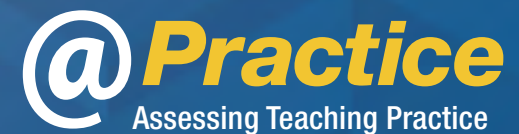


APPRAISING THE SKILLS FOR ELICITING STUDENT THINKING THAT PRESERVICE TEACHERS BRING TO TEACHER EDUCATION

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ORIENTING PROFESSIONAL PREPARATION TO WHAT PRESERVICE TEACHERS BRING

If we know more about the knowledge and skills that beginners bring to teacher preparation, then we could reconsider:

- The curriculum (things that need to be learned and “unlearned”)
- Settings for teacher learning and needed resources
- Recruitment

We could also better track on preservice teachers’ developing skill

CONSIDERING ONE TEACHING PRACTICE: ELICITING STUDENT THINKING

To find out what students know or understand, and how they are thinking/reasoning, a teacher must:

- Establish an environment in which a student is comfortable sharing his/her thinking
- Pose questions to get students to talk
- Listen to and hearing what students say
- Probe students' responses
- Develop ideas about what a student thinks
- Check one's interpretation

FOCUSING ON ELICITING FROM THE BEGINNING OF TEACHER EDUCATION

Early attention to eliciting and interpreting student thinking is crucial, because:

- People are likely to develop ways of doing this in everyday life
- Caring about what students think is foundational to teaching
- It is foundational to many other teaching practices

USING STANDARDIZED SIMULATIONS TO ASSESS ELICITING

Simulations are approximations of practice that can be used for both assessing and supporting ongoing learning.

Simulations:

- place authentic, practice-based demands on a participant
- purposefully suspend or standardize some elements of the practice-based situation
- are commonly used in many professional fields
- can provide insights that are not possible or practical to determine in real-life professional contexts

SETTING THE STAGE FOR ELICITING

$$\begin{array}{r} 29 \\ 36 \\ + 18 \\ \hline 623 \\ \textcircled{83} \end{array}$$

The preservice teacher:

1. Prepares for an interaction with a standardized student about one piece of student work

Your goal is to elicit and probe to find out what the “student” did to produce the answer as well as the way in which the student understands the steps that were performed.

$$\begin{array}{r} 29 \\ 36 \\ + 18 \\ \hline 623 \\ \textcircled{83} \end{array}$$

Final answer 83

Correct answer, alternative algorithm, degree of understanding is unclear

HOW IS EVIDENCE OF ELICITING SKILLS OBTAINED?

$$\begin{array}{r} 29 \\ 36 \\ + 18 \\ \hline 623 \\ \textcircled{83} \end{array}$$

The preservice teacher:

1. Prepares for an interaction with a standardized student about one piece of student work
2. **Interacts with the student to probe the standardized student's thinking**



