

MAKING MATHEMATICS TEACHING WORK: RAISING ITS POWER TO DISRUPT WHITE SUPREMACY

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SCHOOL OF EDUCATION




TeachingWorks



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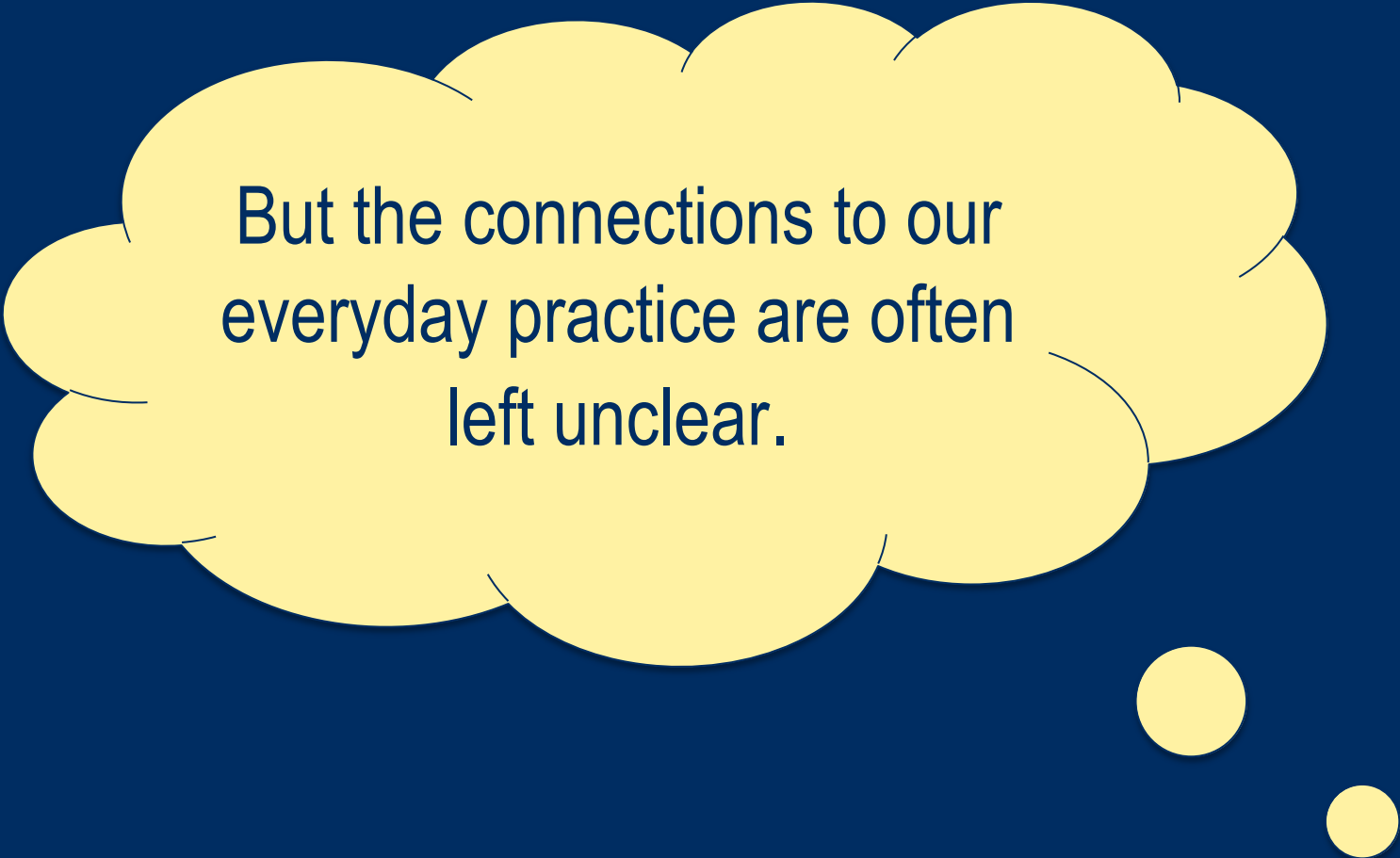
There seems to be an increasingly shared recognition that racism is systemic and rooted in our histories and institutions.



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But the connections to our
everyday practice are often
left unclear.



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But the connections to our
everyday practice are often
left unclear.

And without making those
connections, the patterns
are reproduced through
normalized practices.



