

Supporting Collaborative Learning in Elementary Math Classrooms



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Meet Your Presenter



Dr. Jennifer Osuna

Associate Professor of Elementary Mathematics Education and the Learning Sciences, Stanford University Graduate School of Education



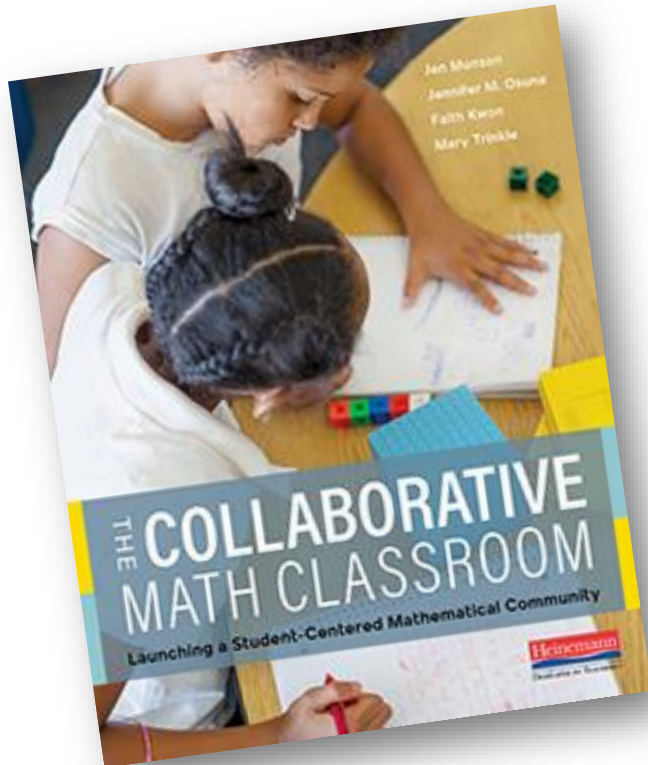


What You'll Learn

- The building blocks for designing a collaborative K–5 math classroom
- Three kinds of interactions that make up collaboration: interactions with the environment, mathematics, and one another
- How to plan for and launch a year of rich mathematical collaboration among students
- What can go wrong with collaborative learning and what to do about it

