

PREPARING JUST TEACHERS: LEVERAGING THE DISRUPTIVE POTENTIAL OF TEACHER EDUCATION

Deborah Loewenberg Ball

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Teaching Practices Conferences: Opportunities and Challenges

Levinsky College of Education • Tel Aviv, Israel • 1 February 2021



SCHOOL OF EDUCATION



TeachingWorks



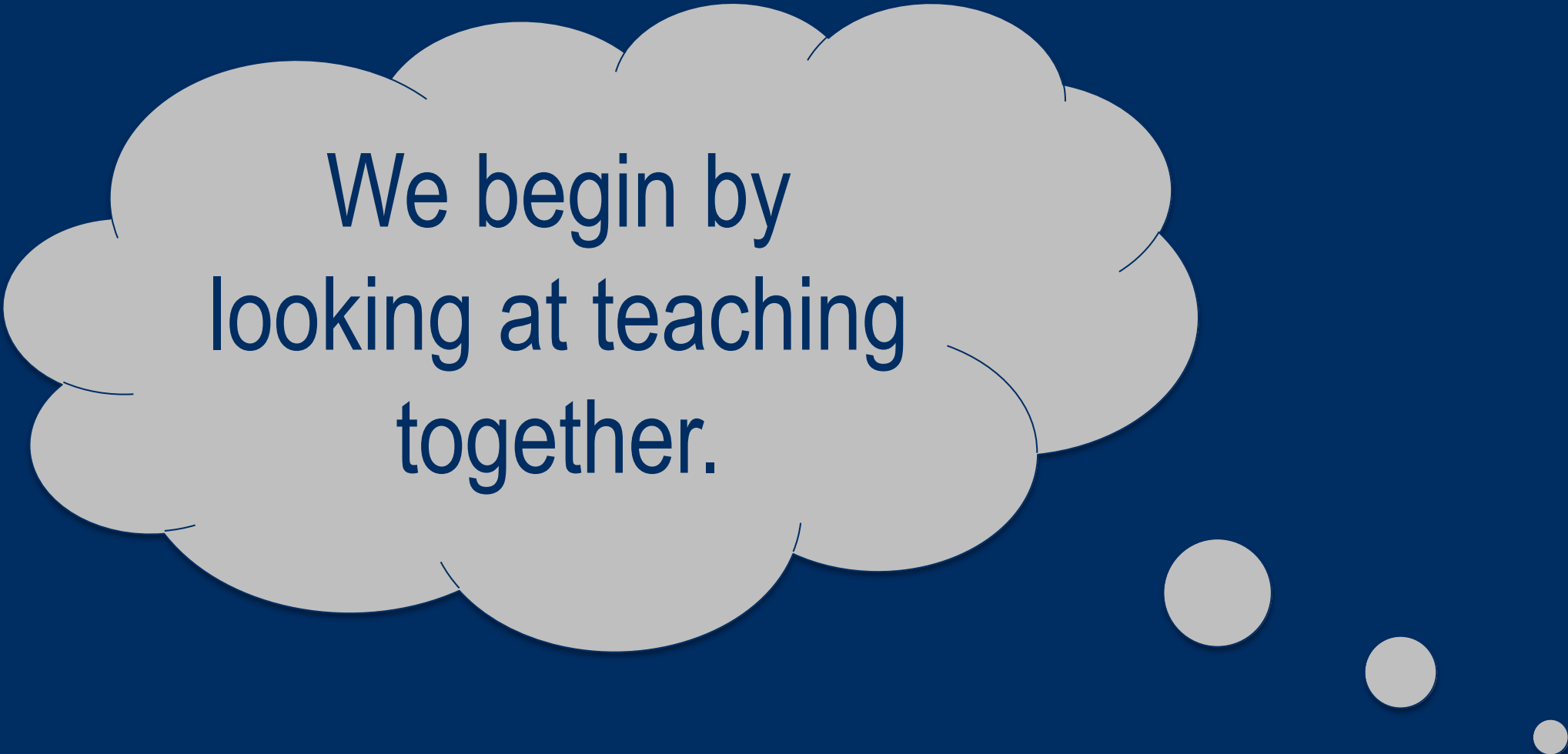
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Teaching is a natural human activity.

The teaching we ask of our nation's teachers requires going beyond the natural.

It requires challenging what seems natural.



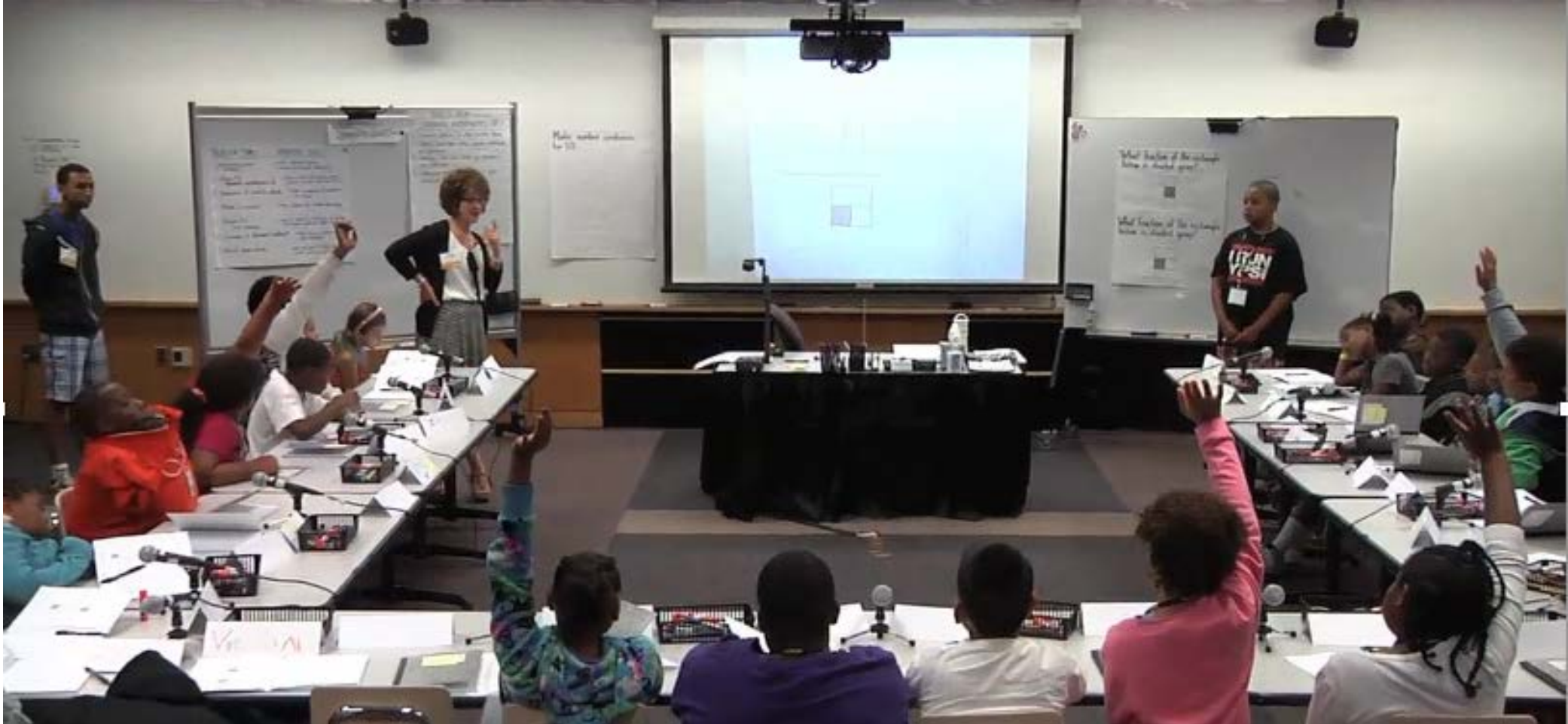
We begin by
looking at teaching
together.



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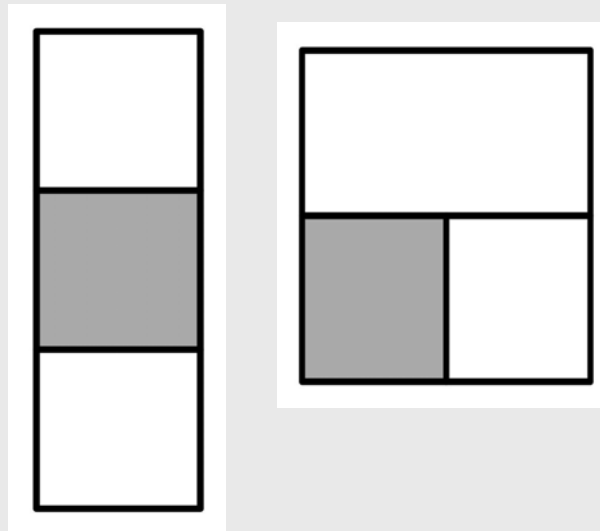
Teaching intertwines moral, intellectual, political, social, and personal communicating work.



Let's watch a short segment from a classroom math discussion.

