

# Representing and Comparing Fractions in Elementary Mathematics Teaching **Session 7 Slides**

## Overview of Session 7

- Analyzing a task and narrating the construction of a representation in the task
- Improving the use of public recording space

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### Affordances of tasks

- Mathematical
- Representational
- Teaching
- Learning

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# Task analysis questions

- What do you notice about the mathematics of the problem/set of problems?
- How do you anticipate students will solve the problems (strategies) and what their solution(s) would be?
- If you were teaching using this problem, what representation(s) would you use and how would you narrate its use?

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# A fractions-of-a-length task Which is longer 3/8 of an inch or 7/16 of an inch? • What do you notice about the mathematics of the problem? • How do you anticipate students will solve the problems (strategies) and what their solution(s) would be? • If you were teaching using this problem, what representation(s) would you use and how would you narrate its use?

# Narrating the construction and use of a representation

- Make clear the mathematical problem or context.
- Describe how a particular representation is useful for the problem at hand.
- Construct the representation and use it to solve the task, while <u>describing and giving meaning</u> to each step.
- Summarize what the representation has helped to do.

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# Cycle of learning from the use of public recording space Planning Analyzing Enacting

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## Debriefing the use of the "board"

- · Provide lesson context
- Use the images of public recording space as you discuss what happened during the enactment of your plans for the board
- Note:
  - Student thinking: e.g., what students recorded, where you tried to record student thinking
  - Mathematics: e.g., were the mathematical points clearly represented?
  - Teaching practice: e.g., what connections were made or could have been made?

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# Using and studying the use of the public recording space

What aspects of the use of the board and examining your practice were:

- Relatively easy to incorporate into your work?
- More difficult to do before, during, or after teaching the lesson?
- Informative in terms of learning about student thinking, mathematics, or teaching?

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### Summary

In this session you:

- Engaged in two processes, task analysis and studying the use of public recording space, that can be used in an ongoing way to learn from and improve teaching
- Used mathematics and student thinking as essential considerations in teaching practice (considering tasks, selecting representations, narrating) and learning from teaching

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