

# LEARNING TO *DO* THE WORK OF TEACHING: PRACTICE-BASED TEACHER EDUCATION

Deborah Loewenberg Ball



19 junio 2018 • Universidad del Desarrollo • Santiago, Chile



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# WHY IS TEACHER EDUCATION SO IMPORTANT?

1. What is the responsibility of professional education for teaching?
2. What is the “work of teaching”?
3. What is involved in “practice-based” teacher education?
4. What are the challenges in improving teachers’ preparation?

# TEACHING PRODUCES THE HUMAN RESOURCES FOR A NATION

- Large scale (for example, 237 000 teachers in Chile; 3,75 million teachers in U.S.)
- Teaching is the only occupation that works with every person in the country
- School represents for many students the opportunity for advancement in life

# WHAT SHOULD TEACHER EDUCATION DO?

- Prepare teachers with the theory and knowledge of the profession
- Prepare teachers to be lifelong learners
- Prepare teachers for the responsibilities they will have from the first day, such as:
  - Explaining so that students can understand
  - Establishing a good learning environment in the classroom
  - Designing interesting and useful lessons
  - Assessing students' progress
  - Working with families

How do other professions  
and occupations think  
about initial formation of  
novices?



# WHAT DO THESE PROFESSIONS HAVE IN COMMON?

1. Identified the most important skills, knowledge, and requirements necessary for the practice
2. Developed ways of teaching novices to learn the practice
3. Required each person to pass performance assessments before they are “licensed” to practice

**This is not true for teaching.**

# WHAT IS THE “WORK OF TEACHING”?



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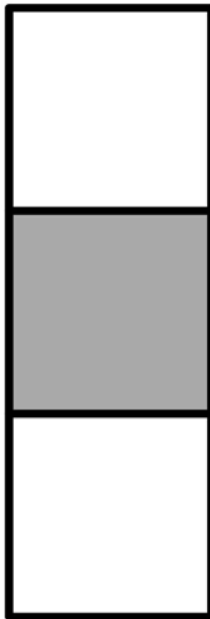
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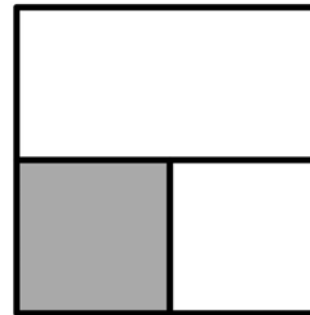


# A GLIMPSE OF THE “WORK OF TEACHING”: CHOOSING A TASK FOR A LEARNING GOAL

What part of the rectangle below is shaded gray?

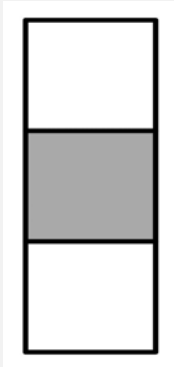


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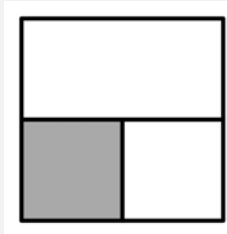


# A GLIMPSE OF THE “WORK OF TEACHING”: CHOOSING A TASK FOR A LEARNING GOAL

What part of the rectangle below is shaded gray?



What part of the rectangle below is shaded gray?



1. Understanding the mathematics
2. Understanding the mathematical point of the task
3. Understanding common patterns of student thinking about these ideas

# VIDEO: A GLIMPSE OF THE “WORK OF TEACHING”



What does the video  
show about the work of  
teaching, both visible and  
invisible?

# TEACHING: INVISIBLE AND VISIBLE

## INVISIBLE WORK

- Selecting a specific student to present and to position as competent
- Working to disrupt patterns that marginalize groups of students
- Trusting the children to think, be engaged, try to learn
- Caring for students
- Making choices about how to interpret students' behavior and answers

## VISIBLE WORK

- Supporting students to present
- Honoring different students' ideas
- Focusing on concepts and reasoning
- Expecting students to listen to one another
- Highlighting particular children displaying specific forms of competence

# TEACHING: INVISIBLE AND VISIBLE

## INVISIBLE WORK

- Selecting a specific strategy to present and to position content to support students' competence
- Eliciting and interpreting the individual reasoning of students
- Teaching children to think, be engaged, and learn
- Constructing respectful relationships with students
- Interpreting students' behavior and answers