The mathematics task

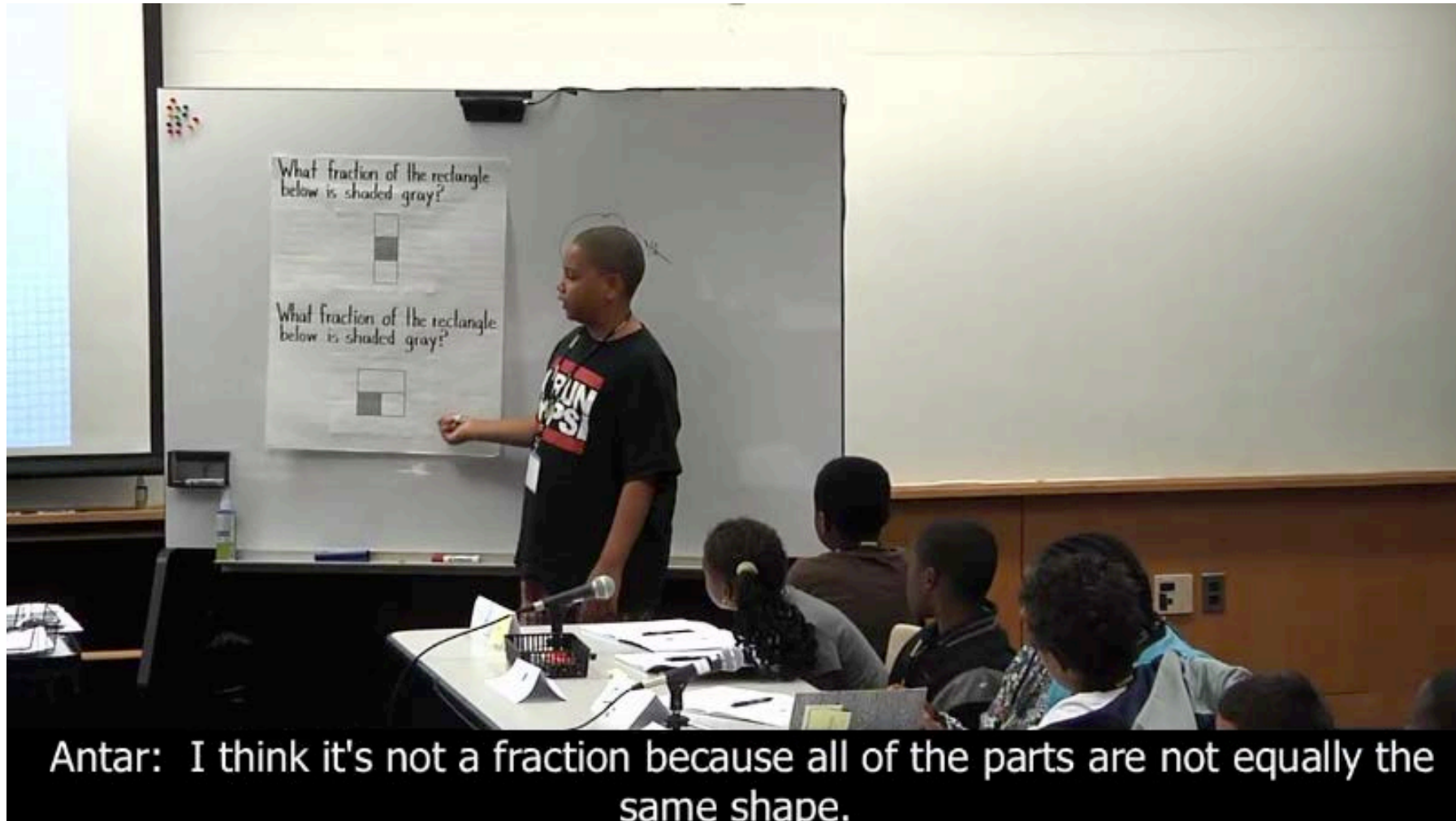
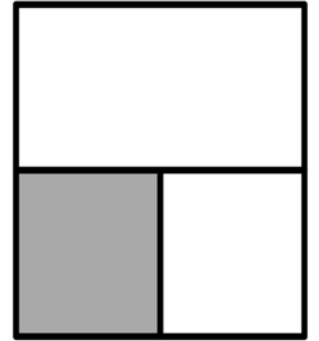
What fraction of each rectangle below is shaded gray?



What are the challenges of teaching you see?

Consider moral, intellectual, political, personal challenges.

VIDEO: ANTAR AND GABI



How is Antar being positioned?

What is the mathematical point of this?

What does Antar mean by "it's not a fraction"?

Should I put another example up or keep working on this figure?

Shall we stay in whole group or turn and talk in smaller groups?

Should Antar stay at the board while Gabi presents?

What shall I say or ask next?

How shall I try to position Antar and Gabi?

Should I explain or keep the children talking together?

Whom shall I call on?

Are those two students over on the side following this discussion?

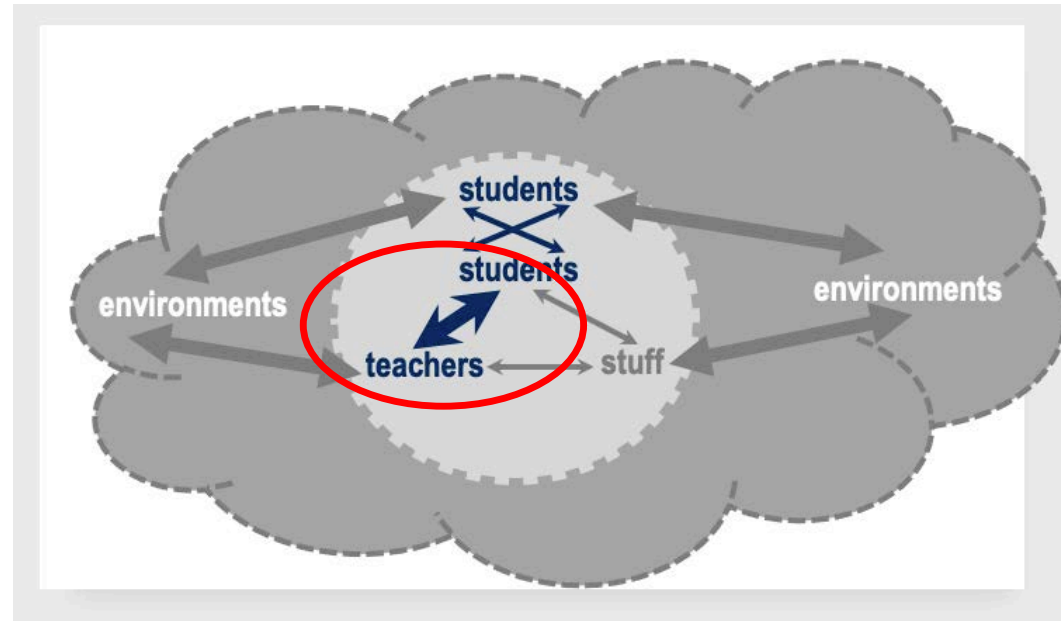
Where shall I stand?

How can I get other students to build on what Antar and Gabi have said?

Is this a good moment to give Gabi the "sticky" line

How is Antar feeling about his contribution?

Teacher	Who'd like to answer what you think about the second rectangle? We're only going to be able to talk about this briefly. We probably won't finish it.	Launch discussion
Teacher	Who'd like to explain what you think? Antar, what do you think?	Choose student to call on
Teacher	Could you come up to the board and explain? Thank you.	Frame task for student who is presenting
Teacher	I really like the way that people who are coming to the board are doing today. You are explaining really well.	Acknowledge competence
Teacher	Here's a marker. Can you explain your thinking?	Provide material support
Antar	I think it's not a fraction because all of the parts are not equally the same shape.	Listen
Teacher	Can you say that one more time to the class?	Support presenter
Antar	I think it's not a fraction because all the parts are not equally the same.	Listen
Teacher	Can someone repeat what Antar said? Very nice, Antar.	Orient students to presenter
	<i>Many students have their hands up</i>	
Teacher	What did he say? Gabriella?	Choose student to call on
Gabriella	Oh. He said that he doesn't think it's a fraction because not all the parts are equal.	Listen
Teacher	Is that what you said?	Position first student as authority
Teacher	Okay, would someone like to comment on that? Agree or disagree with him?	Orient students to one another
Teacher	Okay, let's see, how about Gabi.	Choose student to call on
Gabi	I disagree.	Listen
Teacher	What do you think?	Pose question
Gabi	I think the fraction is one-fourth.	Listen
Teacher	One-fourth? Do you want to come up and say why you think it's one fourth?	Frame next step, support next presenter
Teacher	Antar, do you want to stay there or do you want to sit down? Okay. Thank you very much. You did a good job of explaining your thinking.	Position student with agency, acknowledge competence
Teacher	So, let's hear what Gabi's thinking.	Orient students to one another
Gabi	I think it's one-fourth because, like he said, all the fractions aren't the same, but you can make them the same by dividing a line down the middle.	Listen
Teacher	Here's something you can use so if someone wants to take it off again, they can. Okay, so now explain what you've done. Talk to the class, okay?	Provide material support
Gabi	I divided it down the middle because, since it's not equal, you have to make it equal.	Listen
Teacher	And so then you decided?	Probe
Gabi	It's one-fourth.	Listen