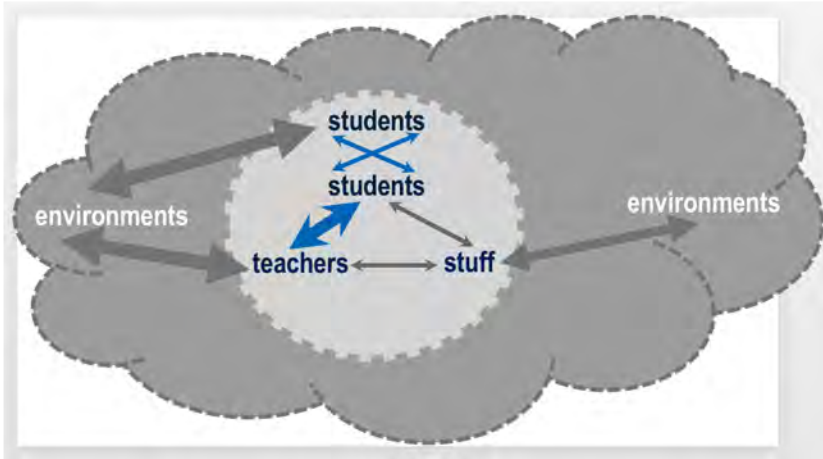
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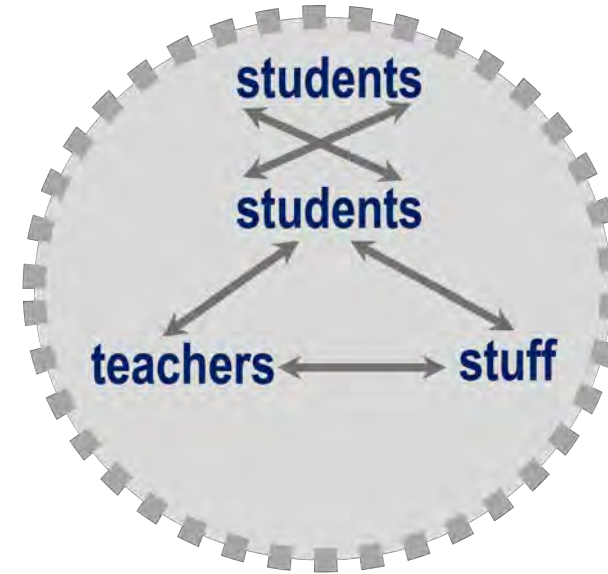
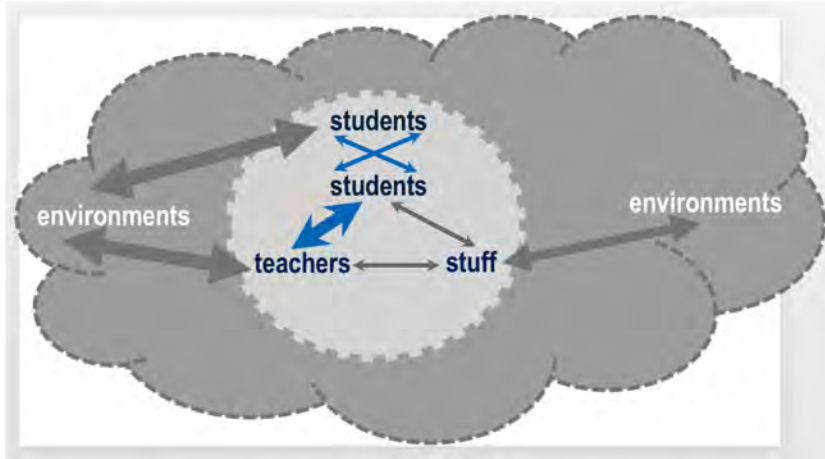


Teaching is powerful. When it is done with care and judgment, students can thrive — learn mathematics, develop positive identities, learn to value others and work collectively.



- Teaching is shaped by institutionalized practices, policies, and norms.

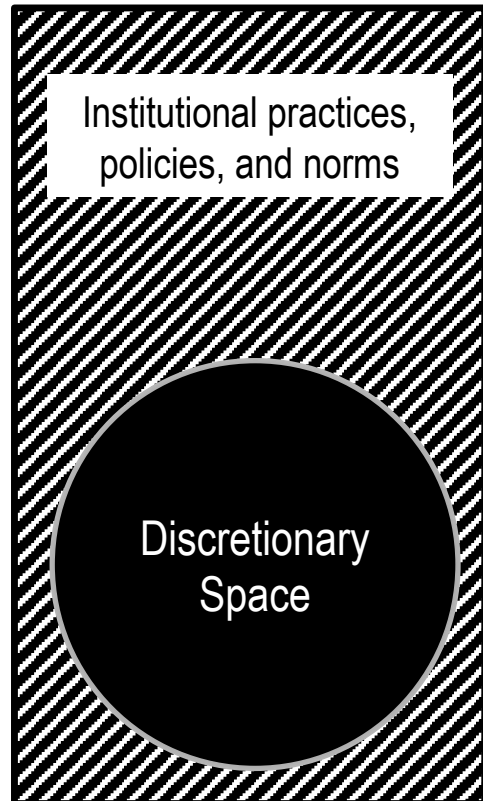
Lipsky (1980), Shulman (1983)