Explicar y modelar los contenidos

Elicitar e interpretar el razonamiento individual de los estudiantes

Construir relaciones respetuosas con estudiantes

## VISIBLE WORK

- Focusing on concepts and reasoning
- Implementing norms and routines for classroom discourse and work
- Leading group discussions
- Listening to individual children
- Supporting specific forms of competence

Liderar discusiones grupales

Implementar normas y rutinas para discursar y el trabajo de la sala de clases

Apoyar formas específicas de competencia

# TEACHING: INVISIBLE AND VISIBLE

## INVISIBLE WORK

- Selecting a specific strategy to present and to position content to support students' competence
- Eliciting and interpreting the individual reasoning of students
- Teaching children to think, be engaged, and learn
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Explicar y modelar los contenidos

Elicitar e interpretar el razonamiento individual de los estudiantes

Construir relaciones respetuosas con estudiantes

## VISIBLE WORK

- Focusing on concepts and reasoning
- Implementing norms and routines for classroom discourse and work
- Listening to and valuing children's specific forms of competence

Liderar discusiones grupales

Implementar normas y rutinas para discursar y el trabajo de la sala de clases

**Son prácticas de alto impacto.**

# WHAT IS INVOLVED IN “PRACTICE-BASED” TEACHER EDUCATION?



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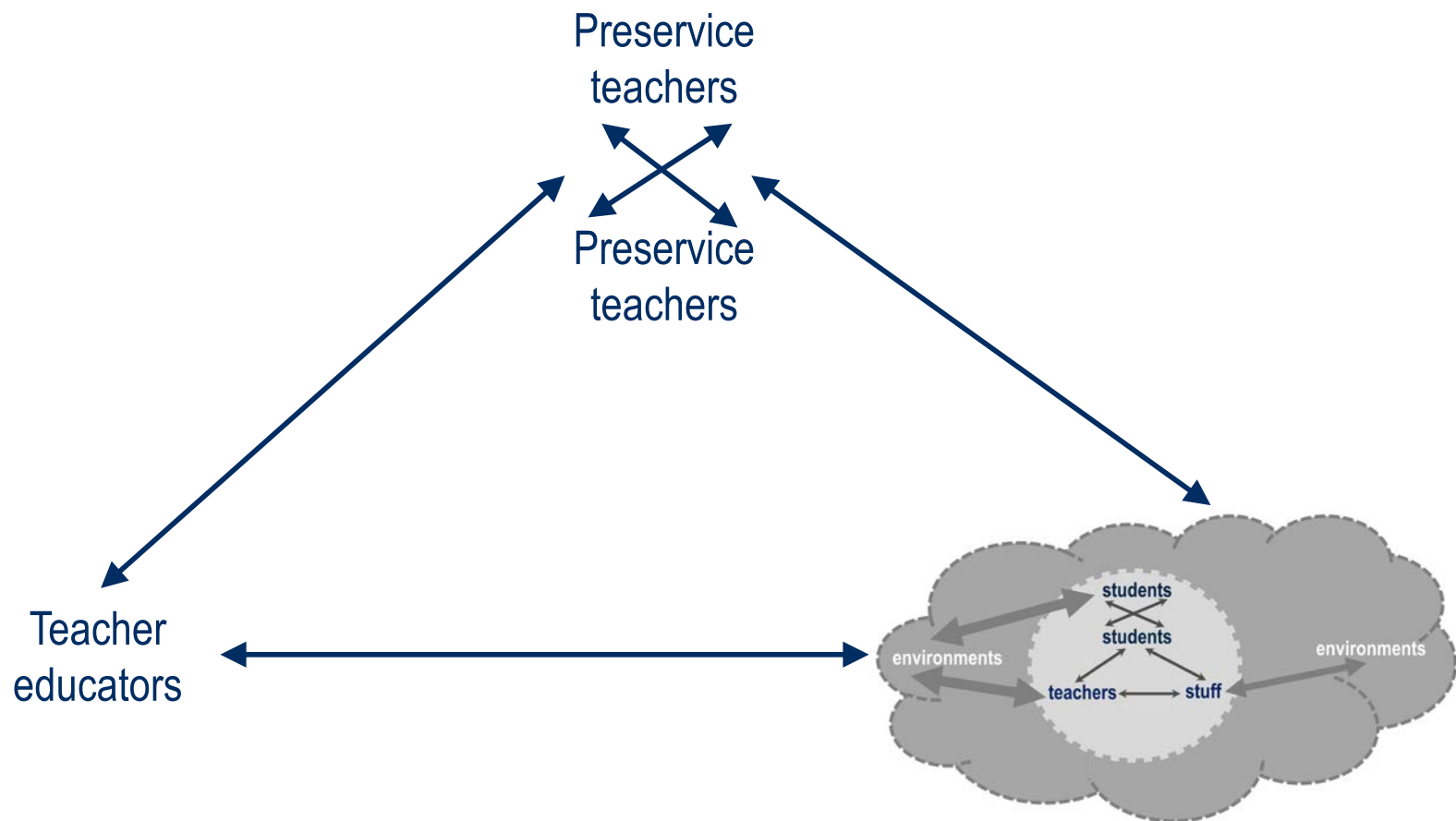