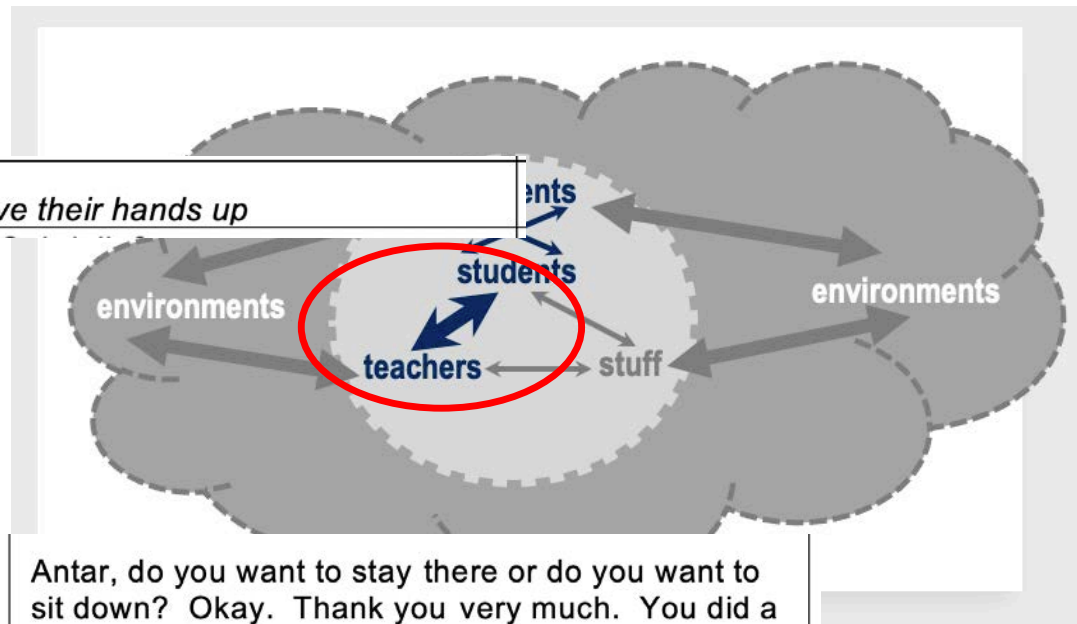


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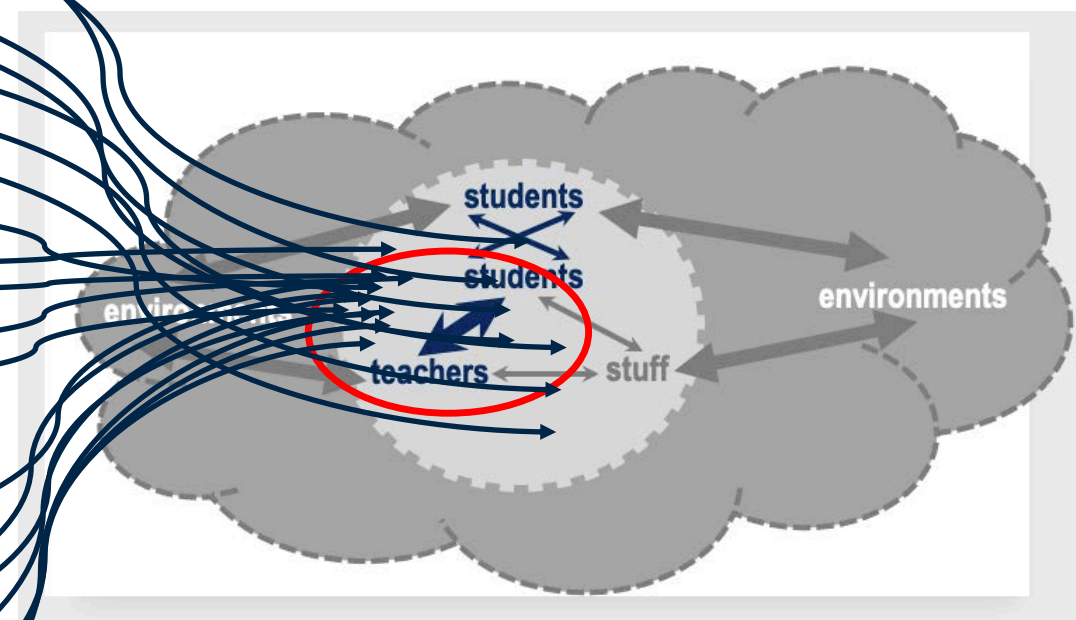
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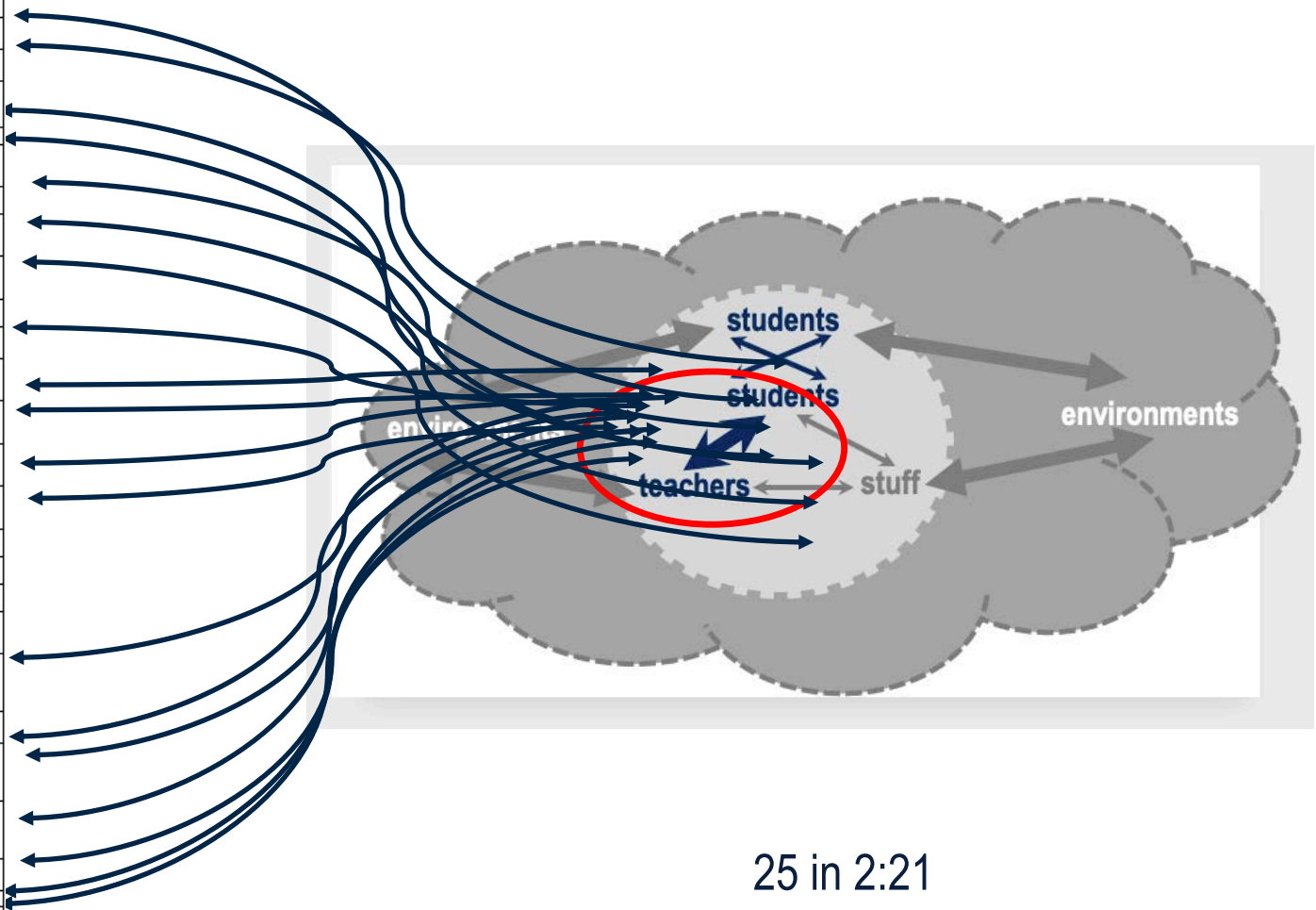
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25 in 2:21

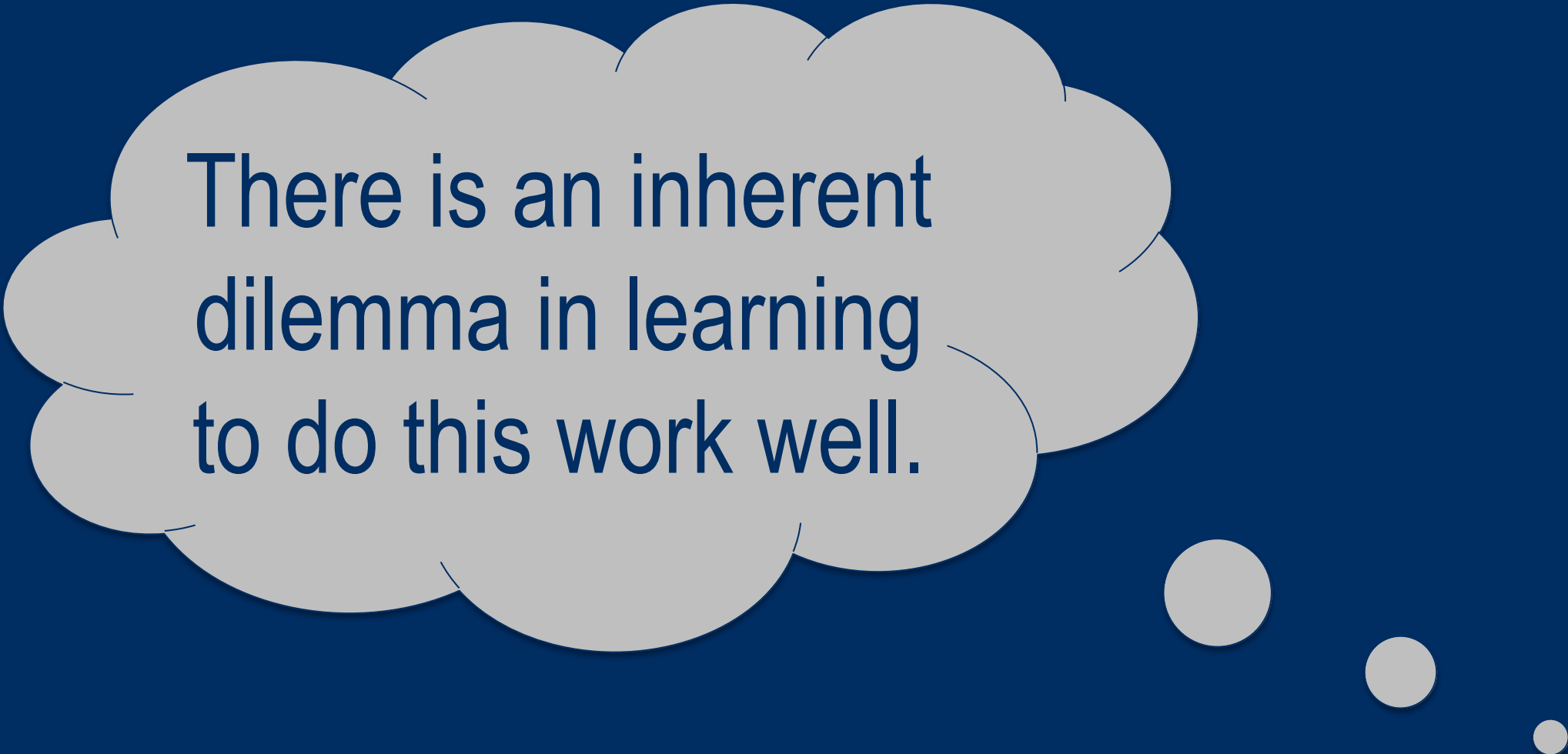
TEACHING IS DENSE WITH “DISCRETIONARY SPACES”

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25 in 2:21

1. Teaching is powerful. When it is done with care and judgment, students can thrive — learn mathematics, develop positive identities, learn to value others and work collectively.
2. Teaching also involves enormous discretion.
3. How that discretion is exercised can either reinforce patterns of social, personal, and epistemic injustice and harm, or disrupt these patterns.



There is an inherent
dilemma in learning
to do this work well.

