# Practice as Evidence of Learning:
## Using performance assessments in a methods course

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AMTE Annual Conference
Tulsa, OK • January 25, 2008

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# Overview of Session

1. Background on our methods course
2. Overview of performance assessments
3. One Assessment up close: Modeling a computational algorithm with manipulatives
4. Conclusion



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# 1. Background on our methods course



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# Identifying the Work of Teaching

- Course focuses on learning to *do* the work of teaching
- Content consists of practices that are "high-leverage" for beginners and are of appropriate grain size for a course
- Temporarily decompose teaching into smaller practices whose aspects can be:
  - articulated, unpacked, studied, and rehearsed
  - reintegrated in more holistic acts of teaching

Related to work by Lampert (2001); Grossman (2005); Stein & Smith (2007); Franke (2005); Kazemi (2007)



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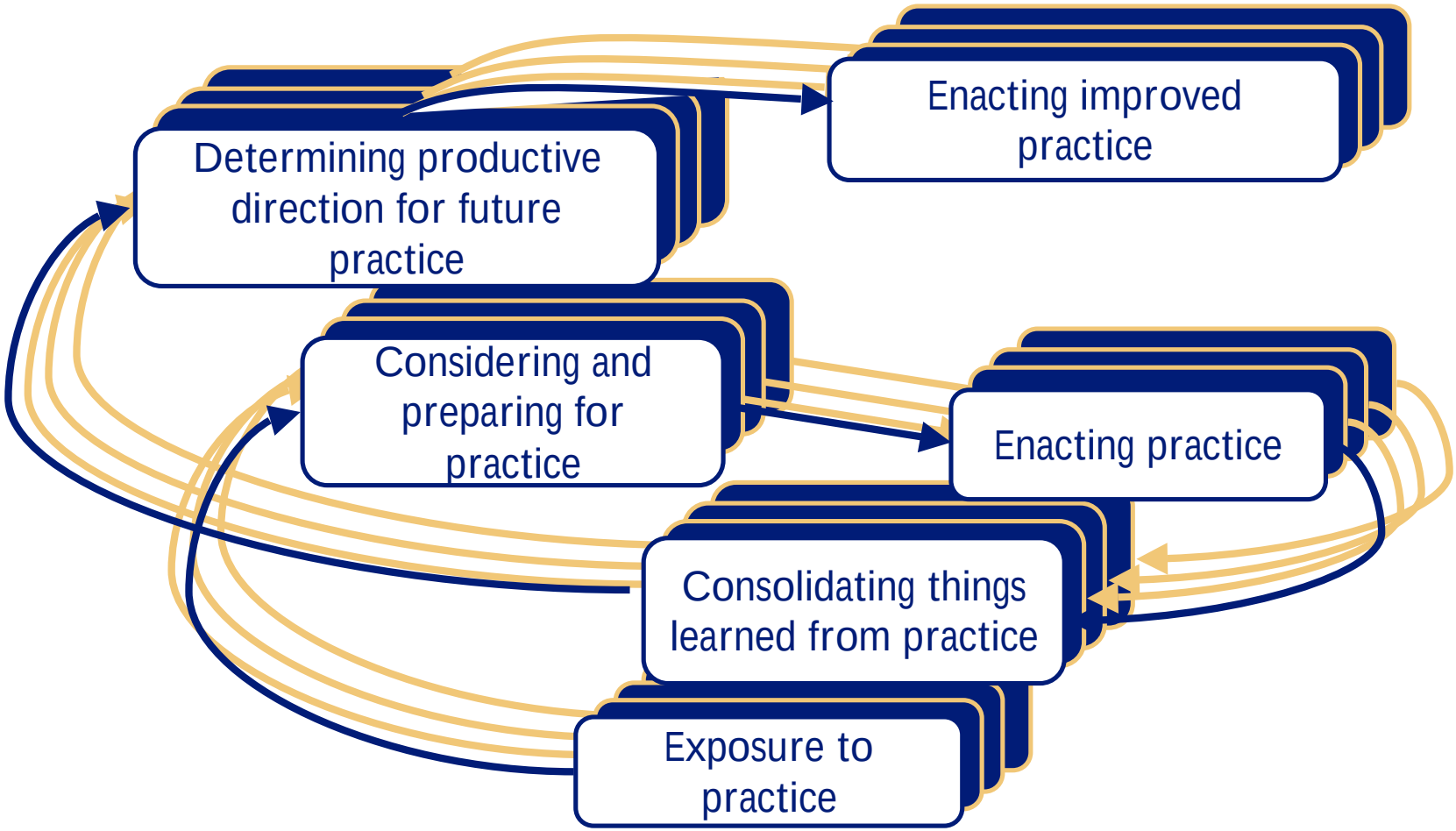
# Course Content: Principled Practice

