

DESIGNING OBSERVATIONAL LEARNING EXPERIENCES THAT IMPACT TEACHING PRACTICE

Nicole Garcia, Jillian P. Mortimer, Darrius Robinson
& Deborah Loewenberg Ball

*Twenty-Fifth Annual Conference of the Association of Mathematics Teacher Educators
Virtual Conference • February 13, 2020*

The research reported here was supported by the National Science Foundation, through a grant to the University of Michigan. The opinions, findings, and recommendations expressed are those of the authors and do not represent views of the National Science Foundation.



This work is licensed under the Creative Commons Attribution-Noncommercial-No Derivative Works
Version 3.0 United States License: <http://creativecommons.org/licenses/by-nc-nd/3.0/us/>

© 2021 Mathematics Teaching and Learning to Teach • School of Education • University of Michigan • Ann Arbor, MI 48109 • mtlt@umich.edu

SESSION OVERVIEW

- **Challenges in Observational Professional Development Design**
- **A Framework for Supporting Professional Learning Through Observation**
- **Applying the Framework**
- **Discussion**

CHALLENGES IN OBSERVATIONAL PROFESSIONAL DEVELOPMENT DESIGN



SCHOOL OF
EDUCATION
UNIVERSITY OF MICHIGAN



This work is licensed under the Creative Commons Attribution-Noncommercial-No Derivative Works
Version 3.0 United States License: <http://creativecommons.org/licenses/by-nc-nd/3.0/us/>

© 2021 Mathematics Teaching and Learning to Teach • School of Education • University of Michigan • Ann Arbor, MI 48109 • mtlt@umich.edu

VALUE OF OBSERVATION...

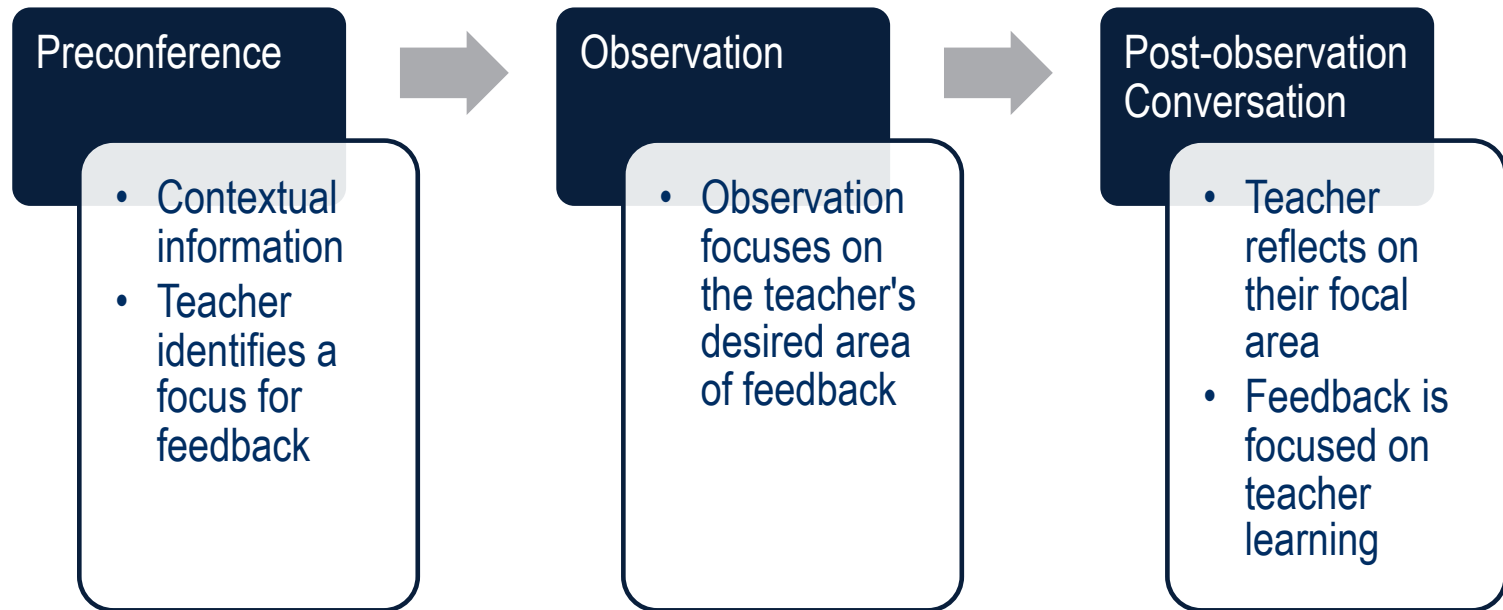
We inherently believe in the power of observing one another's teaching to improve practice...