The Collaborative Math Classroom

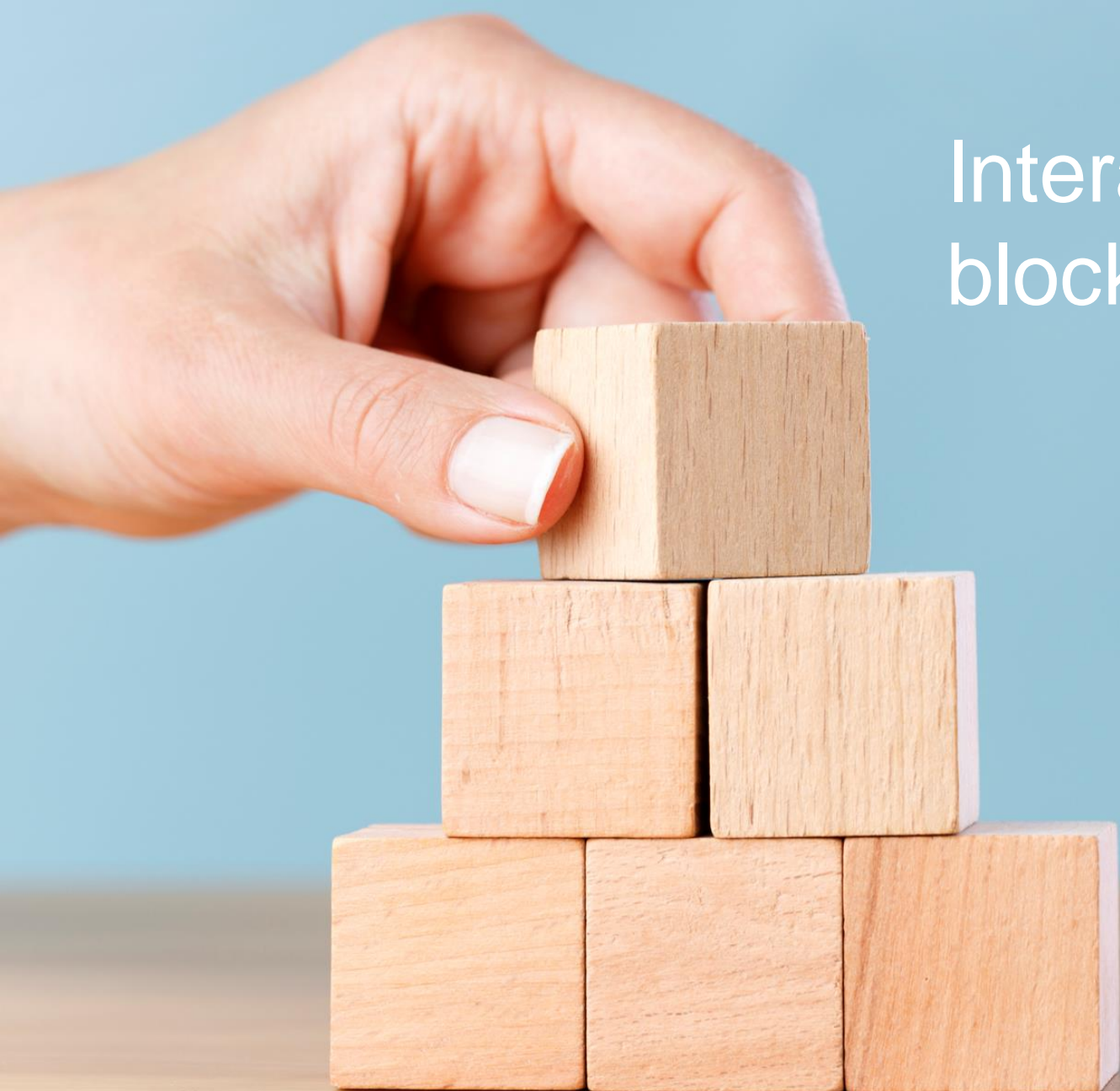
by Munson, Osuna, Kwon, Trinkle



- Our history