# ORIENTING TEACHER EDUCATION TO FOCUS ON TEACHING PRACTICE



- This is not simply about **how much time** teachers spend in fieldwork or in schools.
- It **is** about whether their program focuses on preparing teachers for the work of teaching:
  1. What is taught
  2. How it is taught
  3. How it is assessed

# FOCUSING THE TEACHER EDUCATION CURRICULUM TO PREPARE BEGINNING TEACHERS FOR THE WORK OF TEACHING



# COMPONENTS OF THE PRACTICE-BASED TEACHER EDUCATION CURRICULUM

- Prácticas de alto impacto
- Content knowledge for teaching
- Ethical obligations
- Critical consciousness about patterns that reproduce inequity and practices to disrupt them

# HIGH-LEVERAGE PRACTICES<sup>1</sup>

## PRÁCTICAS DE ALTO IMPACTO (PAI)

1. Liderar discusiones grupales.
2. Explicar y modelar los contenidos, practices, y estrategias.
3. Elicitar e interpretar el razonamiento individual de los estudiantes.
4. Diagnosticar patrones comunes en el razonamiento y desarrollo de los estudiantes de una signatura.
5. Implementar normas y rutinas para discursar y el trabajo de la sala de clases.
- ...
10. Construir relaciones respetuosas con estudiantes.

<sup>1</sup>*TeachingWorks, University of Michigan School of Education, Universidad del Desarrollo*