But we know learning from teaching takes support to notice the work of the teacher, student thinking, and other features of teaching and learning.

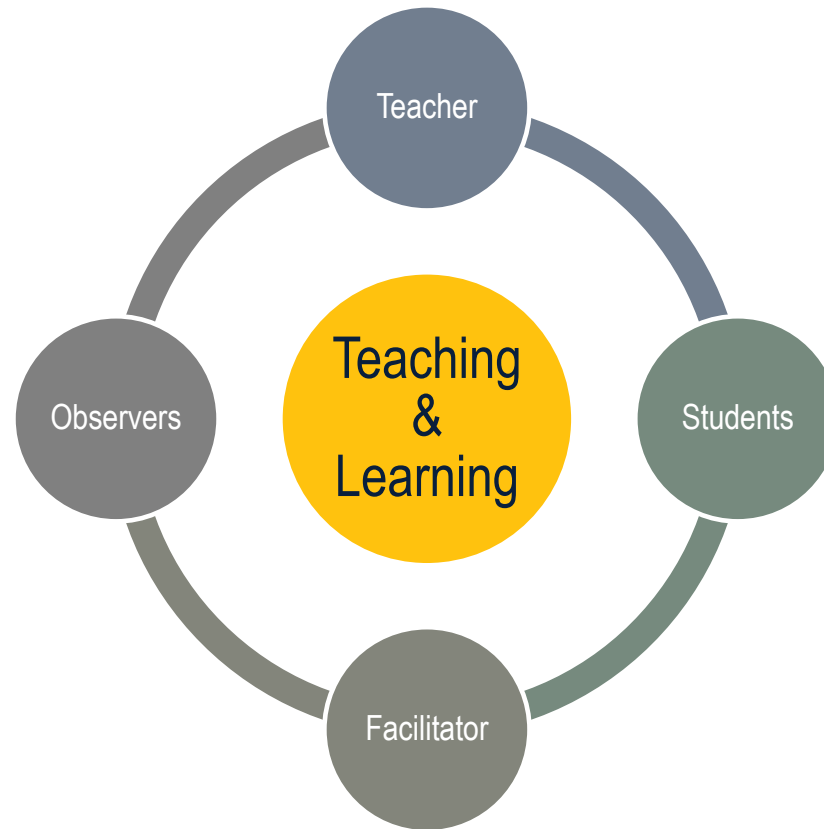
BUT WHAT IS THERE TO LEARN THROUGH OBSERVATION?

- Building mathematical knowledge of teaching
- Building understanding of teaching practice
- Broadening our views of students as sense-makers
- Learning to see specific issues related to equity, and to develop skills for promoting equitable classrooms

TYPICAL OBSERVATION STRUCTURES



WHAT MIGHT IT LOOK LIKE TO FOCUS ON EVERYONE'S LEARNING?