- Learning is a social endeavor
- Shifting role for teachers

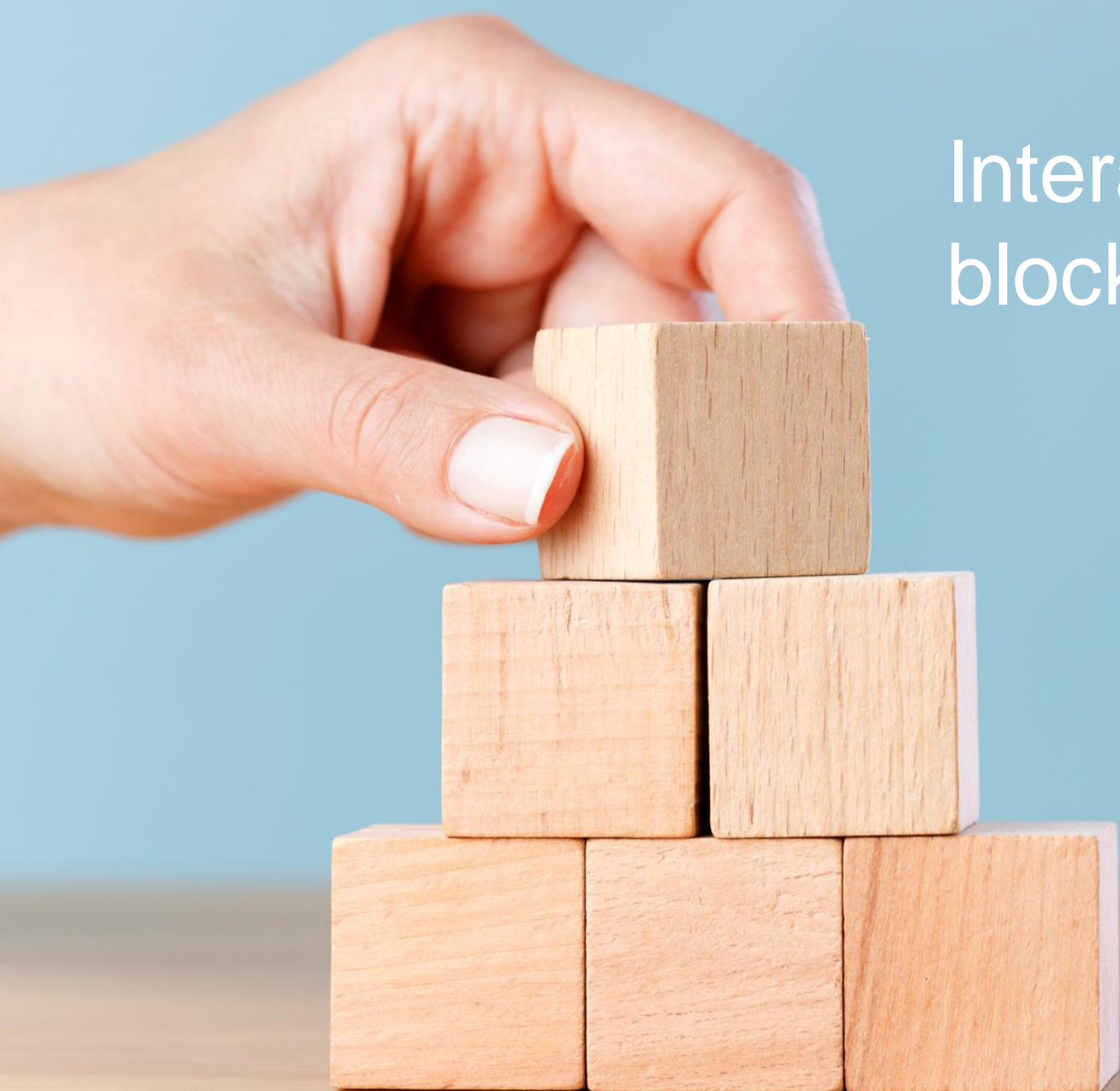
What fosters thriving collaboration?