# HIGH-LEVERAGE PRACTICES<sup>1</sup>

## PRÁCTICAS DE ALTO IMPACTO (PAI)

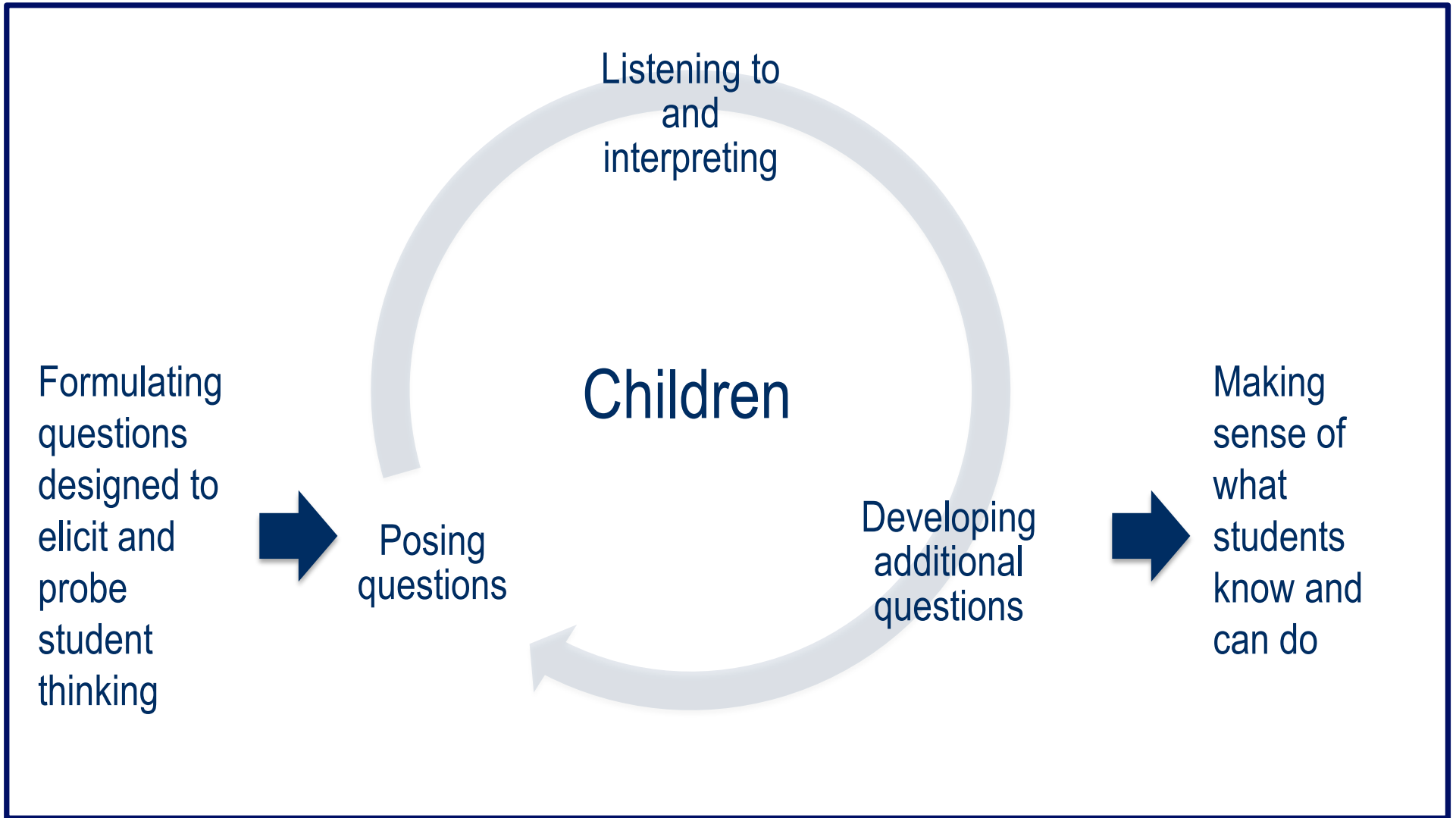
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10. Construir relaciones respetuosas con estudiantes.

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# EXAMPLE: ELICITAR E INTERPRETER EL RAZONAMIENTO INDIVIDUAL DE LOS ESTUDIANTES

- Introduce practice
- Practice in simulated setting
- Practice in field
- Assess beginning teachers' skill, at baseline and at end of program<sup>1</sup>

@practice (Meghan Shaughnessy and Tim Boerst)



- Developing general, open-ended questions
- Choosing a focus
- Developing hypotheses to test