| **Guiding Principles**<br>**Domains of Practice** | Attending to the **integrity of the mathematics** | Committing to the learning and achievement of **all students** | Establishing and managing a **productive learning environment** | Learning from and systematically **improving practice** |
|---|---|---|---|---|
| Leading a whole class discussion about mathematics | | | | |
| Representing mathematical ideas | | | | |
| Assessing students' knowledge, skill, and dispositions | | | | |
| Planning mathematics lessons | | | | |

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# Designing Repeated Opportunities to Practice






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# 2. Overview of performance assessments



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# Assessing Practice:
## Four Culminating Performance Assessments

*Three are based on a lesson taught in field:*

1. Lesson planning conference
2. Leading discussions in a mathematics lesson
3. Assessing students through an end-of-class check

*One occurs during final exam:*

4. Modeling a computational algorithm with manipulatives



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# Performance Dimensions of Culminating Assessments

Setting of Teaching

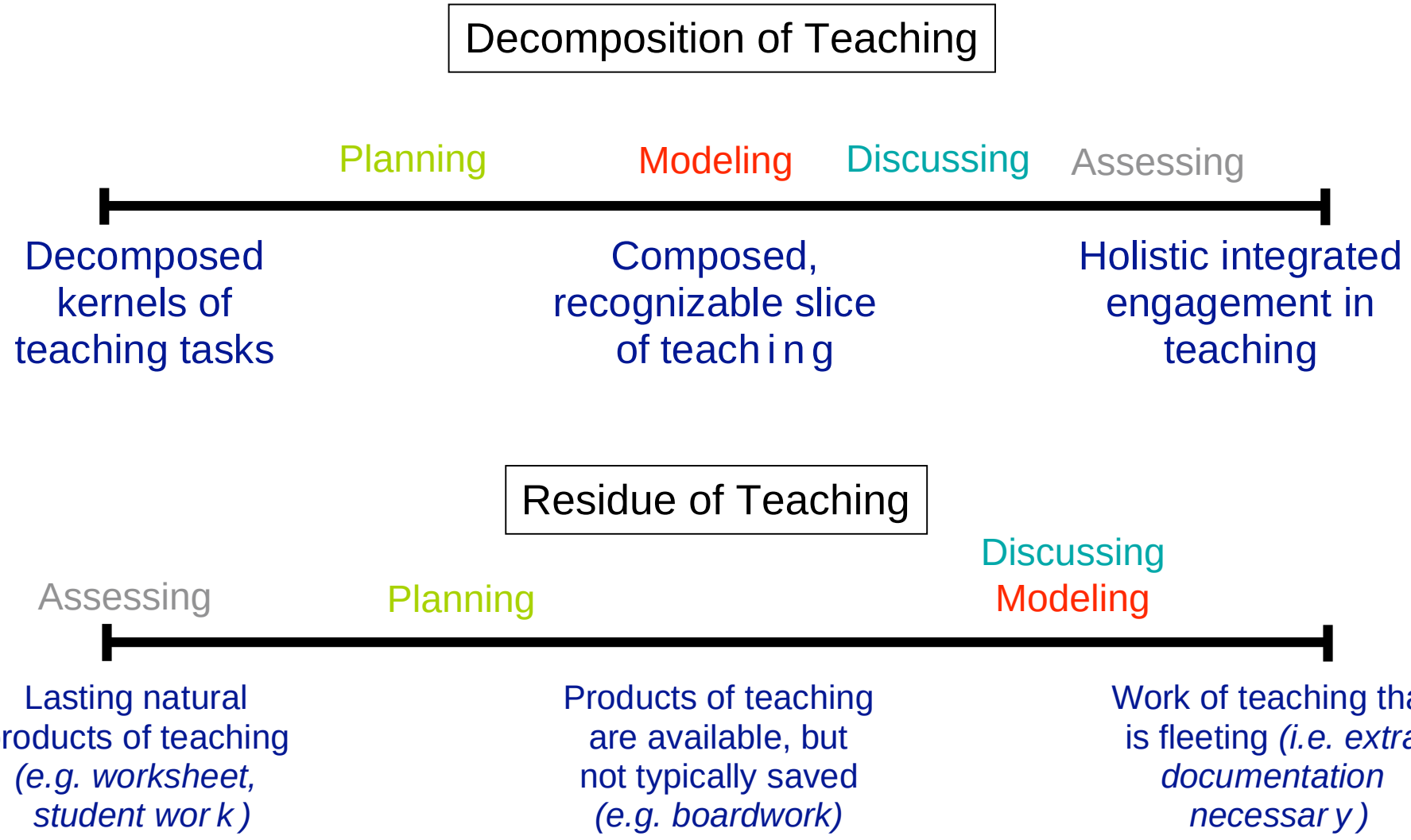



| Non-teaching context | Simulated context (*e.g. fishbowl*) | Designed context *(e.g. tutoring)* | Actual context *(e.g. classroom)* |
|---|---|---|---|



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# Performance Dimensions of Culminating Assessments




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# Assessment Dimensions of Culminating Experience

## Expectation for Teaching

Discussing Planning
Modeling Assessing

Responsible for limited focal aspect(s) of a teaching practice

Responsible for multiple core aspects of a teaching practice

Responsible for a practice of teaching

## Elaboration of Teaching in Scoring Tool

Planning
Discussing

Assessing

Modeling

General characteristics of teaching

Benchmarked characteristics of teaching

Articulated continuum of engagement in teaching

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# 3. One assessment up close: Modeling a computational algorithm with manipulatives