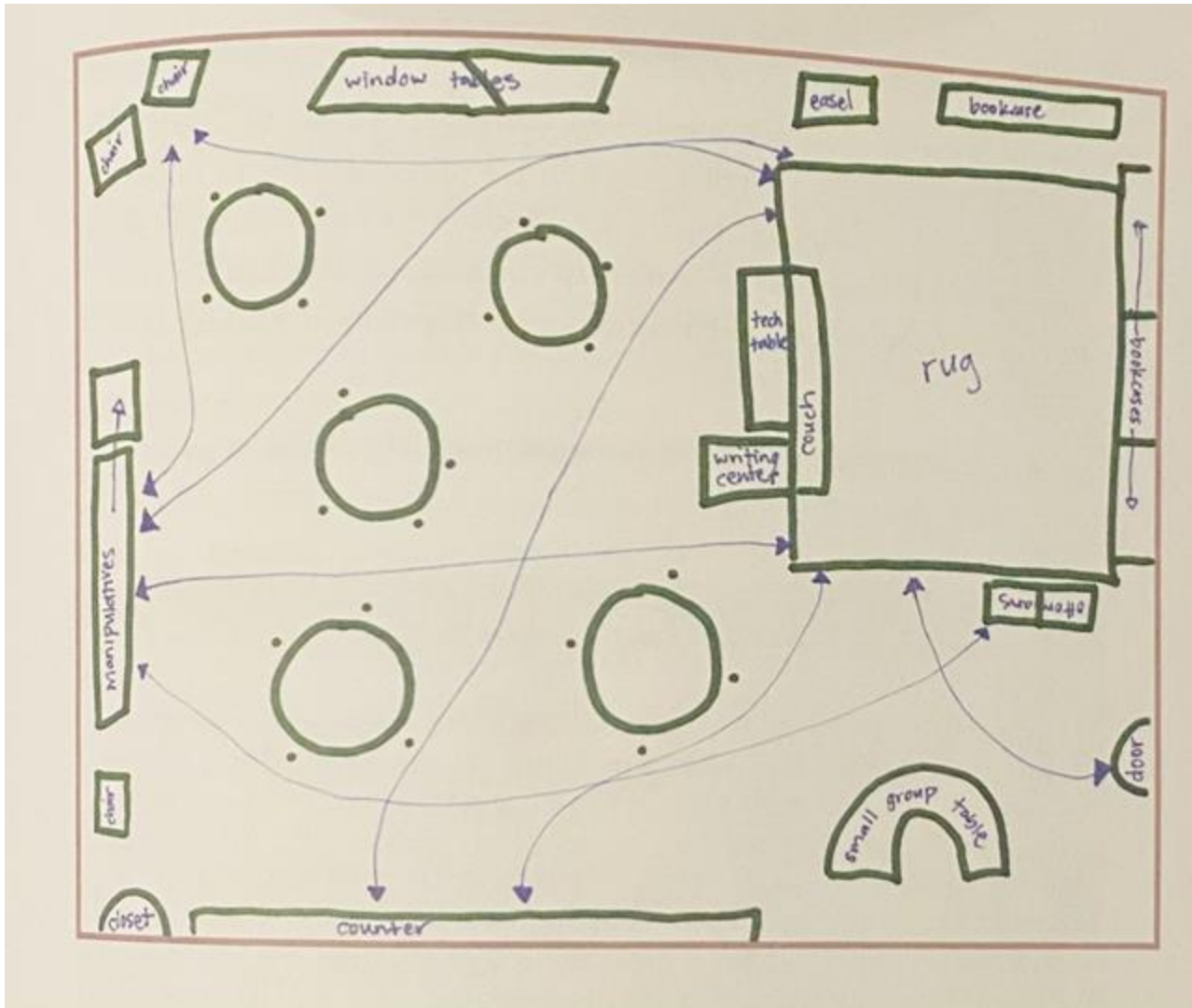
Interactions are the building blocks of collaboration