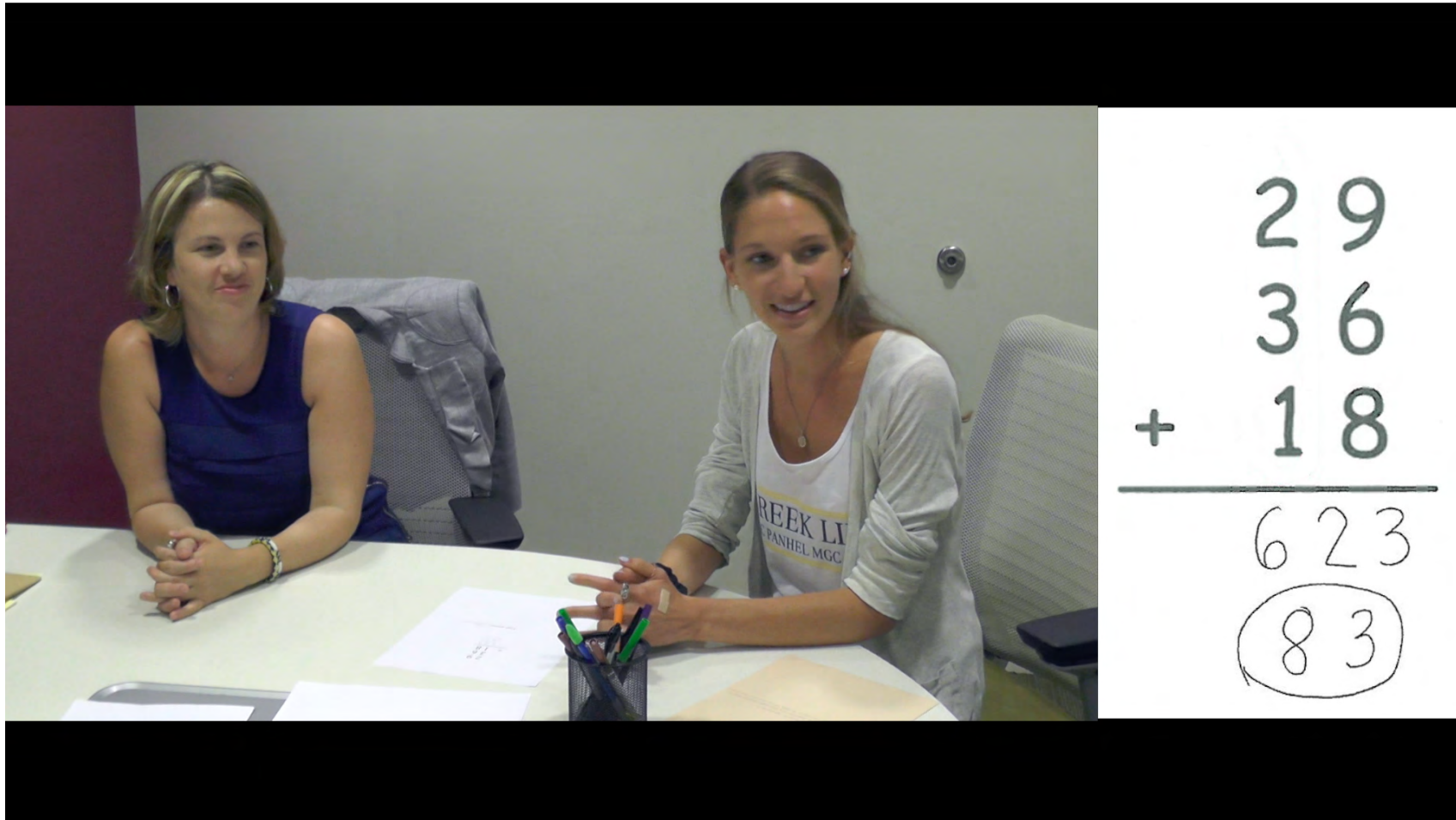
A Standardized Student

Developed response guidelines focused on:

- What the student is thinking such as
 - Uses an alternative algorithm (column addition), except the student is working from left to right
 - Applies the method correctly and has conceptual understanding of the procedure
- General orientations towards responses such as
 - Talk about digits in columns in terms of the place value of the column (e.g., 23 ones)
 - Give the least amount of information that is still responsive to the question
- Responses to anticipated questions

ELICITING A STUDENT'S THINKING

$$\begin{array}{r} 29 \\ 36 \\ + 18 \\ \hline 623 \\ \textcircled{83} \end{array}$$



INITIAL SKILL IN ELICITING STUDENT THINKING

Context:

- Simulation assessment (47 preservice teachers)
- Data collected during the first week of the teacher education program