Formulating questions designed to elicit and probe student thinking



Posing questions

Children

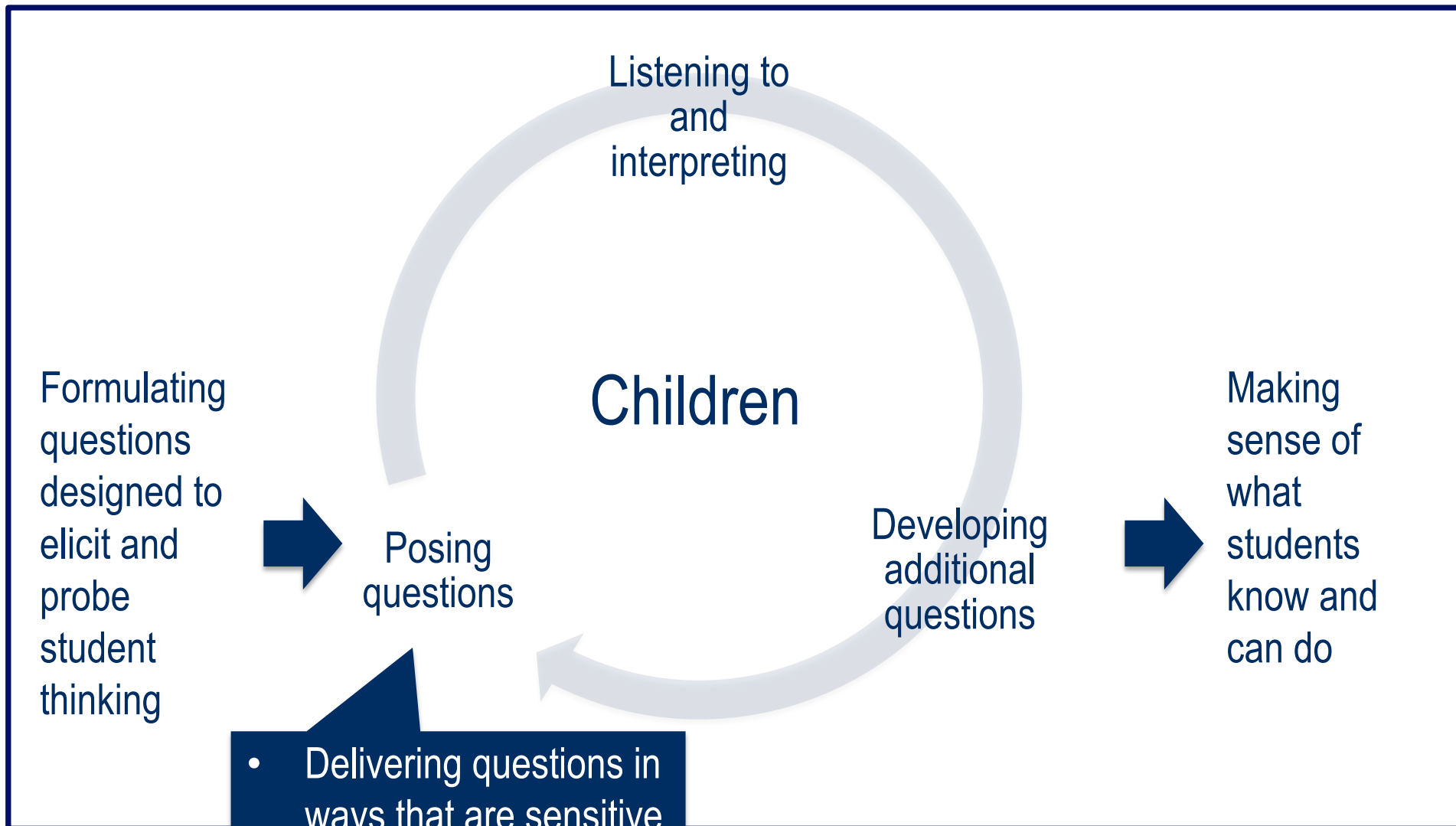
Listening to and interpreting

Developing additional questions



Making sense of what students know and can do





- Delivering questions in ways that are sensitive to how students might hear and respond to the question

- Giving students time to speak
- Paying close attention to what the student says
- Noticing features of the student's thinking