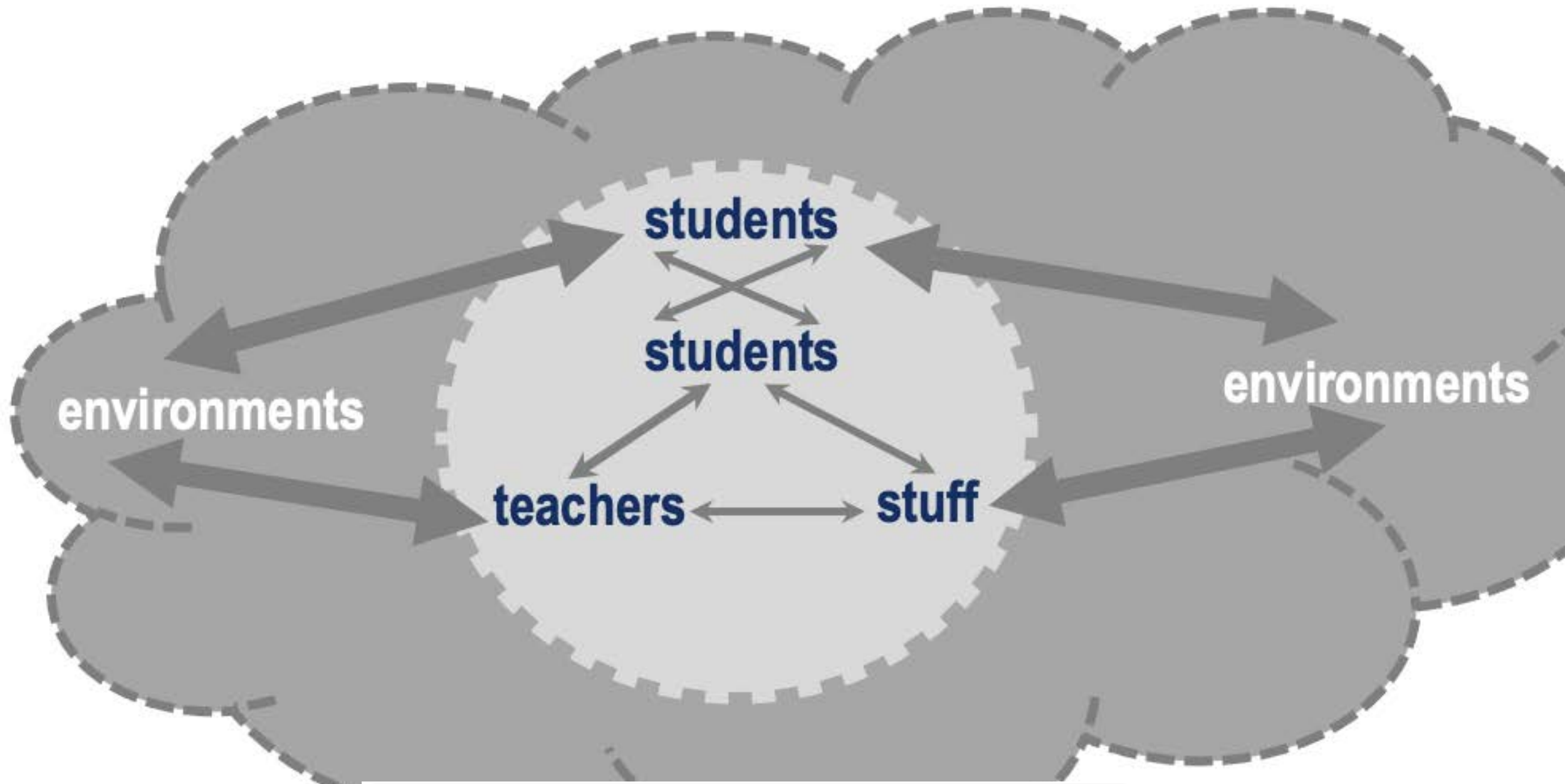


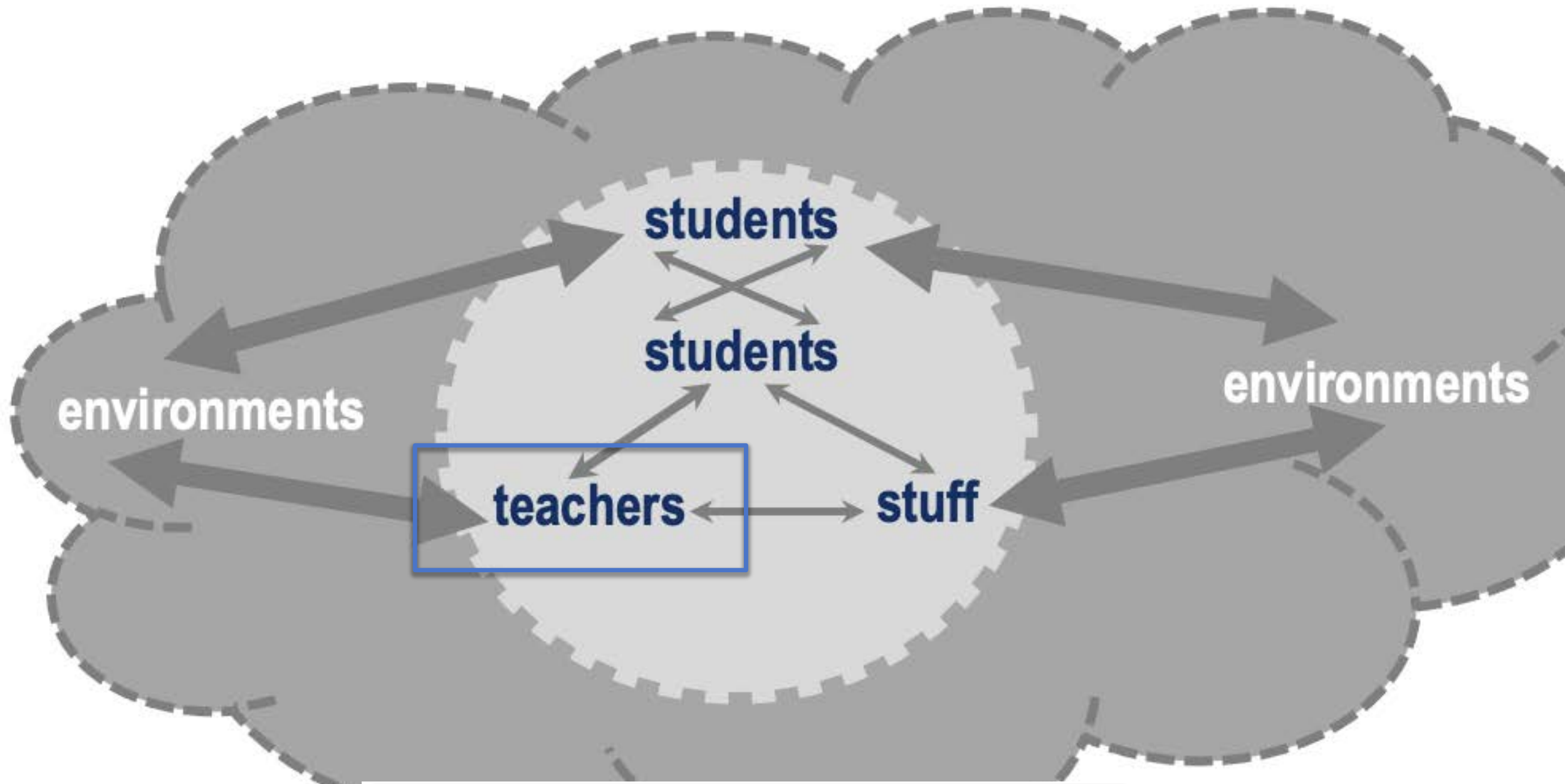
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Learning (anything) builds on what learners bring — what they know, assume, do.

But —





TEACHING IS STRUCTURALLY CONSERVATIVE

- Teachers have grown up in the schools and the society we have, not the ones we want. They have had a powerful “apprenticeship” of observation *and* experience. (Lortie, 1975)
- People choose to become teachers who were successful in these schools. They often take “the way things are” for granted.

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What it means to do math

Views of who is smart and who struggles to learn

Who are troublemakers

How learning happens

What teachers should do and say



What is involved in
disrupting these
patterns?



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LAYERING

Design instructional activities that allow novice teachers to practice using discretionary spaces through:

- Specific aspects of teaching practice
- Repertoire of practices that disrupt patterns of injustice and oppression
- Knowing and using content knowledge for teaching



LEADING A GROUP DISCUSSION: DECOMPOSITION

Discussion Enabling	Discussion Leading		
<ul style="list-style-type: none"> • Selecting a task • Anticipating student thinking • Setting up the task • Monitoring student work 	Framing -Launching	Orchestrating - Eliciting - Probing - Orienting - Making contributions	Framing - Concluding
Recording and representing content			
Maintaining a focus on the instructional point			
Seeing and disrupting patterns that reproduce inequity			