- Interactions with the environment
- Interactions with others
- Interactions with mathematics



Interactions are the building blocks of collaboration

- **Interactions with the environment**
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Set up the classroom space so that students can access materials and resources without the support of the teacher.

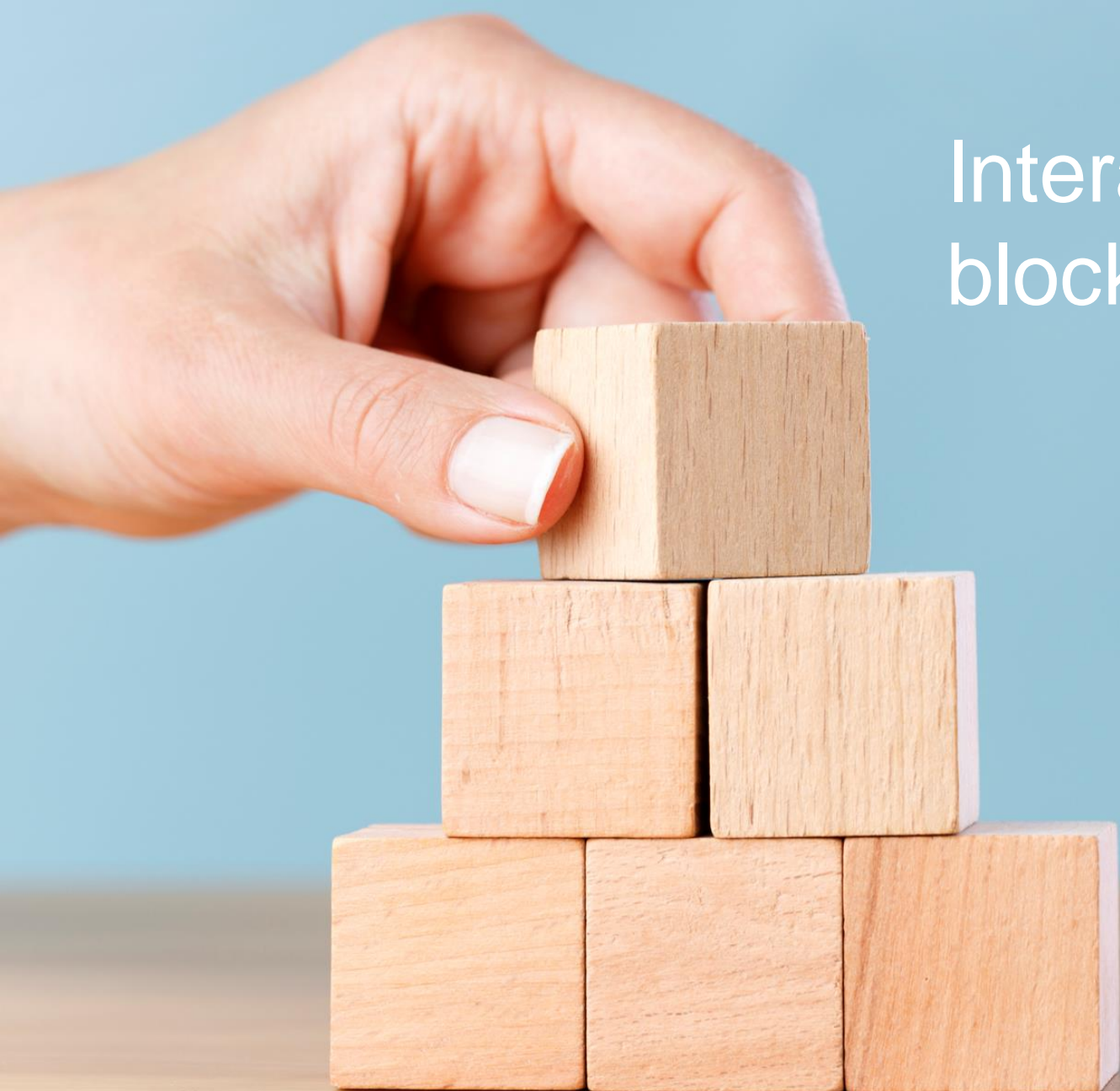
- What manipulatives will you introduce early in the year? Which will you wait to introduce?
- Where will you store materials for ready access?
- How can you make access easy and intuitive for students to find, retrieve, and return materials?