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# Framing Questions

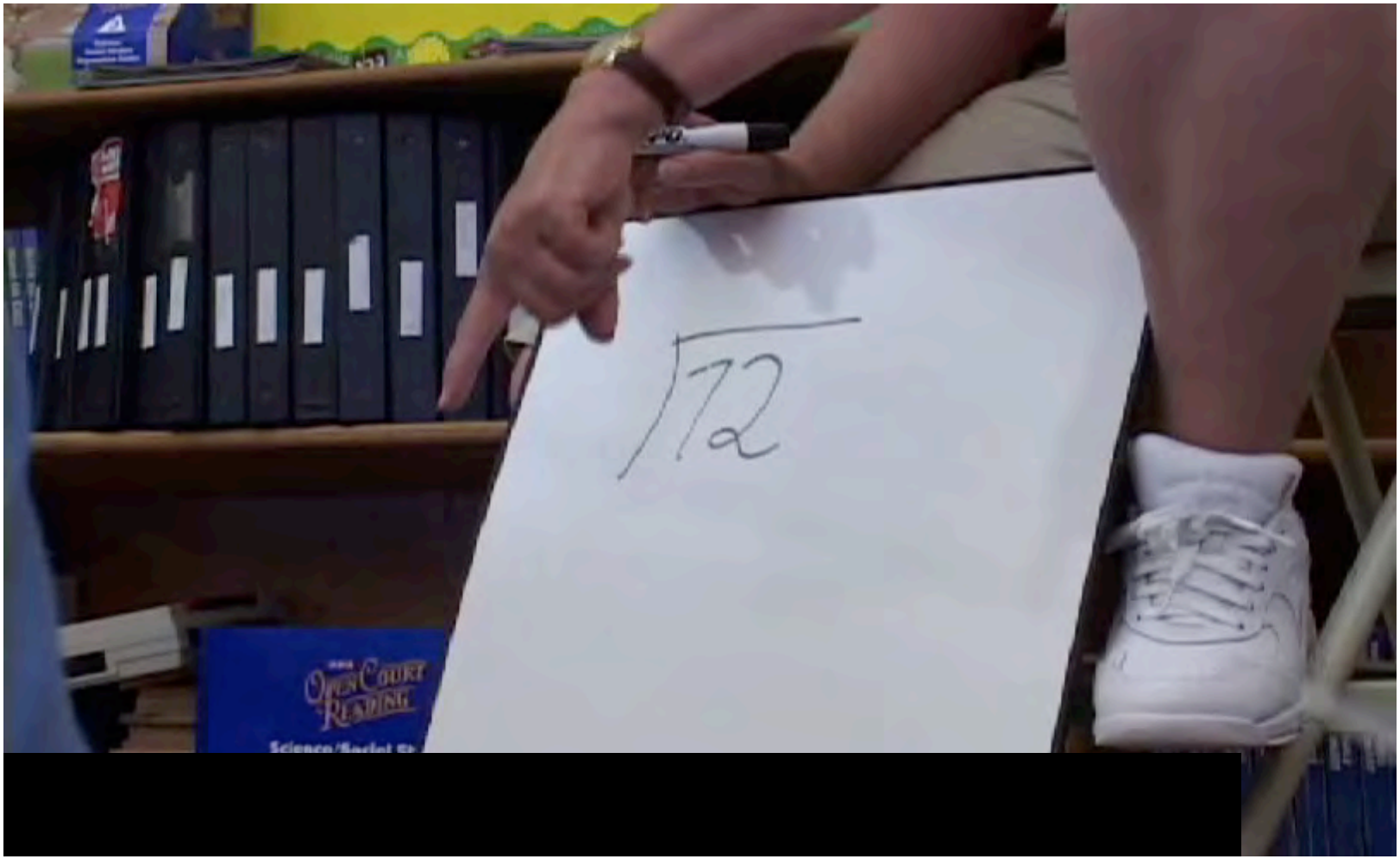
1. What are the benefits and challenges of using practice as evidence of learning in a methods course?