7

A FRAMEWORK FOR SUPPORTING PROFESSIONAL LEARNING THROUGH OBSERVATION

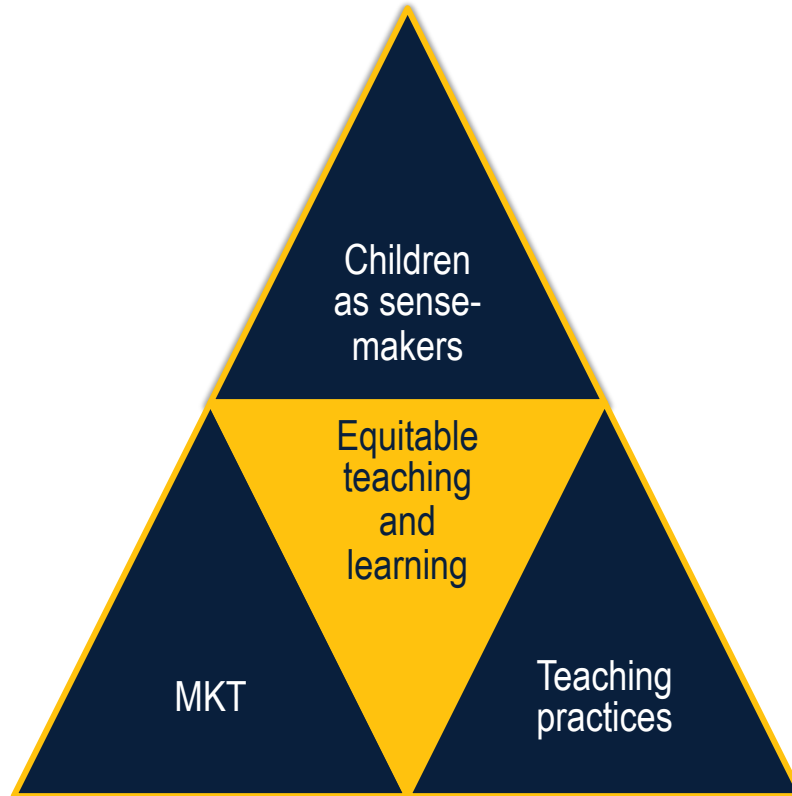


SCHOOL OF
EDUCATION
UNIVERSITY OF MICHIGAN

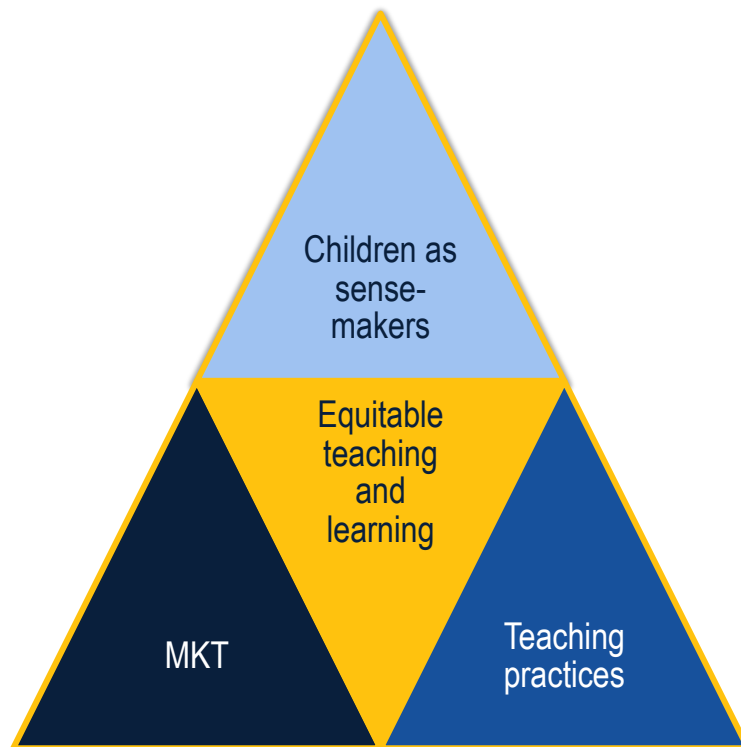


This work is licensed under the Creative Commons Attribution-Noncommercial-No Derivative Works
Version 3.0 United States License: <http://creativecommons.org/licenses/by-nc-nd/3.0/us/>