Arrange furniture to support students to engage in joint work and move freely.

- How can you arrange furniture to enable partners to sit side by side or groups to face one another?
- How can you make spaces wide enough to allow for free movement? How might you avoid bottlenecks in traffic flow?

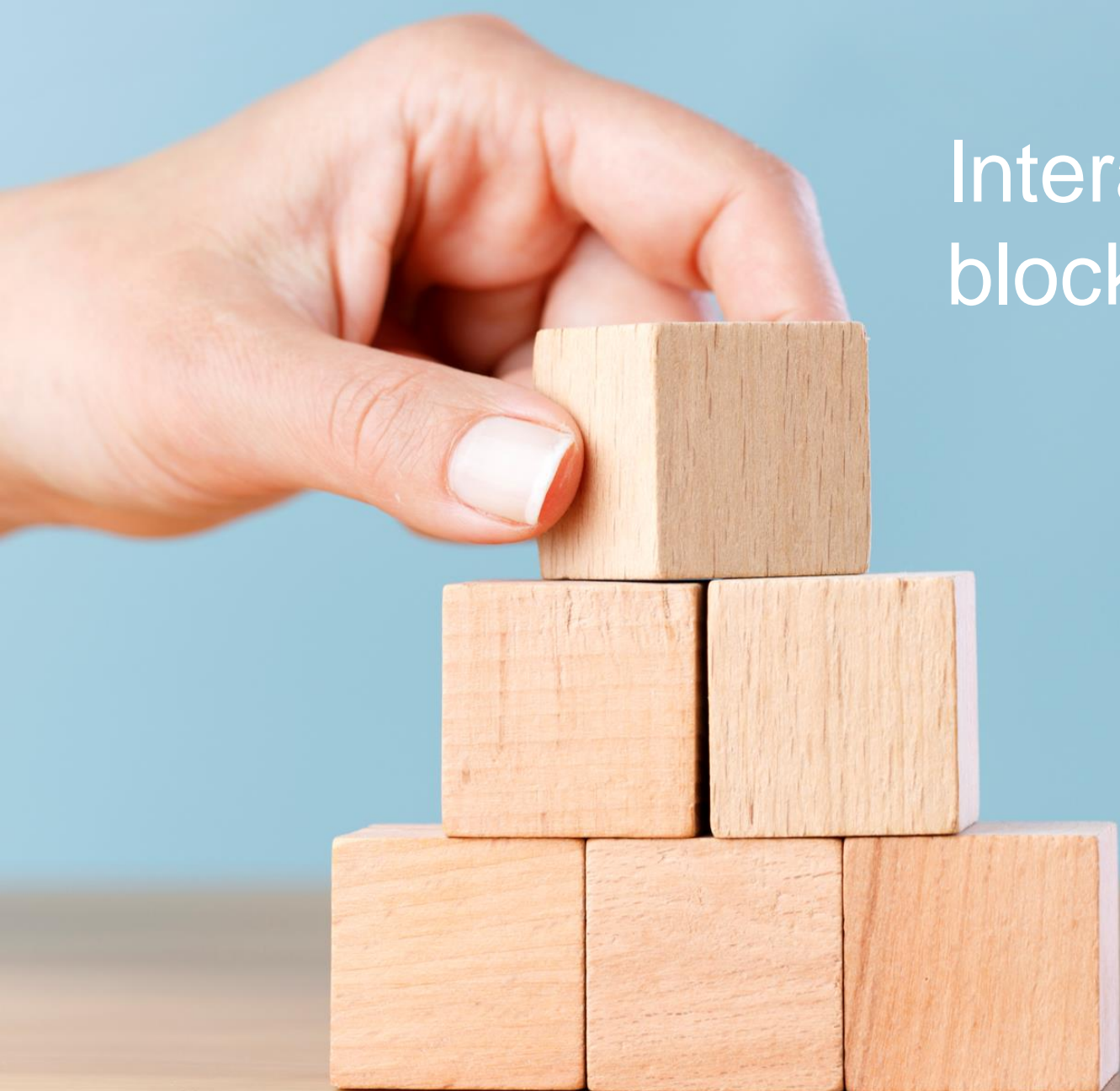
Set up the classroom with multiple potential workspaces.