A SEQUENCE, MIDDLE OF SEMESTER

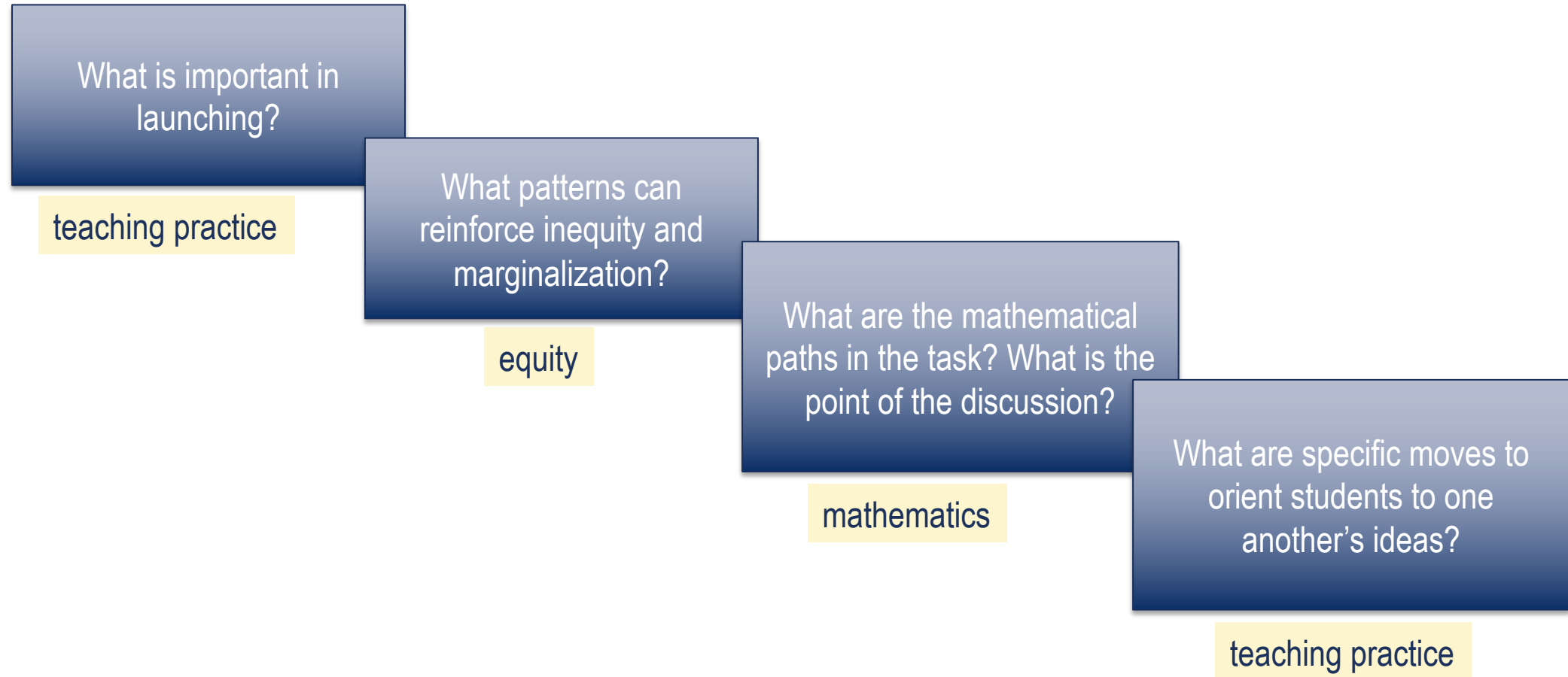
teaching practice

equity

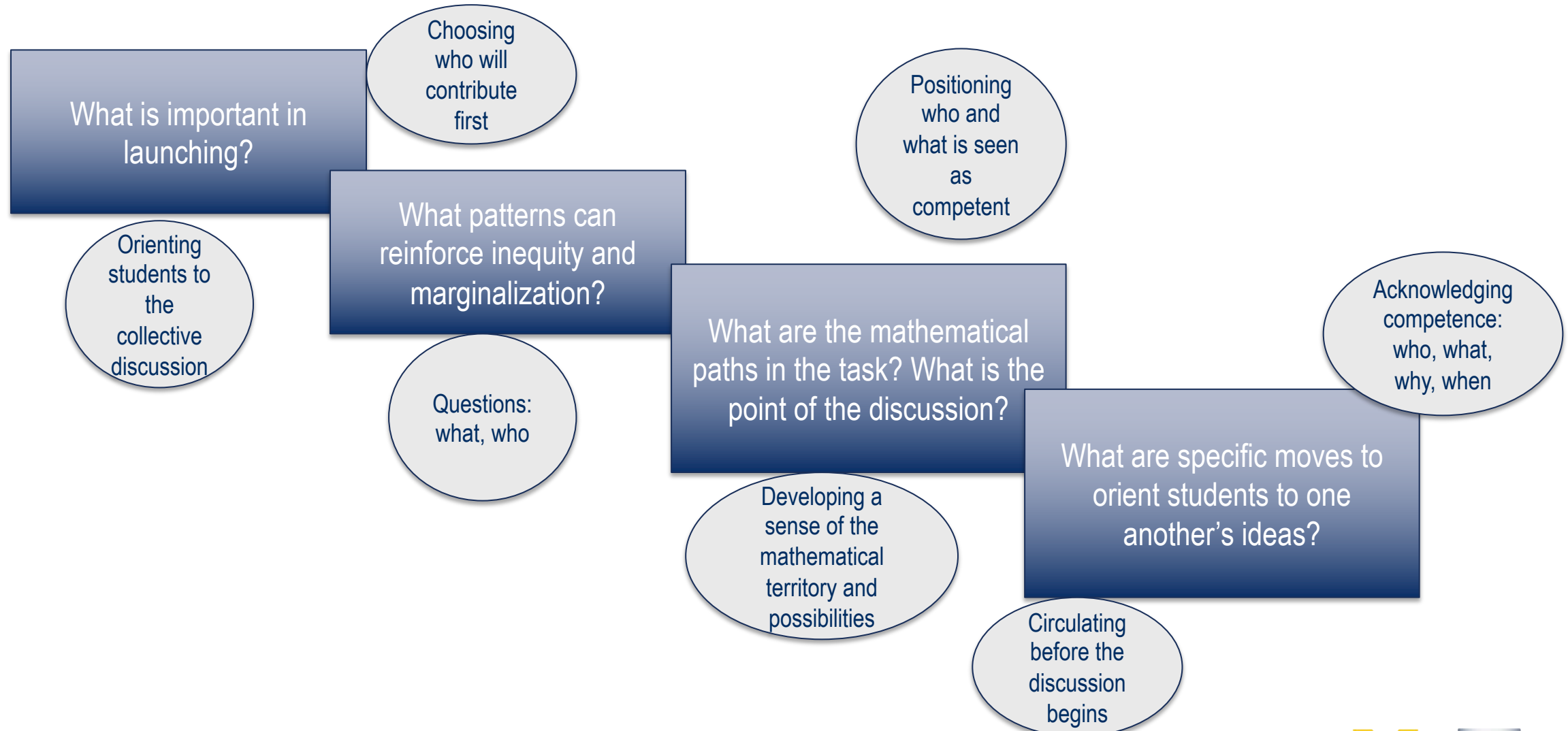
mathematics

teaching practice

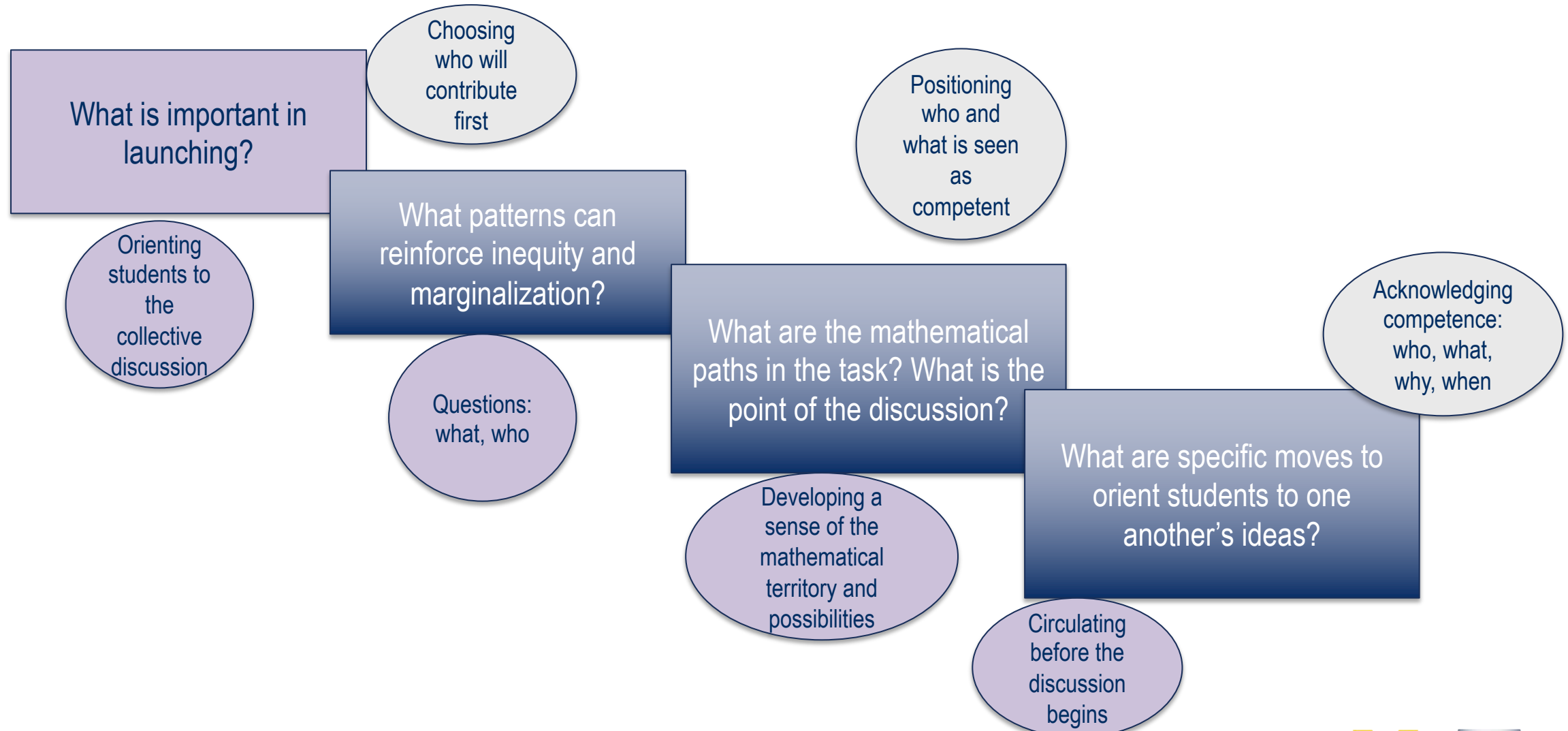
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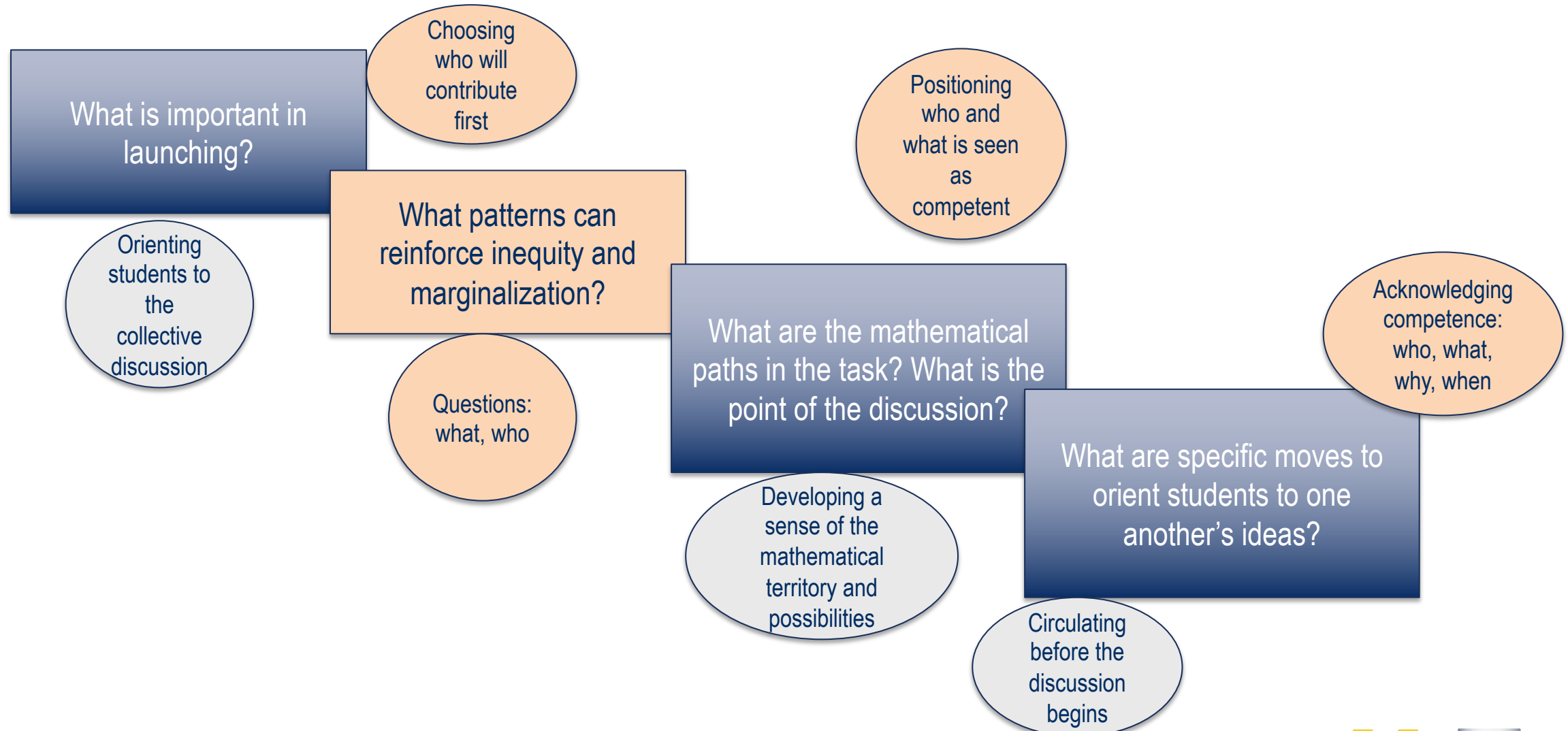
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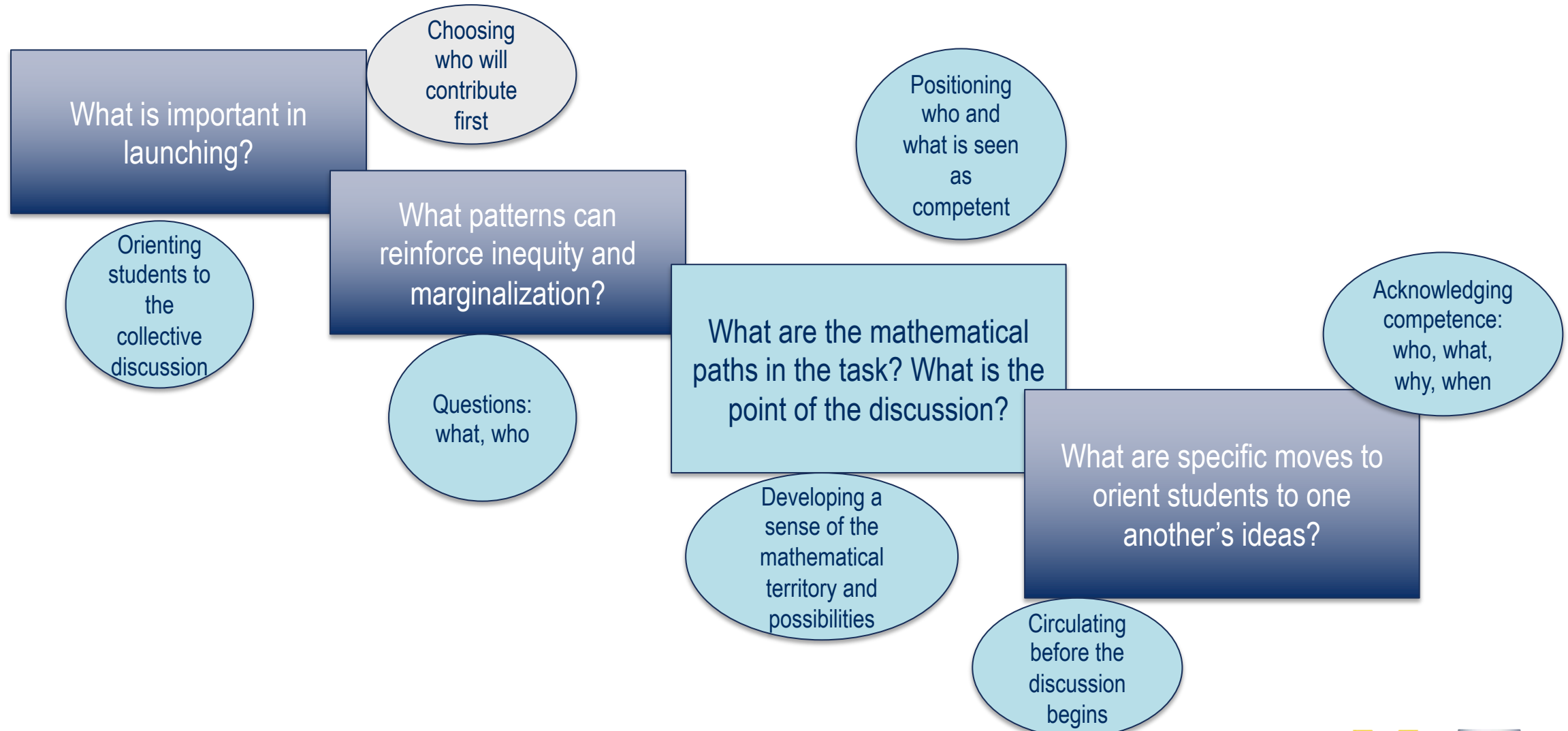
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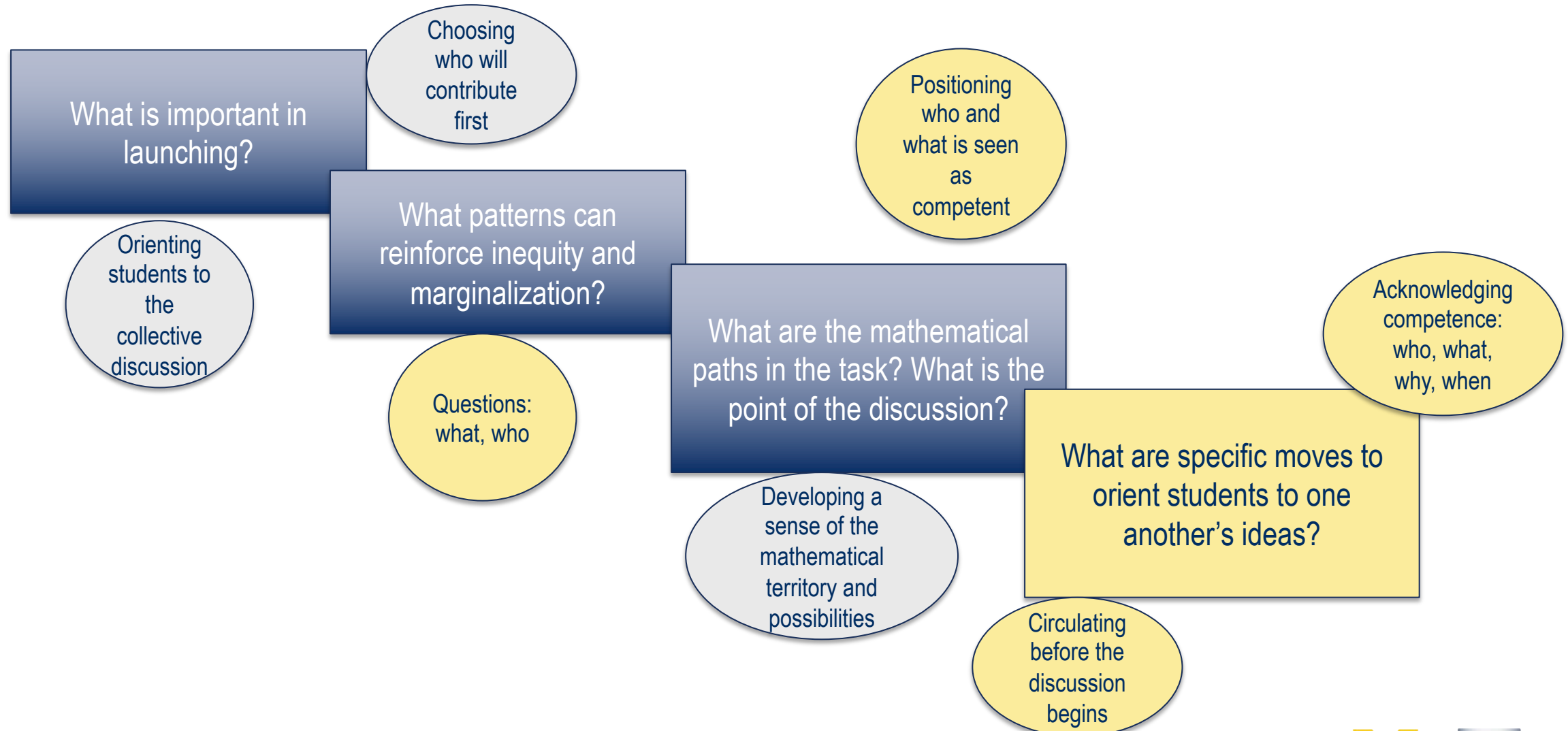
