RECONSIDERING VIDEO AS A TOOL TO SUPPORT TEACHER LEARNING

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COMMON WAYS OF USING VIDEO IN PROFESSIONAL DEVELOPMENT

Exemplify “best practice” (the model)

View and discuss (what did you notice?)

Analyze using some frame

All of this rooted in a belief in the basic value of “seeing” and discussing teaching
CLASSROOM VIDEO CONTEXT

- An 5th grade teacher in a multilingual classroom is leading a discussion around comparing decimals.
- Students are starting work on several comparison problems and have offered several key ideas related to decimal comparison.

Which is greater, 0.9 or 0.13?
WHAT DO YOU NOTICE?

Video is available online via a subscription: https://tle.soe.umich.edu/
WHAT MIGHT BE THERE TO NOTICE?

TYPICALLY COMMENTED ON

- The teacher uses “talk moves” such as asking students to restate ideas shared by classmates
- The teacher has a “serious tone” and “serious face”
- The teacher does not “complete work’ on the warm up problem and instead tells students that they will be returning to the problem at the end of class
- Might have been better to do a turn and talk or partner work

RARELY COMMENTED ON

- The work that students are doing to translate across tenths and hundredths
- The teacher asks to share a student’s work and names for the class that she thinks that there is something for the class to learn from it
- The teacher assigns competence to particular students and she notes specific features of their work
- The particular number choice and what it affords for student explanation
USING VIDEOS TO SUPPORT TEACHER LEARNING

1. Identifying learning goal(s)
2. Selecting video to use (in service of the goal)
3. Choosing an instructional task
4. Framing the video
5. Facilitating activity after viewing
USING VIDEOS TO SUPPORT TEACHER LEARNING

Different types of learning goals include:

- Identify and work on possible ways to manage particular recurrent pedagogical problems
- Learn to see specific issues related to equity, and to develop skills for promoting equitable classrooms
- Learn to hear and interpret student thinking in a specific mathematical content domain
- Develop and practice mathematical knowledge for teaching (MKT; Ball & Bass, 2001; Hill, Rowan, & Ball, 2005; Ball, Thames, & Phelps, 2008)
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DIFFERENT TYPES OF VIDEO

“raw”

Participants’ classrooms (e.g., video clubs)

Available classroom video (may or may not be professional quality) (e.g., MET-X collection)

Edited

Professional video clipped for particular purposes (e.g., TeachingWorks Video Exemplars)

Highly edited and annotated

Professional video used in a “popcorn” style (e.g., Annenberg; Book companion discs; Inside Mathematics)

Professional video pieced together with commentary (e.g., Teaching Channel)

Selecting video to use
SELECTING A VIDEO: FOUR CONSIDERATIONS

① Video source
② Context comparison
  § Classroom demographics
  § Grade level and content
  § Teacher characteristics
③ Alignment with learning goal
④ Visibility of work associated with learning goal
CHOOSING AN INSTRUCTIONAL TASK TO SUPPORT TEACHER LEARNING

- Identifying learning goal(s)
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STUDENT TASK

What number does the orange arrow point to? Explain how you figured it out.
CONTEXT FOR VIDEO

- Entering 5th graders (10-year olds)
- Two week summer program (7 class session out of 10)
  - Combined work on missing skills and understanding with challenge and acceleration
  - Explicit work on reasoning, using representations, and using definitions
- Students came with a wide range of mathematical skills and varying degrees of interest in mathematics
- Students have used the definition of a fraction successfully with area models; the number line has not been used prior to this lesson
1. LEARNING GOAL: BUILDING CONTENT KNOWLEDGE FOR TEACHING

1. How might you create a usable definition of a fraction to support students’ learning to explain mathematics?
2. What is right about what the student presented?
3. What features of the task as stated are key to surfaced these key mathematical ideas?
4. What related mathematical task might you pose to push students’ thinking?
VIDEO

Choosing an instructional task

Video is available: http://hdl.handle.net/2027.42/134321
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2. LEARNING GOAL: BECOMING AWARE OF AND INTERVENING ON BIAS

1. What do Aniyah and Toni know and what can they do?

2. What choices do you have as a teacher as you do the work of seeing, hearing, interpreting, and responding to children? How do these choices affect social justice and equity in classrooms?
30 fifth grade students
22 African American, 4 Latinx, 4 White
Low-income community
Most of the children have been unsuccessful in school mathematics
VIDEO

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WHAT DO MANY “HEAR” IN ANIYAH AND TONI?

ANIYAH
- She has the wrong answer: 1/7

TONI
- She is playing with her hair and trying to get attention
- She is trying to embarrass Aniyah
WHAT DO ANIYAH AND TONI KNOW AND WHAT CAN EACH DO?

ANIYAH
- Uses the definition for a fraction to explain
  - She identifies the “whole”
  - She makes sure the intervals are equal
  - She counts intervals and not tick marks
  - She knows how to write “one-seventh”
- Produces a mathematically well-structured explanation
- Presents her ideas clearly

TONI
- Listens closely to a classmate’s presentation
- Uses the definition for a fraction to ask
  - How Aniyah decided on 7 parts
- Asks a pointed mathematical question
3. LEARNING GOAL: CONSIDERING A RECURRENT PEDAGOGICAL PROBLEM

Consider the issue of students sharing a partially incorrect solution to a task in front of the class.

1. What is correct about what Aniyah presented to the class and what is missing?
2. What are the possible moves the teacher could make? What does each accomplish?
3. What should the teacher consider about who the student is and how the class interacts when choosing a particular move?
VIDEO

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3. LEARNING GOAL: CONSIDERING A RECURRENT PEDAGOGICAL PROBLEM

Consider the issue of students sharing a partially incorrect solution to a task in front of the class.

1. What is right (and not right) about what the student shared with the class?

2. What are the possible moves the teacher could make? What does each accomplish?

3. What should the teacher consider about who the student is and how the class interacts when choosing a particular move?
### USING VIDEO AS “TEXT”: DIFFERENT TASK TYPES CAN BE DESIGNED FOR THE SAME VIDEO

<table>
<thead>
<tr>
<th>Video clip: Aniyah’s explanation at the board</th>
<th>Exercises in MKT and MKT reasoning</th>
<th>Solving pedagogical problems</th>
<th>Becoming aware of and intervening on bias</th>
</tr>
</thead>
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Choosing an instructional task
DESIGNING INSTRUCTIONAL TASKS USING VIDEO

**Common prompts**
- What did you notice?
- What went well?
- What would you do differently?

**Alternatives: Questions that support**
- learning mathematical knowledge for teaching
- becoming aware of and intervening on bias
- considering ways of managing recurrent pedagogical problems
QUESTIONS

- Are the categories of work at the right grain-size for supporting others in designing tasks?
- For each of the learning goals, is it possible to identify features of productive videos to use?*
- Can we identify useful generic stems that focus on the categories of work that we shared?
- How to think about the quality of the teaching or the “approach” to teaching, and how this does or does not matter

*Our colleague Sabrina Bobsin Salazar is currently investigating this question
THANK YOU!

Slides will be available on the TeachingWorks website.