Listening to and interpreting

Children

Formulating questions designed to elicit and probe student thinking

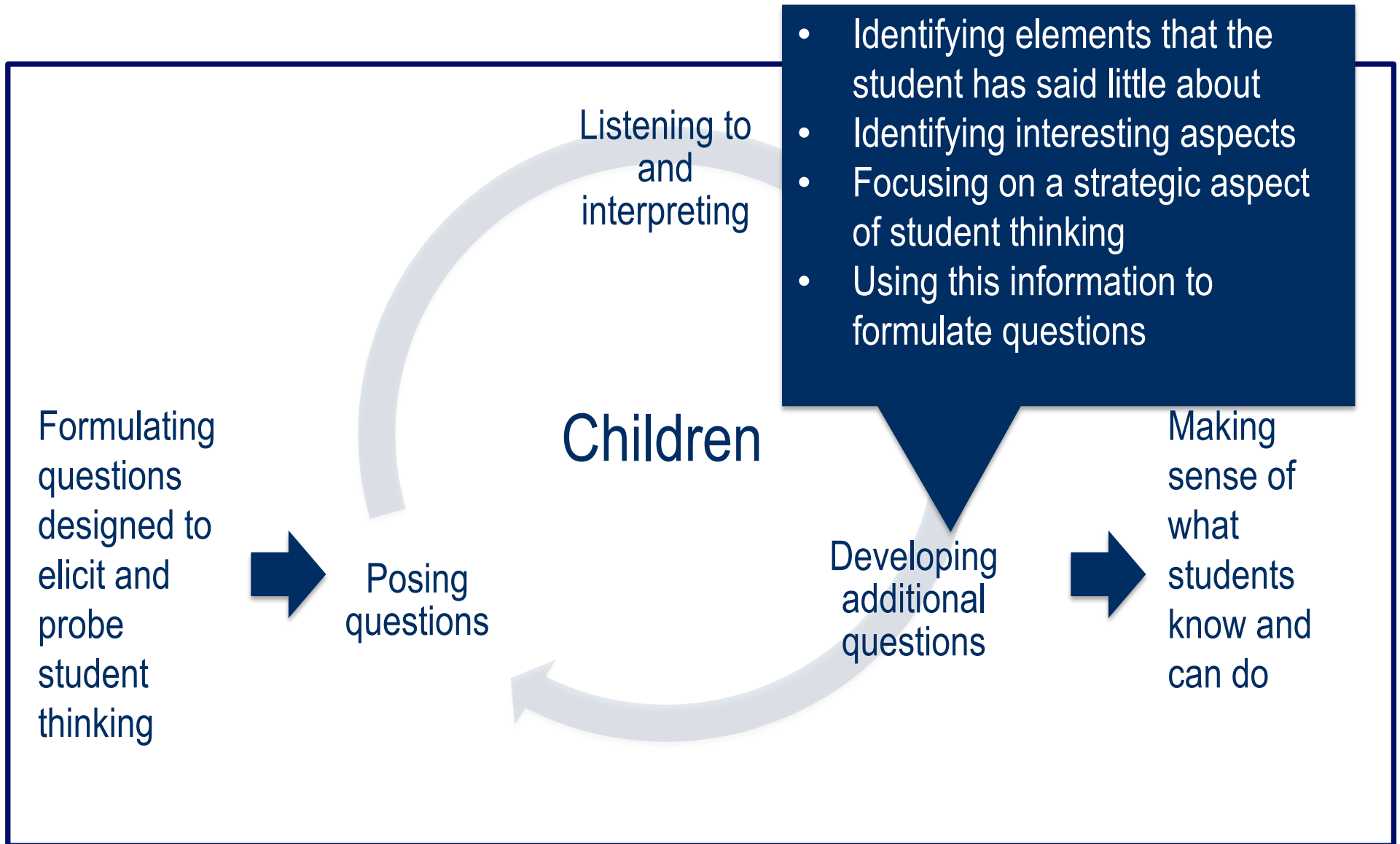


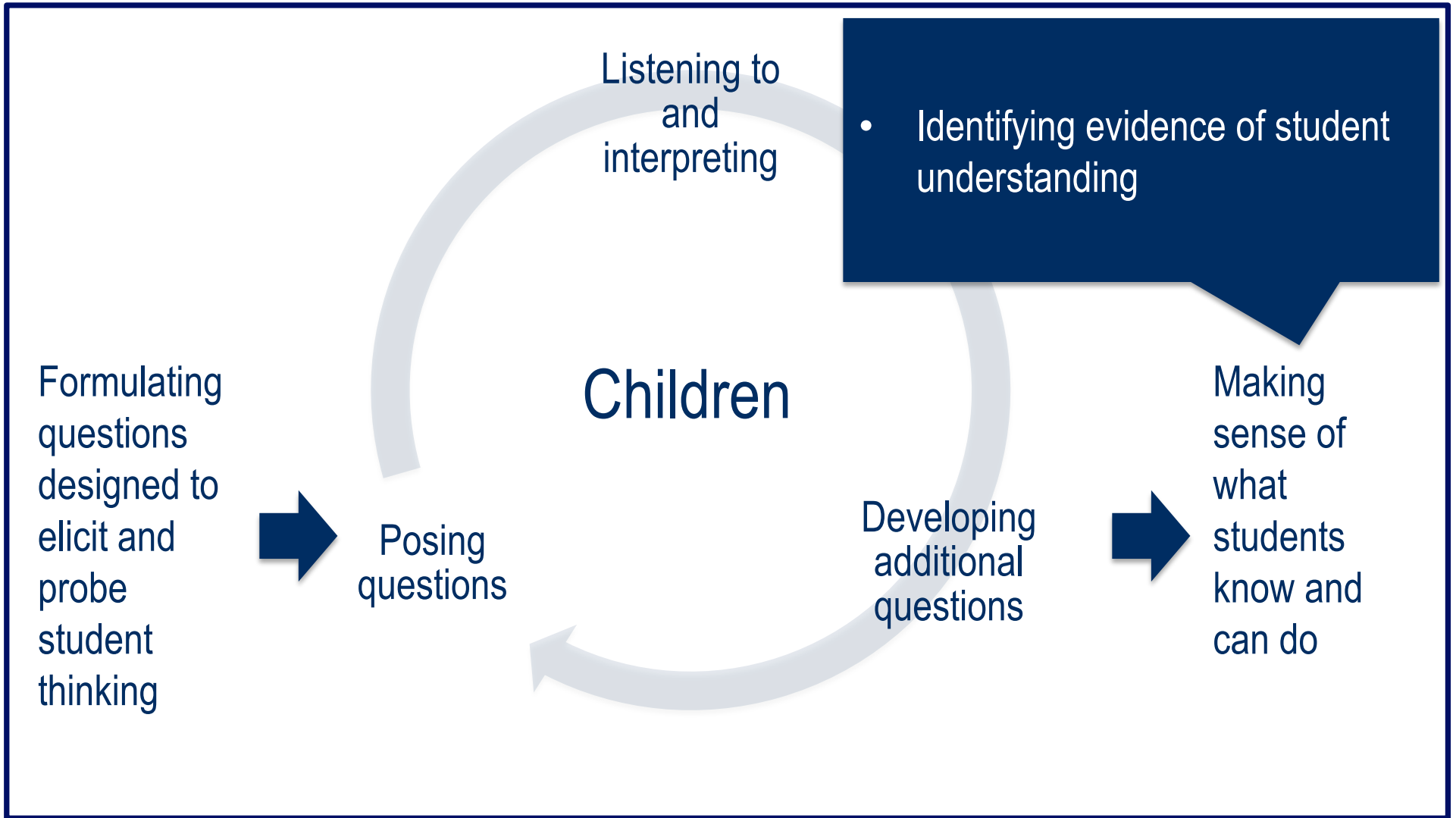
Posing questions

Developing additional questions



Making sense of what students know and can do





# TEACHER EDUCATION PEDAGOGIES<sup>1</sup>

Specific methods and approaches for teaching high-leverage practices and content knowledge for teaching:

- Rehearsals
- Simulated student interactions
- Modeling
- Using video to practice (not just analyze)