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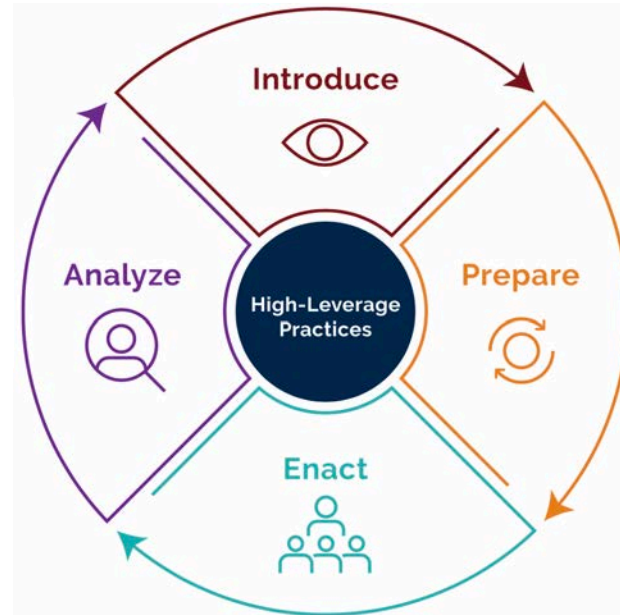
THE LEARNING CYCLE

1. Introduce

- Using video to see and analyze practice
- Examining student work, portraits, and other representations
- Using transcripts to see and analyze practice
- Teacher educator modeling of practice

2. Prepare

- Using video to practice practice
- Using transcripts to practice practice
- Using student work to practice practice
- Coached rehearsals
- Peer run-throughs
- Simulated student interactions