PRE-OBSERVATION WORK AND DISCUSSION



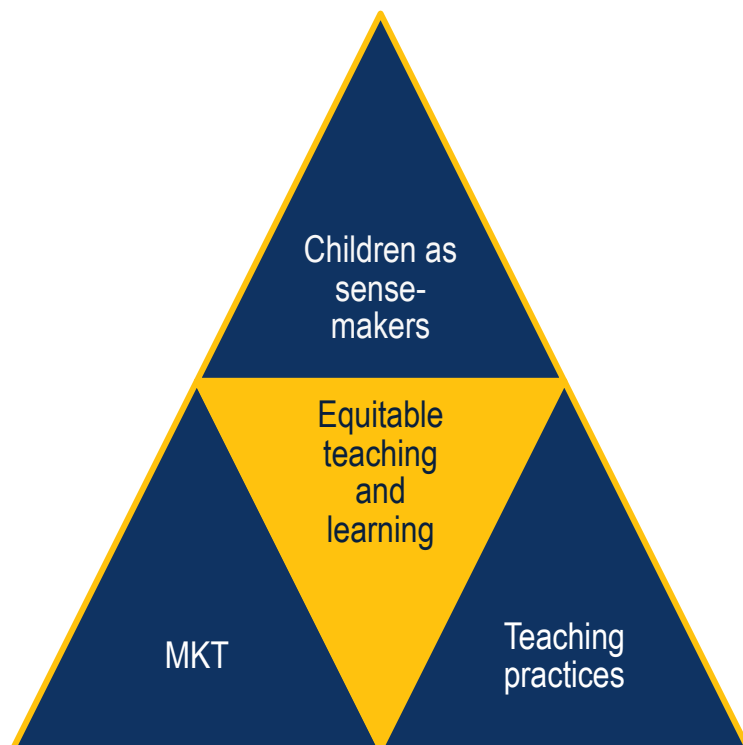
- What is the mathematics that observers need to understand in order to see and hear students and their ideas?
- What do observers need to know about the activity design and the teacher's anticipated outcomes in order to attend to the mathematics and the teaching simultaneously?
- What do observers need to know about the instructional decision points and practices in order to see and hear teachers' work?
- What do observers need to know (or not) about the students in the room?

FRAMING A FOCUSED OBSERVATION

Areas of work	Examples	Questions and caveats
<p>Establish rapport</p> <p>Seek to learn about and connect with each student as a whole person</p> <p>Provide opportunities for students to learn about and connect with you as a whole person</p> <p>Use work on content to both convey appreciation/regard for and connect with students</p>	<ul style="list-style-type: none"> What do you notice that might represent an example of this area of work in action? Are there examples you would label more or less productive? Why? (It might be helpful to include both, if applicable.) <p>For example,</p> <ul style="list-style-type: none"> Find small moments to connect with children. Communicate interest, openness, warmth, and caring Engage in light-hearted exchanges with students to convey a sense of the teacher as a person Signal to students that you are listening to them and taking their ideas seriously 	<ul style="list-style-type: none"> What other information might you need to make sense of these examples? What are you still wondering about? When might these examples be more productive or counterproductive for relationship building?
<p>Build mutual trust</p> <p>Demonstrate trustworthiness</p> <p>Treat students as trustworthy</p> <p>Support students to engage in productive struggle with content and to persevere</p>	<p>For example,</p> <ul style="list-style-type: none"> Be willing to admit to and apologize for mistakes Redirect students in a manner that preserves their self-worth (e.g., avoid shaming students) and respect their choice Ask questions to fully understand any problem or difficulty a student is having Position every student as capable, explicitly marking their strengths 	

- How will observers be supported to make low inference claims through observation?
- What will the focus of the observation be with respect to the mathematics, the teaching, and the children?
- How will observers note questions that are coming up and wonderings so that they might set aside inferences and non-focal observations?

POST-OBSERVATION WORK & DISCUSSION



- How will space be made for people to process initial reactions without these reactions taking over the focal discussion space?
- Which teaching practices, student strengths, and mathematical ideas are most productive to discuss?
- Were there instructional segments that may need further unpacking to support sense-making around what was observed (e.g. a math problem plays out differently than anticipated)?
- Where did issues of equity show up in instruction? How can these critical moments mutually inform the other spaces for the conversation (the mathematics, the teaching practice)?

WHAT TYPES OF PROFESSIONAL DEVELOPMENT MIGHT MAKE USE OF THIS FRAMEWORK?