- What spaces might you create for students to work together in? For individual think time?
- When it's time for discussion, where will students gather to share and see one another's thinking?

A close-up photograph of a hand with light skin and a white-painted thumb nail, carefully placing a light-colored wooden block onto the top of a stack. The stack is a pyramid shape, with three blocks at the base, two in the middle, and one on top. The blocks are made of natural wood with visible grain. The background is a solid, light blue color.

Interactions are the building blocks of collaboration

- Interactions with the environment
- **Interactions with others**
- Interactions with mathematics

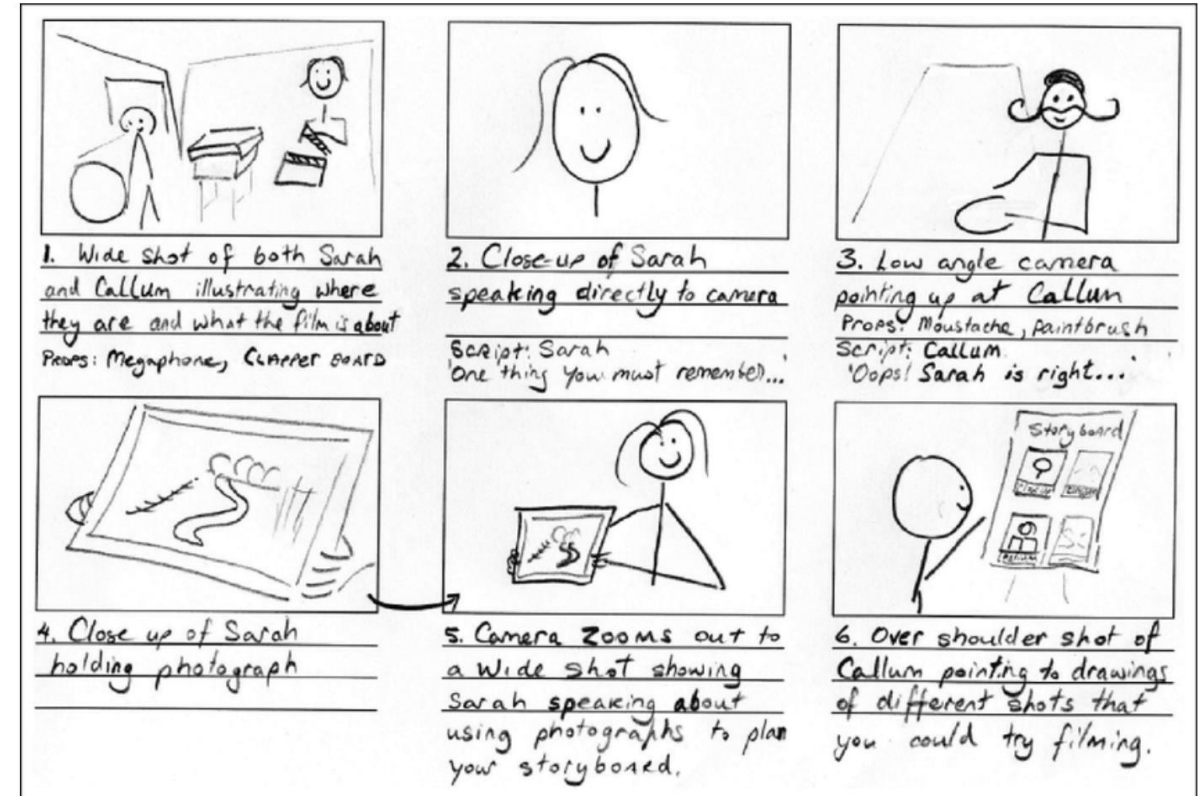


Interactions are the building blocks of collaboration

- Interactions with the environment
- Interactions with others
- **Interactions with mathematics**

Imagine student talk

- Are you imagining pairs or small groups? What does their body language look like?
- What kinds of work might they collaborate on: problem-solving, games, projects?
- How often do you imagine students collaborating? Every day? Less?
- What would it sound like as you circulate around the room?



Defining productive partnerships in a fourth-grade classroom



As you watch, jot down a few things that you notice or wonder.

Reflective Discussions about Productive Partnerships





Defining productive partnerships in a fourth-grade classroom



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Teaching Students to Re-voice