<sup>1</sup> Grossman, McDonald, Kazemi, Franke, Lampert

# VIDEO: LOOKING CLOSELY AT ELICITING AND INTERPRETING STUDENT THINKING



# LEARNING TO ELICIT AND INTERPRET STUDENT THINKING

Two friends equally share  $\frac{3}{8}$  of a ball of yarn.  
How much of the yarn does each friend get?

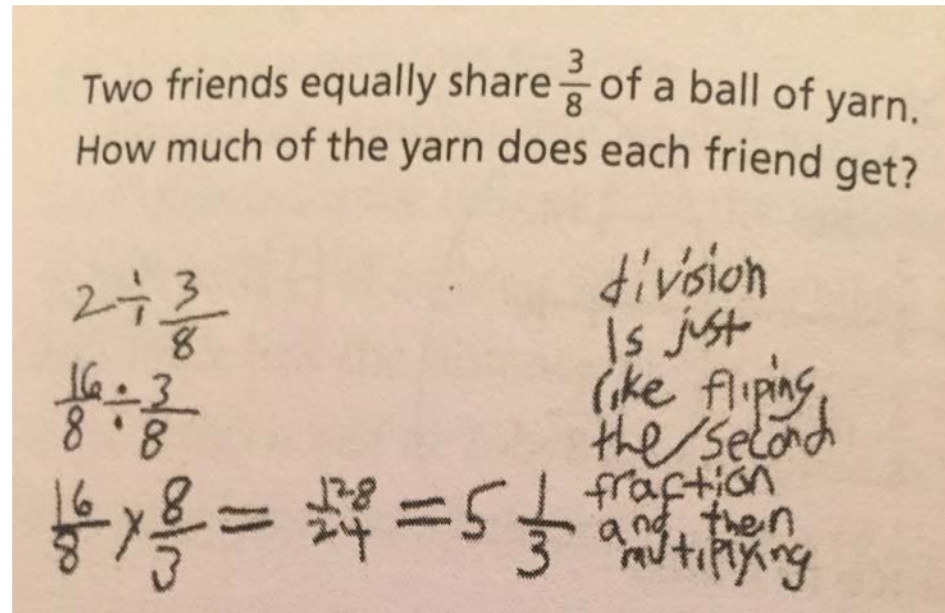
$2 \div \frac{3}{8}$   
 $\frac{16}{8} \div \frac{3}{8}$   
 $\frac{16}{8} \times \frac{8}{3} = \frac{128}{24} = 5 \frac{1}{3}$

division  
is just  
like flipping  
the second  
fraction  
and then  
multiplying