- Peer-observation-based professional learning communities
- Video-based professional learning sessions
- Intensive observation-based learning experiences

APPLYING THE FRAMEWORK



SCHOOL OF
EDUCATION
UNIVERSITY OF MICHIGAN

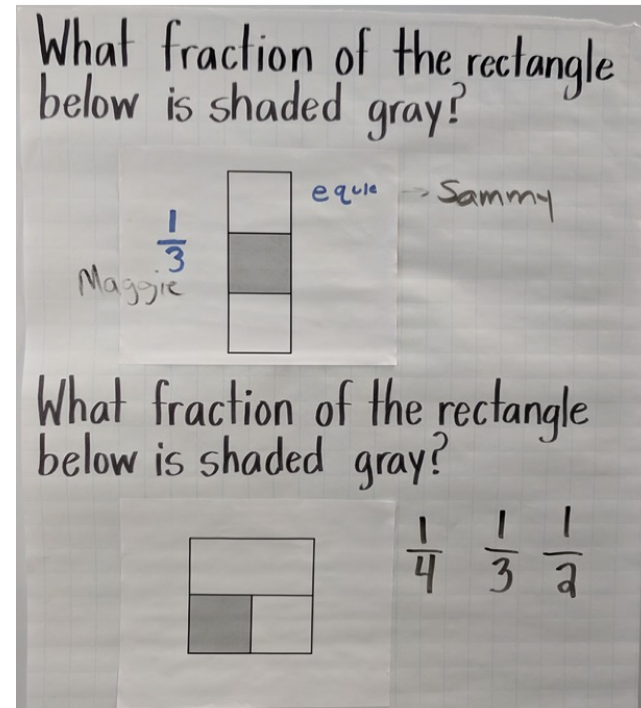


This work is licensed under the Creative Commons Attribution-Noncommercial-No Derivative Works
Version 3.0 United States License: <http://creativecommons.org/licenses/by-nc-nd/3.0/us/>

© 2021 Mathematics Teaching and Learning to Teach • School of Education • University of Michigan • Ann Arbor, MI 48109 • mtlt@umich.edu

PREPARING FOR THE OBSERVATION

- Grade 5 students are working on discussing solutions to the problems on the right. Jot down the reasoning that students might have used to arrive at each of the possible solutions. For each possible solution, what key fractional reasoning ideas are present?
- Why might the teacher choose to discuss each of these solutions?