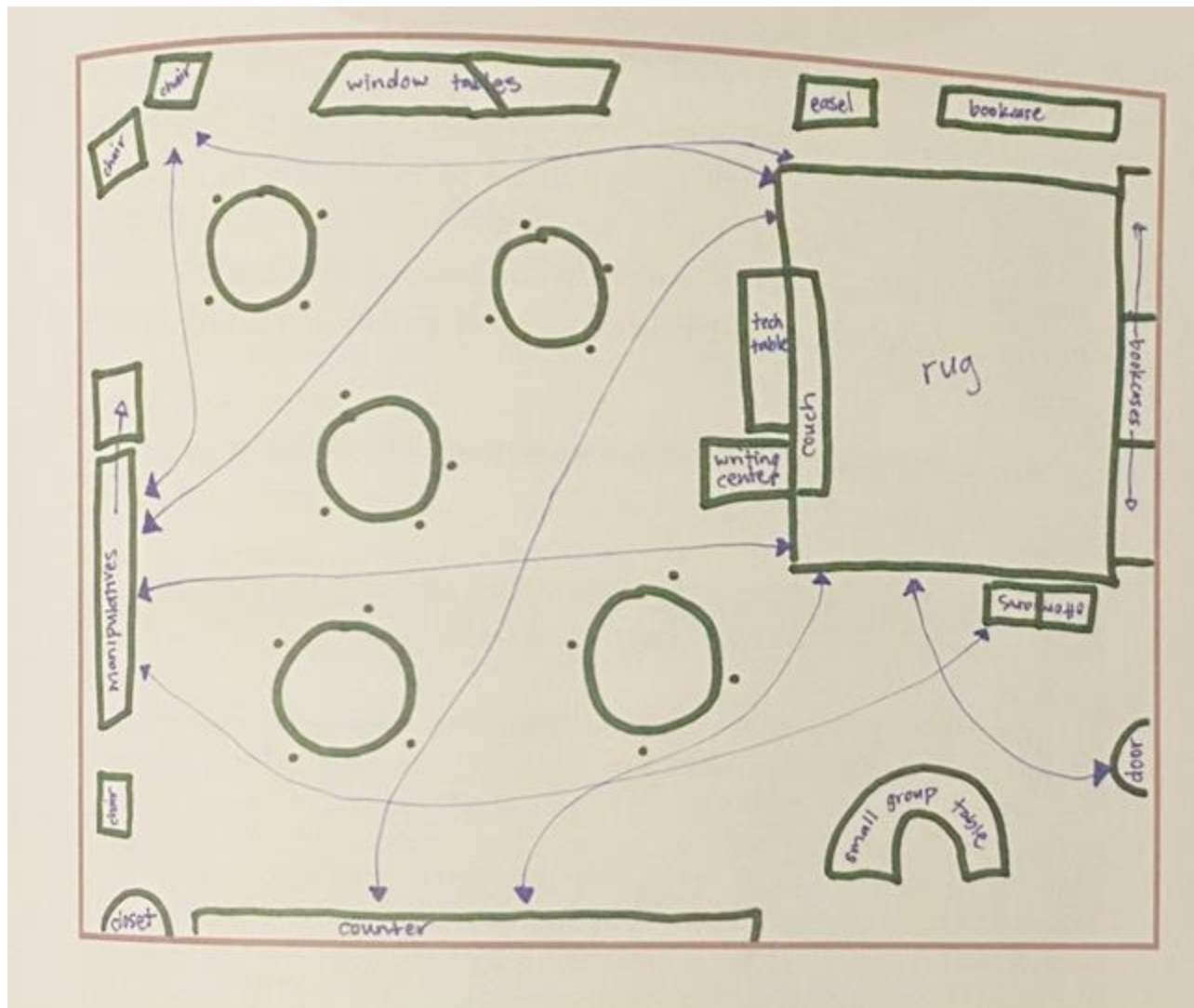




Introducing peer revoicing a first-grade classroom



In chat, share what you noticed and wondered.



<p>1. Wide shot of both Sarah and Callum illustrating where they are and what the film is about Props: Megaphone, Clapper board</p>	<p>2. Close-up of Sarah speaking directly to camera Script: Sarah 'One thing you must remember...'</p>	<p>3. Low angle camera pointing up at Callum Props: Moustache, Paintbrush Script: Callum 'Oops! Sarah is right...'</p>
<p>4. Close up of Sarah holding photograph</p>	<p>5. Camera zooms out to a wide shot showing Sarah speaking about using photographs to plan your storyboard.</p>	<p>6. Over shoulder shot of Callum pointing to drawings of different shots that you could try filming.</p>

Where to find good tasks

- Multiplicity Lab

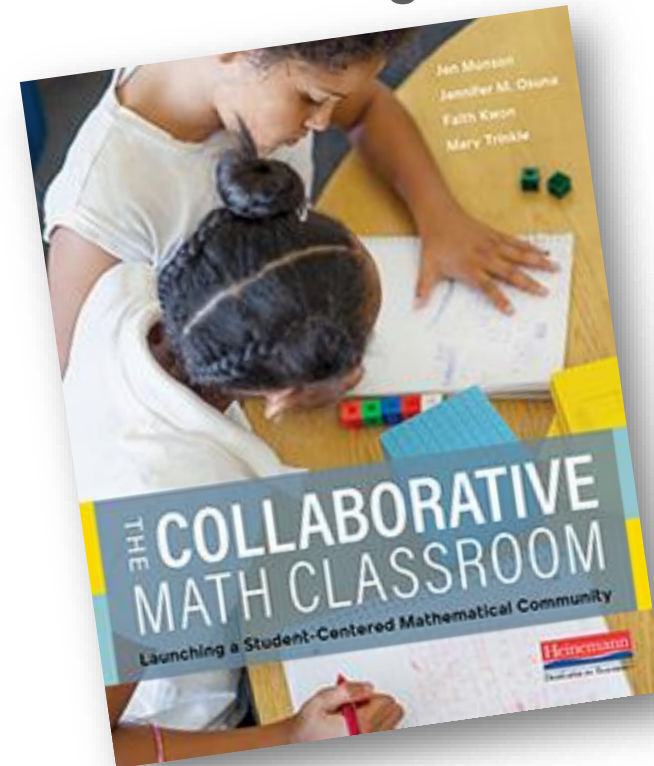
<https://multiplicitylab.northwestern.edu/>

- YouCubed

<https://www.youcubed.org/>

What to do when things go wrong...

- What if you have mandated curriculum, scope, and sequence?
- What if students are struggling to explain their thinking, become frustrated, or give up?
- What if students go off-task?
- Many, many other questions answered!





Thank You

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Promoting Meaningful Student
Discourse in the Math Classroom
Panel Discussion

May 17, 4:00 p.m. ET

Integrating the Science of Reading
and Culturally Responsive
Instruction as a Path to Equity
Featuring Zaretta Hammond

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