3. Enact

- Designing and using field tasks
- Coaching strategies

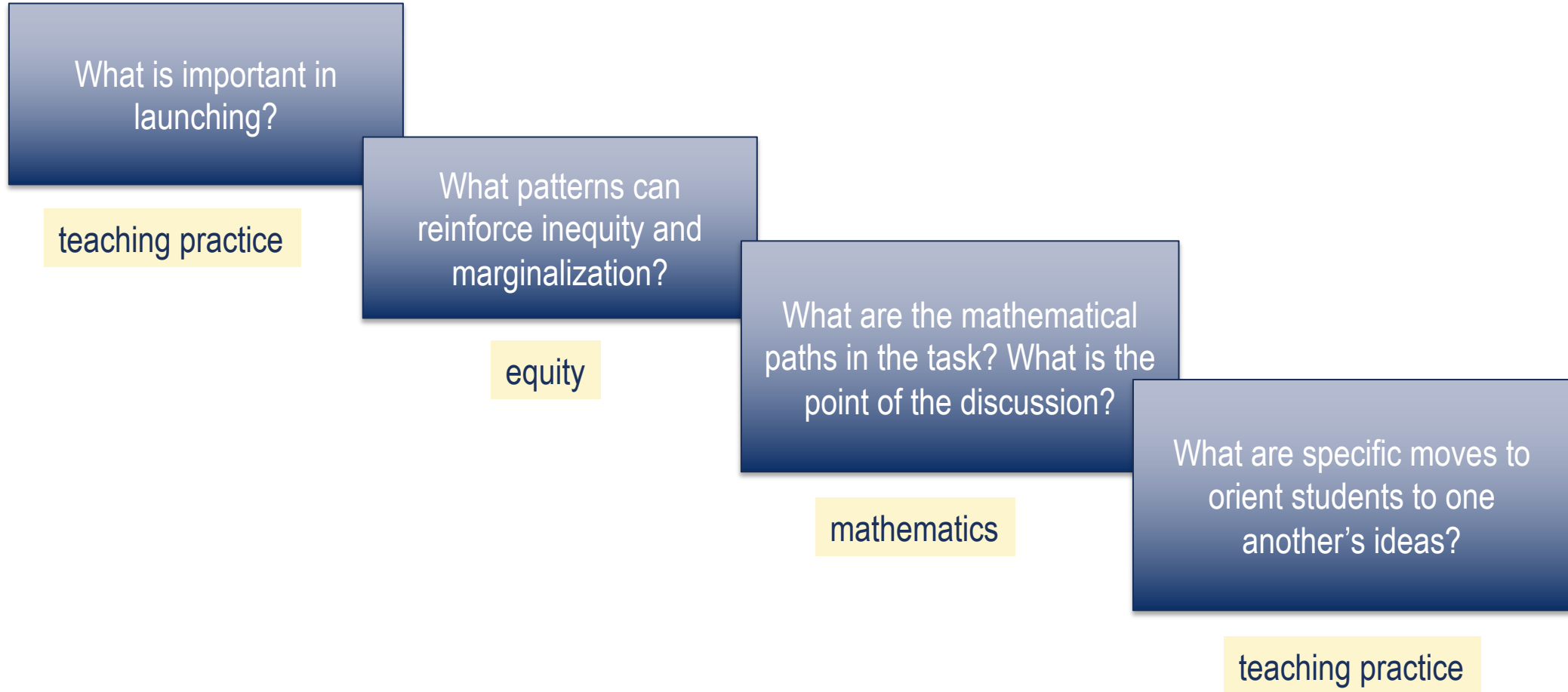
4. Analyze

- Using video to see and analyze practice
- Examining student work, portraits, and other representations
- Using transcripts to see and analyze practice

Adapted from: McDonald, Kazemi, and Kavanagh, 2013; Lampert et al., 2013; Teacher Education by Design

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Recording and representing content				
Maintaining a focus on the instructional point				
Seeing and disrupting patterns that reproduce inequity				



What is important in launching?

teaching practice

What patterns can reinforce inequity and marginalization?

equity

What are the mathematical paths in the task? What is the point of the discussion?

mathematics

What are specific moves to orient students to one another's ideas?

teaching practice



Carson	1	1	1
Carson	1	1	1
Kris	1	1	1
Kristen	1	1	1
Amelia	1	1	1
Isabella	1	1	1
And (Kris)	1	1	1
Chris	1	1	1
Scott (Kris)	1	1	1
Shayla	1	1	1
Colleen	1	1	1
Erinwood	1	1	1
Avan	1	1	1

August 7, 2012

Earlier in the week, the class explored the Gray Rectangle Problem shown below and concluded that $\frac{1}{2}$ of the left rectangle is shaded gray and $\frac{1}{4}$ of the right rectangle is shaded gray. The class also constructed a set of steps for naming a fraction correctly. In this clip, the teacher asks a student to use the steps to explain why $\frac{1}{2}$ of the left rectangle is shaded gray.

The Gray Rectangle Problem

What fraction of the rectangle below is shaded gray?	What fraction of the rectangle below is shaded gray?

What is important in launching?

teaching practice



Lesson 2, 2012

Earlier in the week, the class explored the Gray Rectangle Problem shown below and concluded that $\frac{1}{2}$ of the left rectangle is shaded gray and $\frac{1}{4}$ of the right rectangle is shaded gray. The class also constructed a set of steps for naming a fraction correctly. In this clip, the teacher asks a student to use the steps to explain why $\frac{1}{2}$ of the left rectangle is shaded gray.

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Why Are "Bad Boys" always Black? Causes of Disproportionality in School Discipline and Recommendations for Change

CARA E. MONROE

Curiosity about the crowd forming on the next block attracted me to the scene in time to witness Kevin's arrest. I watched him struggle feebly against the police officers' determined hold of his upper body. Kevin's strained expression was barely visible as the handcuffs were placed around his neck and wrists. His body seemed limp and defeated as he was moved from the group into the back of the police car without, as the flashes of the news slowly subsided, clipped thoughts and questions flooded my mind. Kevin was an eighth grade kid from my school. I had never seen a 13 year old in the back of a police car. I definitely never anyone that young in police custody. What did he do? What was he doing? What was he doing?

I was a middle-school teacher employed in a large urban school district when the events related to Kevin's arrest unfolded. I taught in a predominantly African American institution in which most of my students were middle- and working-class and others were from decidedly low-income backgrounds. Improving students' outcomes both inside and outside school walls was a shared institutional concern. Yet, young people such as Kevin embodied the ways in which institutional goals frequently failed to become reality. At face glance, Kevin's predicament may appear to reside beyond the boundaries of the public education enterprise. However, numerous social scientists have identified complex connections between students

What patterns can reinforce inequity and marginalization?

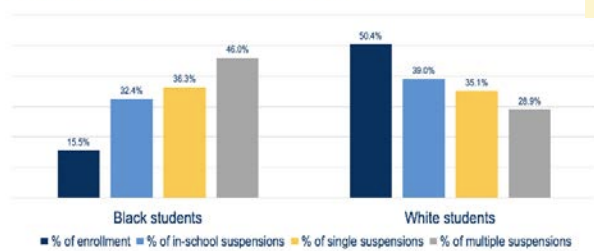
equity

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mathematics

RATES OF SUSPENSION:
BLACK STUDENTS VS. WHITE STUDENTS



What is important in launching?

teaching practice



Lesson 2, 2012

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- Develop understanding of "equations"--what is an equation versus an expression
- Practice computational skills
- Practice explaining mathematical statements
- Encounter with a solution space that is infinite, concept of "infinitely many" (not "infinity" as a quantity or a very large number)

What patterns can reinforce inequity and marginalization?

equity

What are the mathematical paths in the task? What is the point of the discussion?

Infinitely many means that the set being enumerated has no end and has no specific value.

- An equation is a statement that two expressions have the same value.
- An expression is a group (≥ 1) of numbers, symbols, and operations that expresses a value

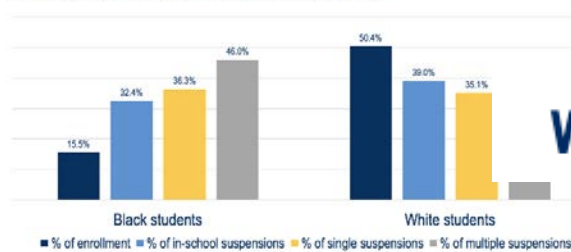
Questions

- How do you know that that equals 10?
- Does anyone have an equation that . . .
 - uses more than two terms?
 - uses a different operation?
 - uses more than one operation (optional to deal with order of operations and use of parentheses)?
- Does anyone have a strategy for coming up with more equations for 10?
- How many equations for 10 do you think there are?

mathematics

What are specific moves to orient students to one another's ideas?

RATES OF SUSPENSION: BLACK STUDENTS VS. WHITE STUDENTS



Write equations for 10.

teaching practice

What is important in launching?

teaching practice



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Why Are "Bad Boys" always Black? Causes of Disproportionality in School Discipline and Recommendations for Change

CARA E. MONROE

Curiosity about the crowd forming on the next block attracted me to the scene in time to witness Kevin's arrest. I watched him struggle feebly against the police officers' determined hold of his upper body. Kevin's strained expression was barely visible as the handcuffs were placed around his neck. Moments later, his body seemed limp and defeated as he was moved from the grassy plot into the back of the police car without, as the flashes of the news slowly subsided, clipped thoughts and questions flooded my mind. Kevin was an eighth grade kid from my school. I had never seen a 13 year old in the back of a police car. I definitely never imagine that going in police custody. What did he do? What was he charged with?

I was a middle-school teacher employed in a large urban school district when the events related to Kevin's arrest unfolded. I taught in a predominantly African American institution in which most of my students were middle- and working-class and others were from decidedly low-income backgrounds. Impoverished students, both inside and outside school walls, was a shared institutional concern. Yet, young people such as Kevin symbolized the ways in which institutional goals frequently failed to become reality. At first glance, Kevin's predicament may appear to reside beyond the boundaries of the public education enterprise. However, numerous social scientists have identified compelling connections between

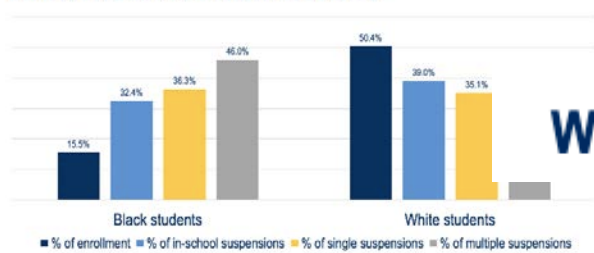
What patterns can reinforce inequity and marginalization?

equity

What are the mathematical paths in the task? What is the point of the discussion?

mathematics

RATES OF SUSPENSION: BLACK STUDENTS VS. WHITE STUDENTS



Write equations for 10.

teaching practice

- Develop understanding of "equations"--what is an equation versus an expression
- Practice computational skills
- Practice explaining mathematical statements
- Encounter with a solution space that is infinite, concept of "infinitely many" (not "infinity" as a quantity or a very large number)

Infinitely many means that the set being enumerated has no end and has no specific value.

