepts & skills
- Accessible, multiple entry & exit points
- Challenging for teachers, appropriate for students

## Supporting Teachers' Work on the Task

## Supporting the Lesson Planning Process





# The Facilitator's Role in Workshop 2 (Exploring the Teacher's Role)



Selecting the Topic

Selecting Video Clips

- Relevant to teachers
- Short
- Motivates instructional change
- Challenging

Preparing Guiding Questions

Supporting Teachers'  
Reflections



# The Facilitator's Role in Workshop 3 (Exploring Student Thinking)



## Selecting Video Clips & Student Work

- Unique solution method or reasoning
- Obstacles
- Range of student reasoning

## Preparing Guiding Questions

## Supporting Teachers' Reflections

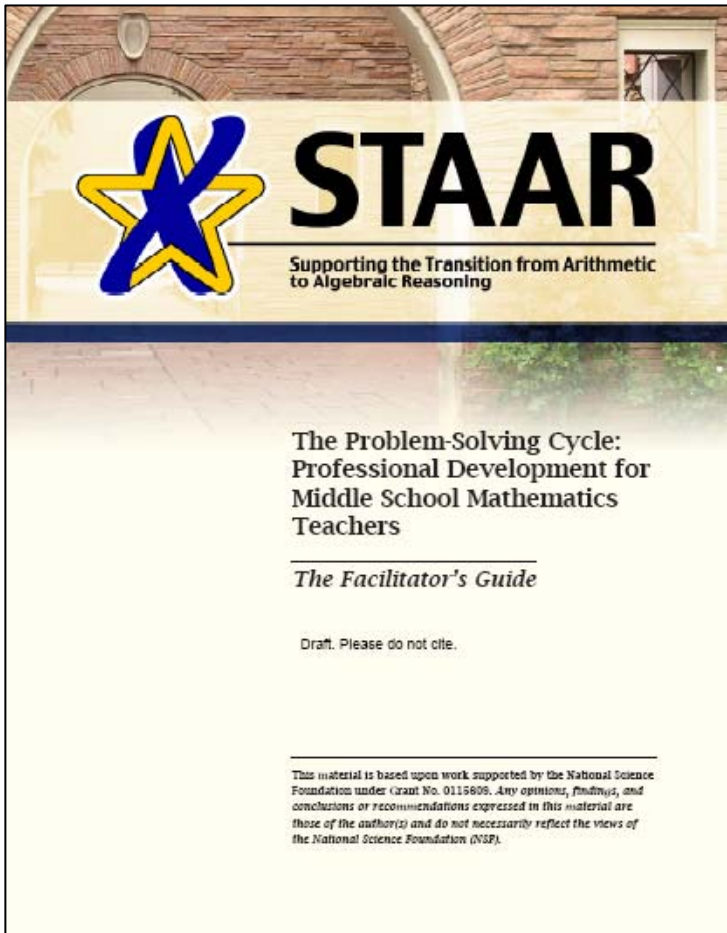


# Overarching Roles of the PSC Facilitator

- Support Mathematics Learning
- Support Pedagogical Change
- Foster a Professional Learning Community



# Preparing Facilitators to Implement the PSC – Current Pilot



- Facilitator's Guide Draft
- Piloting with Math Coaches
- Refining Materials
- Documenting the Process



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