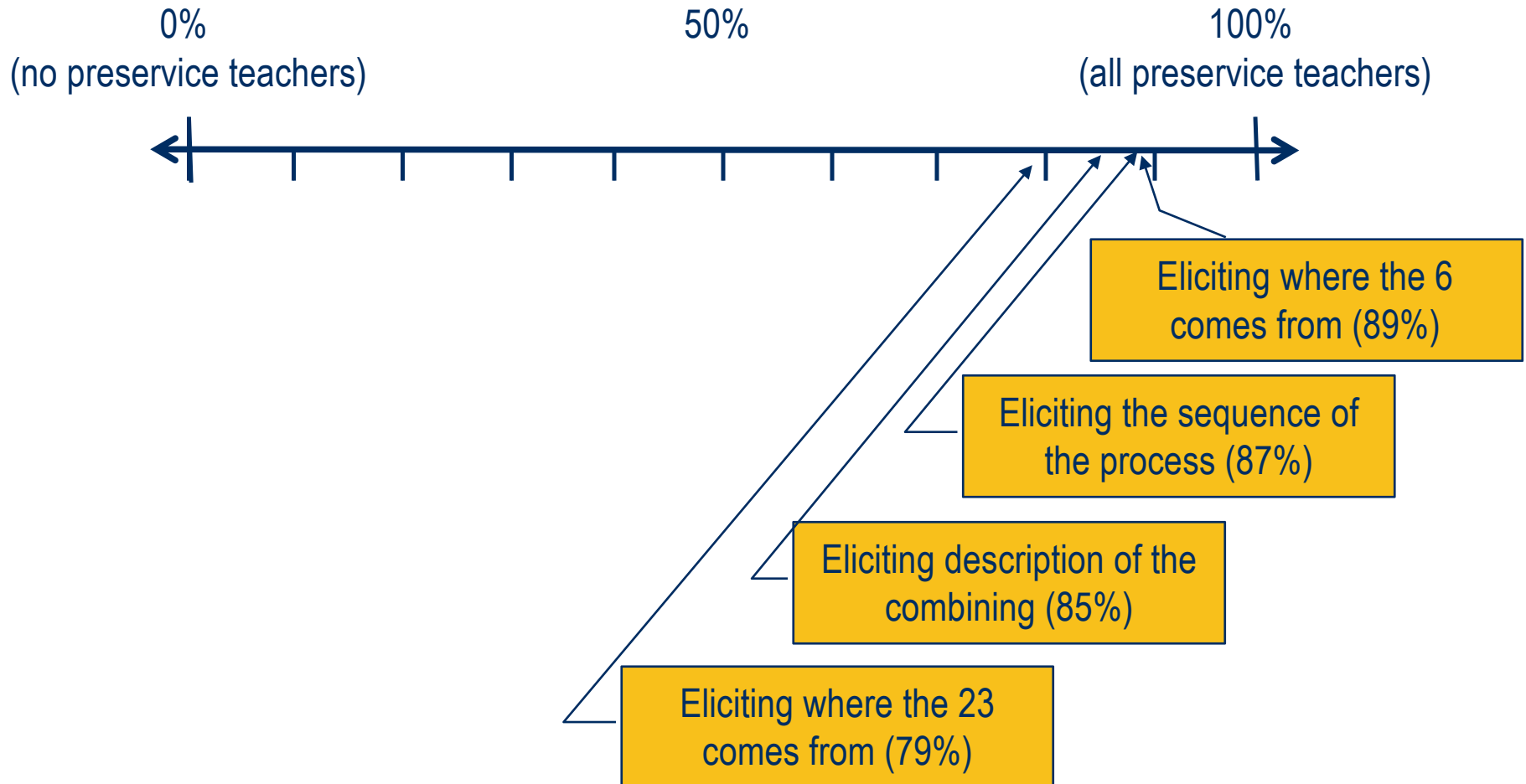
Analyzing the prevalence of eliciting moves:

- Eliciting components of the student's process
- Probing the student's understanding of the process
- Attending to the student's ideas
- Deploying other moves that support learning about student thinking