2. How can assessment tasks and tools be formulated to reap potential benefits and address potential challenges?



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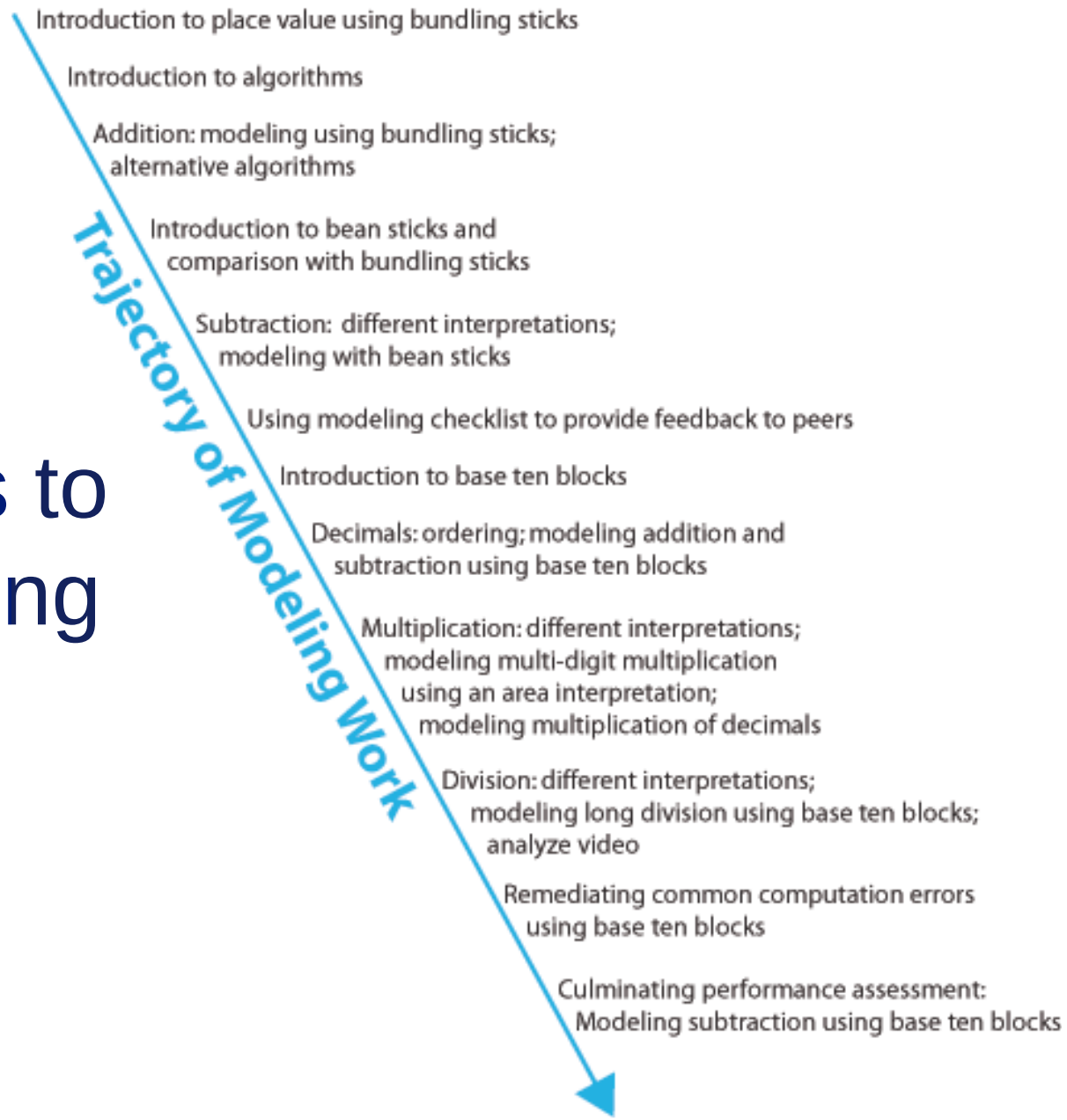
# What Work of Teaching is Being Assessed?




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# Opportunities to Learn Modeling






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# Considering Modeling Practice