- An equation is a statement that two expressions have the same value.
- An expression is a group (≥ 1) of numbers, symbols, and operations that expresses a value

Questions

- How do you know that that equals 10?
- Does anyone have an equation that...
 - uses more than two terms?
 - uses a different operation?
 - uses more than one operation (optional to do order of operations and use of parentheses)?
- Does anyone have a strategy for coming with more equations for 10?
- How many equations for 10 do you think there are?



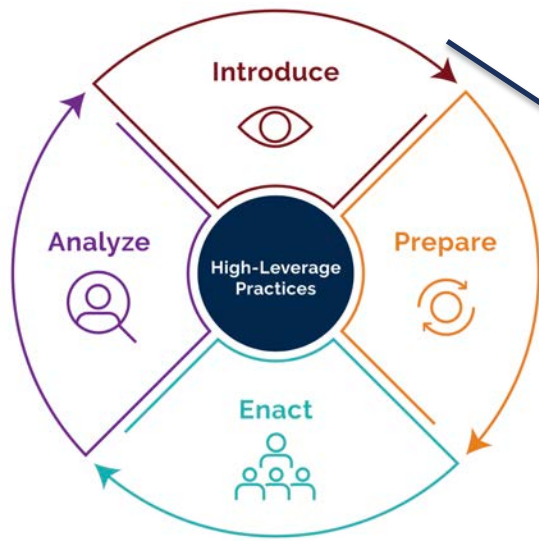
GO ON STUDENTS: DISTRIBUTING TURNS

- Challenge of having a mathematical learning goal and wanting to distribute the talk across students
- Some children dominate; others refrain from talking; often reproducing patterns related to race and gender
- Teacher habits of calling on those who raise their hands

students with a "correct"

What are specific moves to orient students to one another's ideas?





Write equations for 10.

Discussion Enabling	Discussion Leading		
<ul style="list-style-type: none"> • Selecting a task • Anticipating student thinking • Setting up the task • Monitoring student work 	Framing -Launching	Orchestrating - Eliciting - Probing - Orienting - Making contributions	Framing - Concluding
	Recording and representing content		
	Maintaining a focus on the instructional point		
	Seeing and disrupting patterns that reproduce inequity		



RECORDING IN/FOR A DISCUSSION

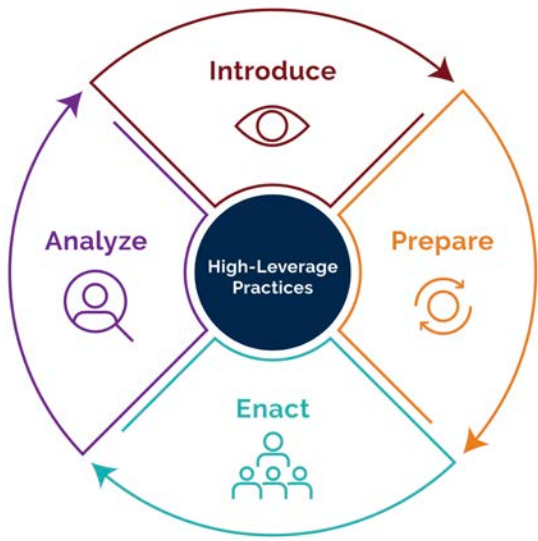
- Recording can be used for many purposes in a discussion, including:
 - Tracking or presenting content from previous parts of the lesson
 - Offering information about the structure or process of the discussion itself
 - Incorporating new information into the discussion or expanding upon information already shared
 - Eliciting student ideas (e.g. recording brainstorming)

Turn and talk:

- What are some elements or practices of recording that you have observed being effective in engaging student learning?
- How could the work of recording be related to disrupting patterns of racism and inequity?

(Yale CTL, 2019; Davis, 2009; Karsenti, 2016)





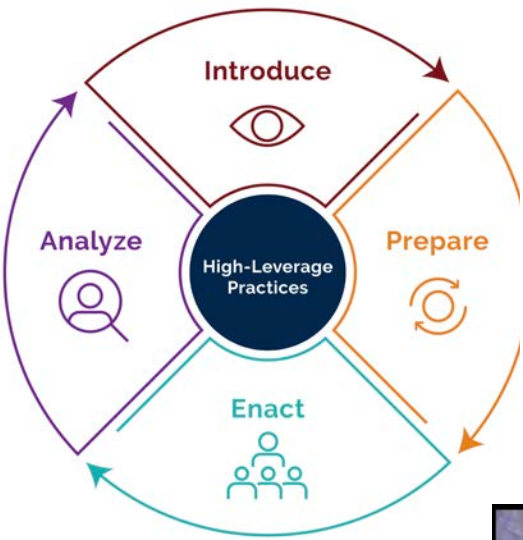
MODELING

Write equations for 10.

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<ul style="list-style-type: none"> Selecting a task Anticipating student thinking Setting up the task Monitoring student work 	Framing -Launching	Orchestrating - Eliciting - Probing - Orienting - Making contributions	Framing - Concluding
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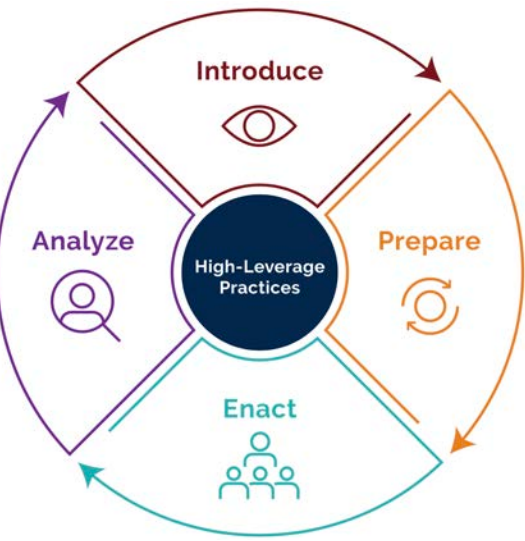
Instructors model in front of the class, “fishbowl” format.



RUN-THROUGHS

1. **Identify who will lead the discussion first today.** Goal of discussion leading: Launch the discussion; distribute turns among all participants; orient students to one another; disrupt competitive tendencies in discussions to position students as building collective understanding of the problem.
2. **After 5 minutes, pause.** The discussion leader reflects on what they were trying to do and what they experienced. Others comment or make suggestions to continue to develop collective ideas about how to lead the discussion. Repeat steps 1 – 2.





WHOLE CLASS REHEARSAL

Teacher candidate leads the discussion of peers.

Teacher educator pauses to make three different moves:

1. Highlighting a skillful or wise move.
2. Coaching an alternative to try.
3. Inviting the whole class to offer possibilities.



Write equations for 10.

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One group rehearses in front of class; teacher educator coaches

WHAT WOULD IT TAKE FOR TEACHER EDUCATION TO DISRUPT SYSTEMIC REPRODUCTION?

1. Make visible and name injustice and harm and understand its sources, and its connections to history, institutions, systems, and oneself.
2. Center practice, and layer together disrupting injustice, focus on learning, developing mathematics for teaching.
3. Unlearn normalized and taken-for-granted habits that harm or distort, and develop new habits, actions, and patterns of interpreting, acting, and analyzing.

THANK YOU!

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Slides will be available on my website

<https://deborahloewenbergball.com/>

(“Google” Deborah Ball)



SCHOOL OF EDUCATION



TeachingWorks



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CREDITS



Image on slides 21 and 37–40:

Photo from “Cake Mix Neapolitan Layer Cake,” by Cookie Madness

Retrieved from <https://www.cookie madness.net/2014/08/23/neapolitan-layer-cake/>



Image on slides 30 and 37–40:

Adapted from: McDonald, Kazemi, and Kavanagh, 2013; Lampert et al., 2013; [Teacher Education by Design](#)

For more information about the learning cycle:

Lampert, M., Franke, M. L., Kazemi, E., Ghouseini, H., Turrou, A. C., Beasley, H., Cunard, A., & Crowe, K. (2013). Keeping it complex: Using rehearsals to support novice teacher learning of ambitious teaching. *Journal of Teacher Education*, 64(3), 226–243.

McDonald, M., Kazemi, E., & Kavanagh, S. S. (2013). Core practices and pedagogies of teacher education: A call for a common language and collective activity. *Journal of Teacher Education*, 64(5), 378–386.

[Teacher Education by Design](#). (2014). University of Washington College of Education.



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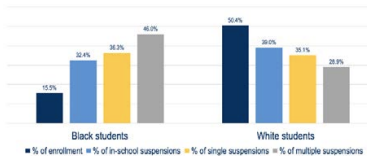
CARA R. MONROE

Curtively about the event forming on the street black arrested me to the scene in time to witness the police officer's determined hold of his upper body. I had arrived too late to see the arrest and the incident. My body averted long and dejected as he was moved from the street into the back of the police car. As the officer of the event slowly returned, I stepped through and questioned about my child. There was an eighth grade kid from my school. I had never seen a 13 year old in the back of a police car. I had never seen a young in public custody before. What happened? What went wrong? I had arrived too late to see the arrest and the incident. Some of the other witnesses said that there had not to be someone who commented that the incident was being videoed. As a result of truth and operations shared there was a search and without back to the school campus. He was in my second period class. I have had records from the district office. Black students were the majority of the students who were suspended. The documents provided a copy and narrative conclusion to the story. We are not experienced with these, except with observations by students and colleagues. These are not used to question about the incident. Instead, through individually, what often would be a black student. There is no institutional development. How would the incident be experienced on-site and school following the incident? What the incident did specific department hold to a young adolescent, particularly a black student? Additionally, such questions revealed the lines of many African American results as often continues to be a further component of the current school discipline.

Cara R. Monroe is an assistant professor at Wheelock College in Boston, Massachusetts.

Image on slides 34–36:
Monroe, C. (2005). Why are "bad boys" always Black? Causes of disproportionality in school discipline and recommendations for change. *The Clearing House*, 79(1), 45–50.

RATES OF SUSPENSION: BLACK STUDENTS VS. WHITE STUDENTS



Data on slide 34–36:
2013–14 Discipline Estimations by Discipline Type, U.S. Department of Education
Retrieved from https://ocrdata.ed.gov/StateNationalEstimations/Estimations_2013_14



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