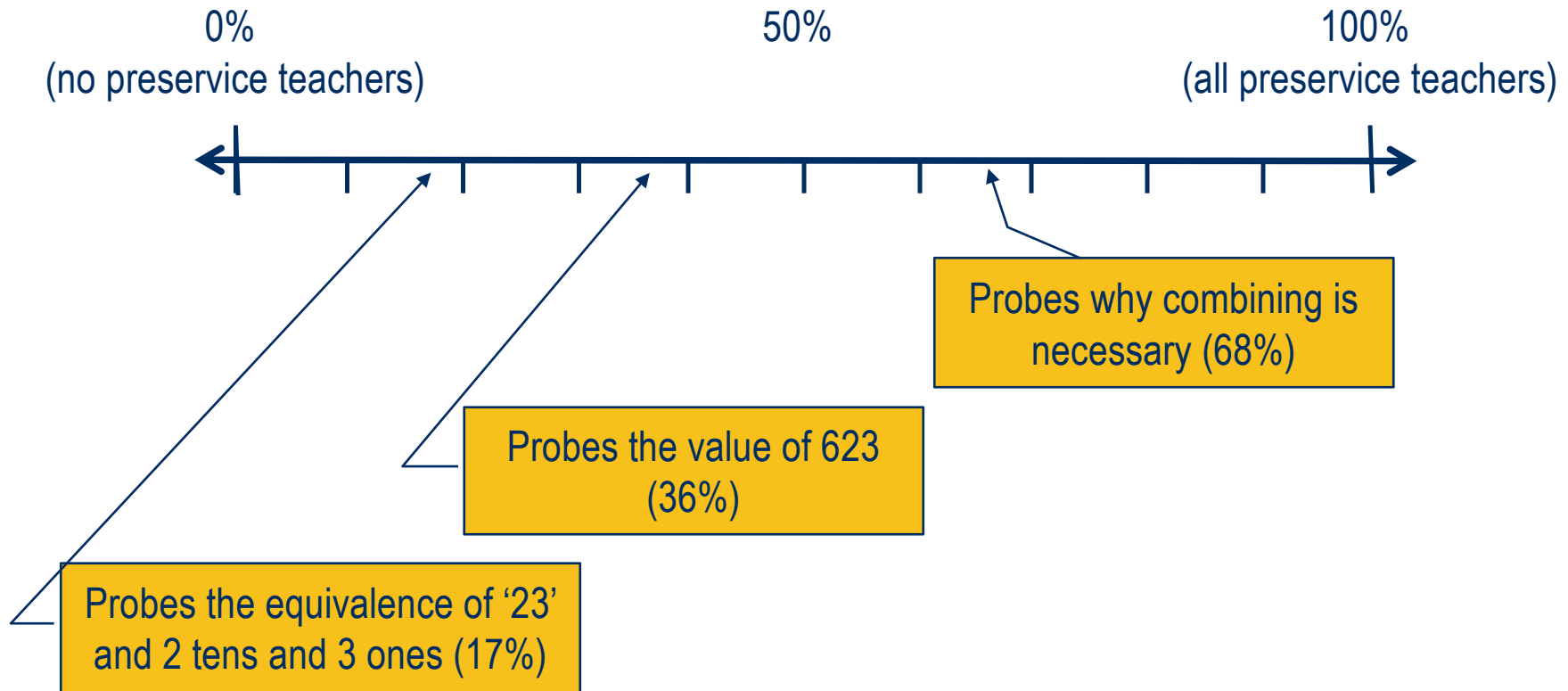
PREVALENCE OF MOVES: ELICITING PROCESS

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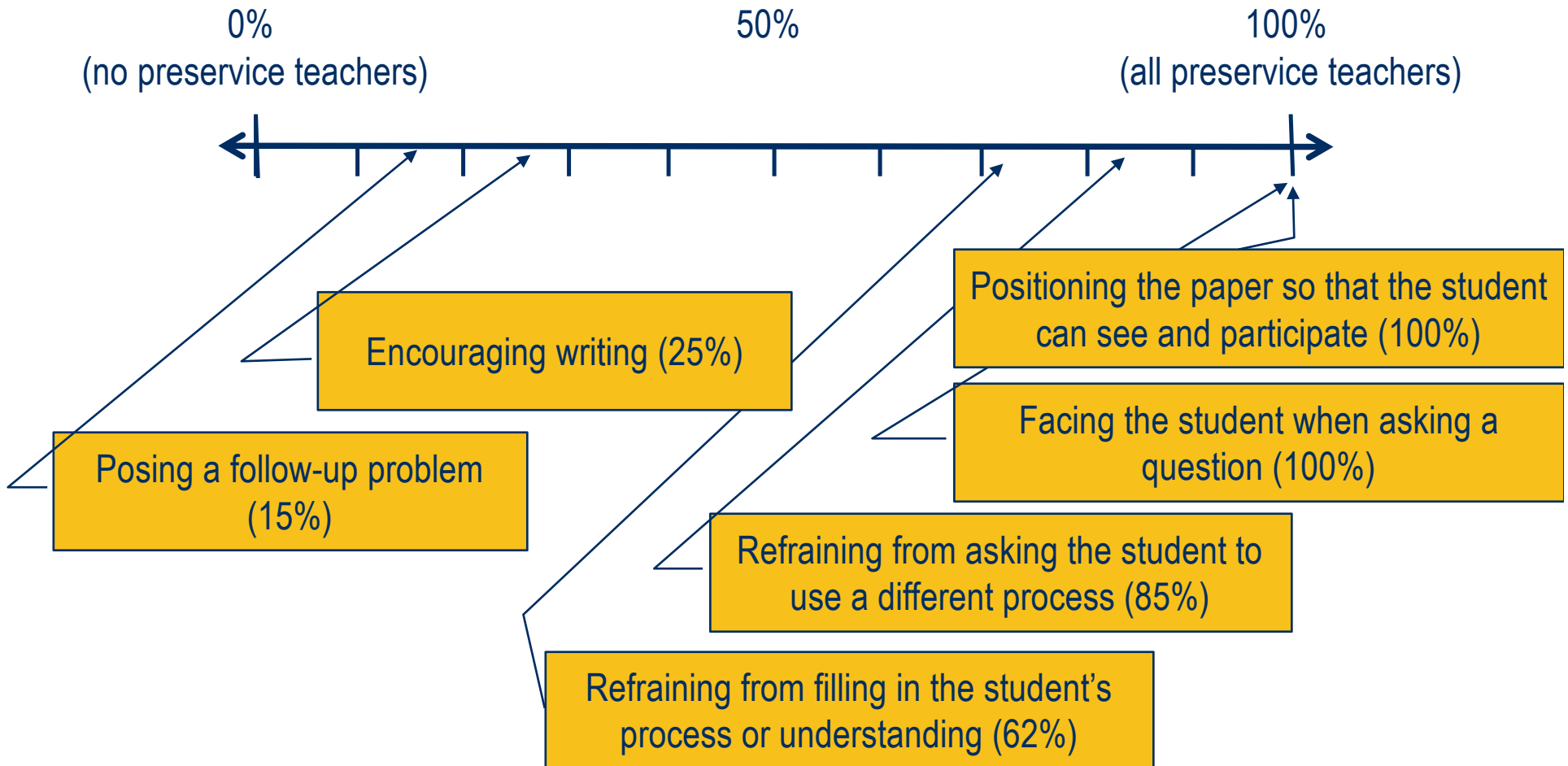
PREVALENCE OF MOVES: ELICITING UNDERSTANDING

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PREVALENCE OF ELICITING: DEPLOYING OTHER MOVES

$$\begin{array}{r} 29 \\ 36 \\ + 18 \\ \hline 623 \\ \textcircled{83} \end{array}$$



WHAT CAN BE LEARNED FROM THE SKILLS THAT NOVICES BRING?

1. Moves that require new learning ➡ Novices have much to learn about eliciting student thinking
(e.g., asking the student to write, posing a follow up problem, and probing the student's understanding)
2. Moves that can be built upon ➡ Novices bring relevant skills to teacher education which can be leveraged and built upon
(e.g., facing student, asking process questions)
3. Moves that require unlearning ➡ Some of the skills brought to teacher preparation by novices may undermine to the work that teachers need to do
(e.g., filling in student thinking or asking the student to use a different process)

CONCLUSIONS

- When teacher education is focused on the practice of teaching:
 - We need information about the skills with teaching practices that novices bring to teacher education
 - Such information can inform the design of teacher education
- Specific findings cannot be generalized beyond this particular group (i.e., a group of preservice teachers with differing prior experiences might bring different skills)
- Categories may be generalizable to other contexts and other teaching practices