Pre-observation
Work & Discussion

Observation

Post-observation
Work & Discussion

OBSERVING THE INSTRUCTIONAL SEGMENT

Observer Focus

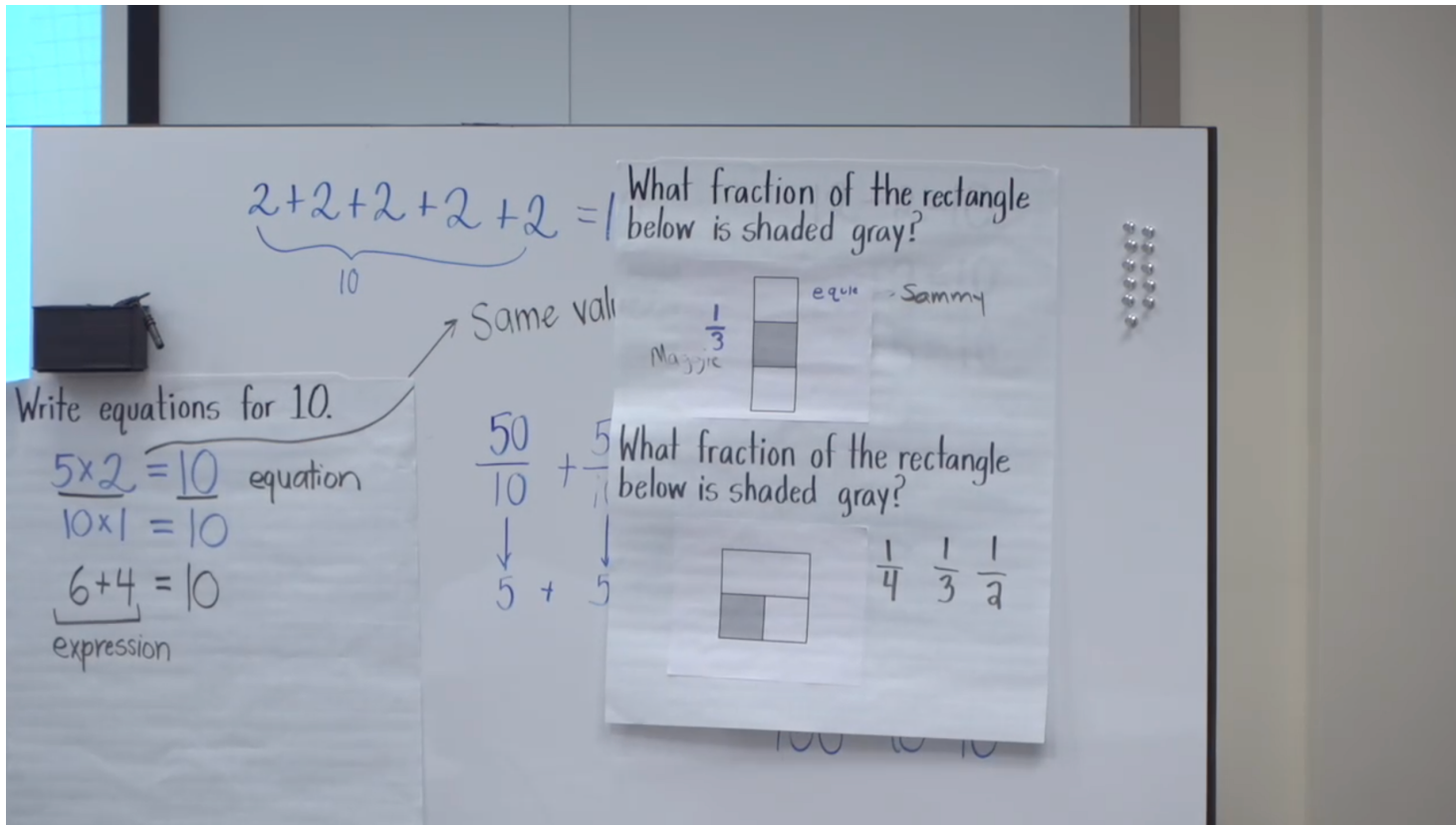
- Pay careful attention to Felipe's thinking. Note the key mathematical ideas he is communicating, his work to communicate his thinking, and his classmates' understanding of his thinking.

Facilitator Focus

Consider what you might highlight during the debrief related to:

- Features of the mathematical task (MKT)
- Teaching practice: orienting students to one another's thinking
- Student thinking and sense-making





PLANNING FOR THE DEBRIEF

- Join our Jamboard at <http://bit.ly/AMTEObservation>
- In your small group, use the “sticky note” function to answer the questions related to the focal debrief areas



19

DISCUSSION



SCHOOL OF
EDUCATION
UNIVERSITY OF MICHIGAN



This work is licensed under the Creative Commons Attribution-Noncommercial-No Derivative Works
Version 3.0 United States License: <http://creativecommons.org/licenses/by-nc-nd/3.0/us/>

© 2021 Mathematics Teaching and Learning to Teach • School of Education • University of Michigan • Ann Arbor, MI 48109 • mtlt@umich.edu

DISCUSSION

- How did the framework support you in developing foci for a potentially productive debrief?
- How do you see this framework as similar to or different from your current ways of supporting observation?
- Questions or comments?

THANK YOU!



SCHOOL OF
EDUCATION
UNIVERSITY OF MICHIGAN



This work is licensed under the Creative Commons Attribution-Noncommercial-No Derivative Works
Version 3.0 United States License: <http://creativecommons.org/licenses/by-nc-nd/3.0/us/>

© 2021 Mathematics Teaching and Learning to Teach • School of Education • University of Michigan • Ann Arbor, MI 48109 • mtlt@umich.edu