# SIMULATED STUDENT INTERACTION

To practice and get close coaching and feedback on:

- eliciting student thinking
- probing student understanding





# VIDEO: ASSESSING BEGINNING TEACHERS LEARNING TO ELICIT AND INTERPRET STUDENT THINKING



@practice (Meghan Shaughnessy and Tim Boerst)

33

19 junio 2018



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# SCORING

Simulation		Comments:
<i>Initial elicitation</i>		
<input checked="" type="checkbox"/>	Asks the student what he or she <u>did or thought about</u> when solving the problem <i>(The question must be focused on student thinking and/or process for solving the problem and must not assume information about the student's thinking that should be elicited)</i>	How did you get 23 was 1 <sup>st</sup> official question.
<i>Follow-ups to the initial elicitation (these do not need to be in this order)</i>		
<input checked="" type="checkbox"/>	Elicits where the 6 comes from <i>(2 tens + 3 tens + 1 ten)</i>	
<input checked="" type="checkbox"/>	Elicits where the 23 comes from <i>(9 + 6 + 8)</i>	
<input checked="" type="checkbox"/>	Elicits the sequence of adding tens first and then adding ones	
<input checked="" type="checkbox"/>	Elicits a description of the combining/regrouping	
<input type="checkbox"/>	Probes the student's understanding of the value of components of the 623 ___ 6 is 6 tens      ___ 23 is 23 ones      ___ 2 is 20 ones ___ 2 is 2 tens      ___ 3 is 3 ones	
<input type="checkbox"/>	Probes the student's understanding of why combining is necessary <i>(e.g., because the 6 and the 2 are both tens)</i>	
<input type="checkbox"/>	Asks the student to write	
<i>Attends to student's ideas in follow-up questions</i>		
<input type="checkbox"/>	Asks questions tied to specific things that the student <b>did</b> <i>(i.e., questions about the student's writing)</i> ___ Asks specific questions about the original written work <i>(e.g., "Where did the 8 come from?")</i> ___ Asks the student describe/explain aloud what he or she writes down <b>during</b> the simulation	
Attends to and takes up specific ideas that the student		
		Posed an additional task for the student to solve ___ Task is useful for confirming the student's complete process <i>(i.e., posed an addition task that involves combining)</i> ___ Implementation of task elicits student thinking  Task(s) posed:
		"Fills in" student thinking at least once <i>(e.g., a contribution that provides information that should have been elicited or probed for)</i> ___ "Fills in" parts of the process ___ "Fills in" parts of the student's understanding

@practice (Meghan Shaughnessy and Tim Boerst)

# VIDEO: AT END OF PROGRAM



Student: Then- Oh, this is a little complicated. I have to put together my tens. I have nine ones.

@practice (Meghan Shaughnessy and Tim Boerst)

# WHAT IS THE PROBLEM FOR TEACHER EDUCATION?



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# THE PURPOSE OF HAVING SOME SHARED EXPERIENCES WITH TEACHING TODAY

1. To clarify and name what the *work of teaching* involves
2. To identify and specify the tasks that beginning teachers must be able to do
3. To challenge and change common beliefs about learning to teach, and teacher education

# COMMON BELIEFS ABOUT TEACHING

- Teaching is not difficult.
- Teaching is best learned through experience.
- Teaching depends on creativity and improvisation.
- Teaching is a natural talent—some people are just born teachers.

# THE REALITY ABOUT TEACHING

- Teaching is complex work that requires a special blend of knowledge and skill.
- Teaching involves substantial skill, reasoning, and technique.
- It is a chancy strategy for a nation to supply quality teaching to all students by relying on individual creativity, experience on the job, or innate talent.

# CHALLENGES TO DEVELOPING PRACTICE-BASED TEACHER EDUCATION

- Lack of common language and resistance to specification of teaching (“too technical”)
- “Academic freedom” and complexity of higher education (professors and supervisors are independent)
- Connections to schools and developing partnerships for field placements



# ¡GRACIAS!

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deborahloewenbergball.com  
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