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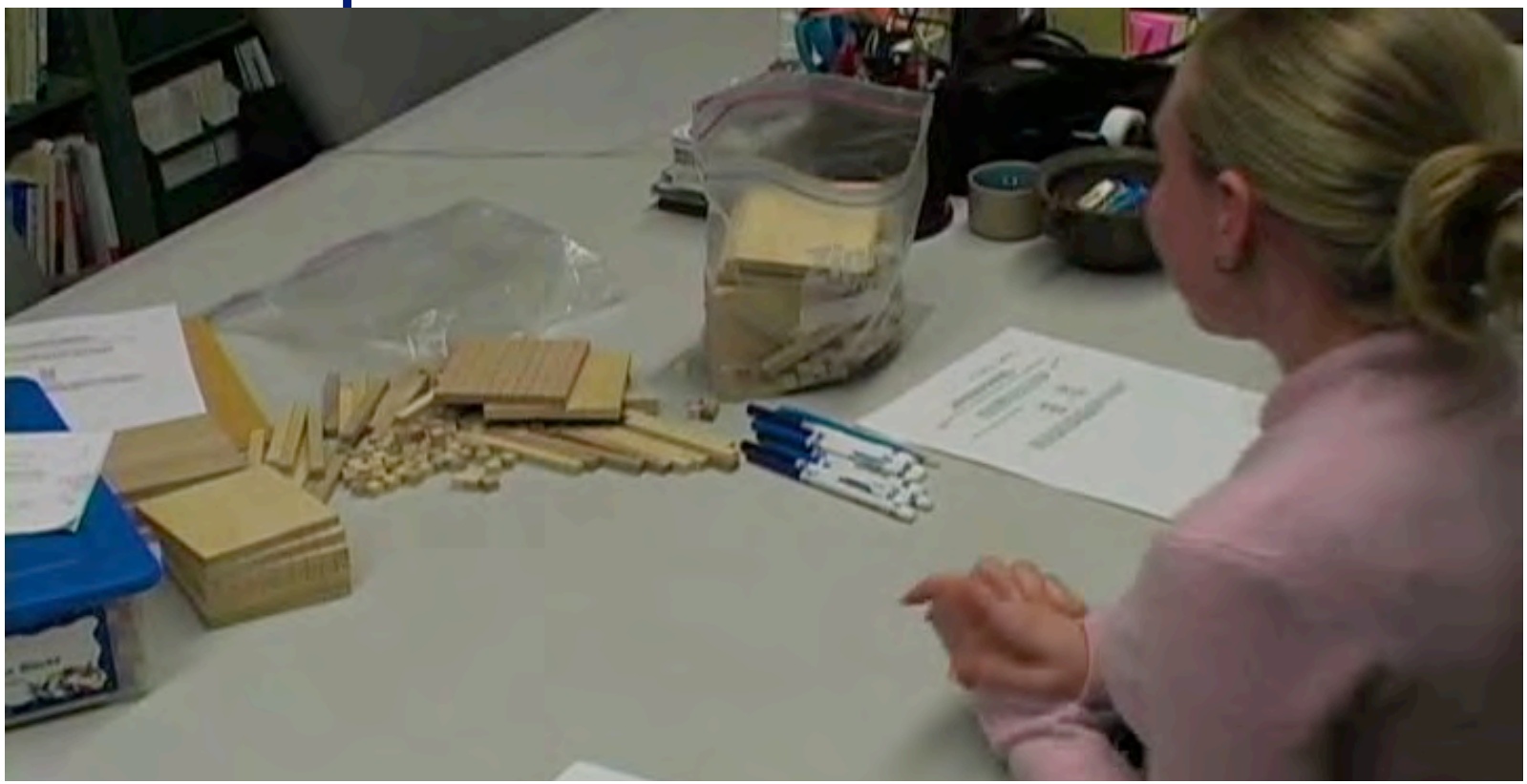
# Modeling Culminating Performance Assessment

- Instructor meets individually with each student during final exam
- Assessment task specifies features of the teaching scenario and goal for the modeling
- Scoring tool is used to capture and evaluate live modeling performance



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# Sample Student Performance



What evidence of skill with the work of modeling does this assessment capture/show?



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# Gaining a Sense of Novice Teaching Through this Performance Assessment

This task afforded the opportunity to appraise:

- Mathematical knowledge
- Instructional dispositions
- Skill in sizing up student error
- Pedagogical skill
  - Use of representation
  - Attending to the error through modeling



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# 4. Conclusion



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# Using Practice as Evidence of Learning

## Emerging benefits

- Reinforce a focus on the doing of mathematics teaching
- Gain insights into novice teaching practice

## Persistent Challenges

- Identifying and articulating the work of mathematics teaching
- Developing tasks that elicit and capture teaching performance
- Setting performance expectations for “well started beginners”
- Supporting informed judgment by a diverse instructional team



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