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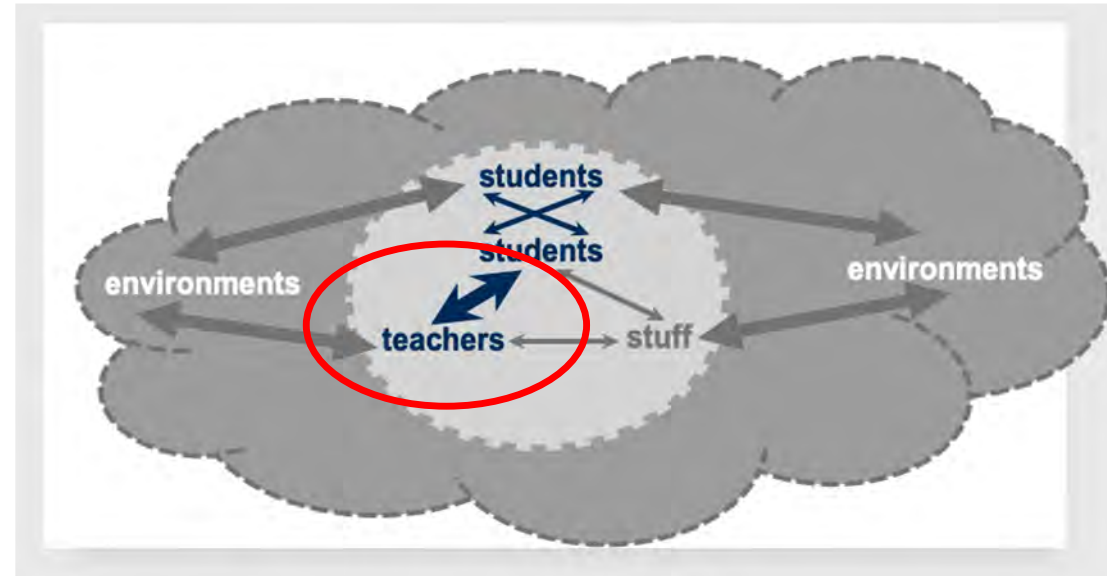
- Teaching is practiced individually. Professional freedom is valued. Teaching is shaped by subjective judgment and experience.

Lipsky (1980), Shulman (1983)



Discretionary spaces describe the many spaces and moments in which individuals have leeway to use their professional judgment to decide what to do.

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
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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 Gab'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
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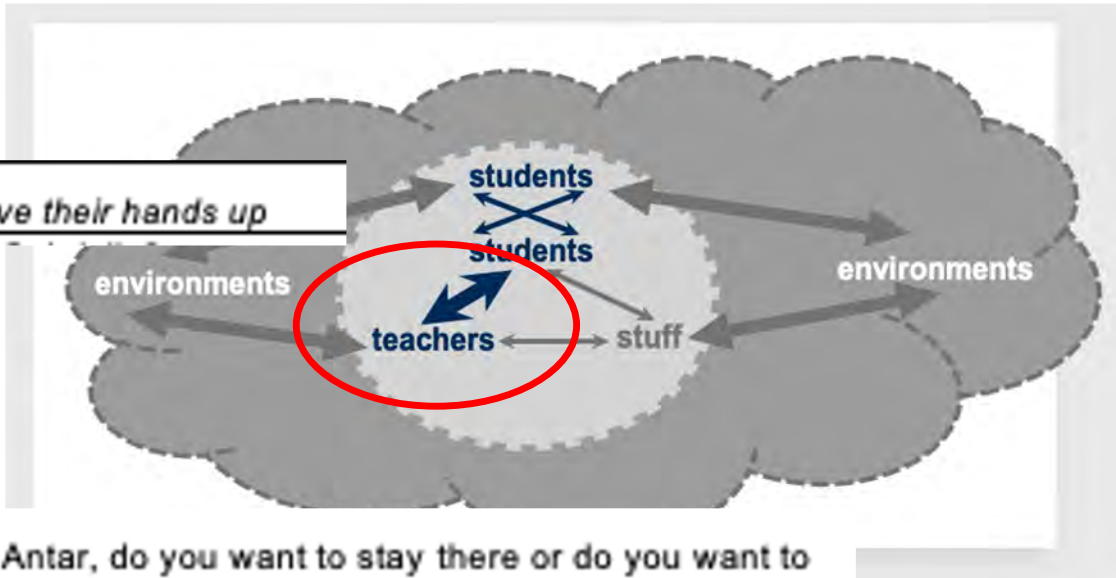


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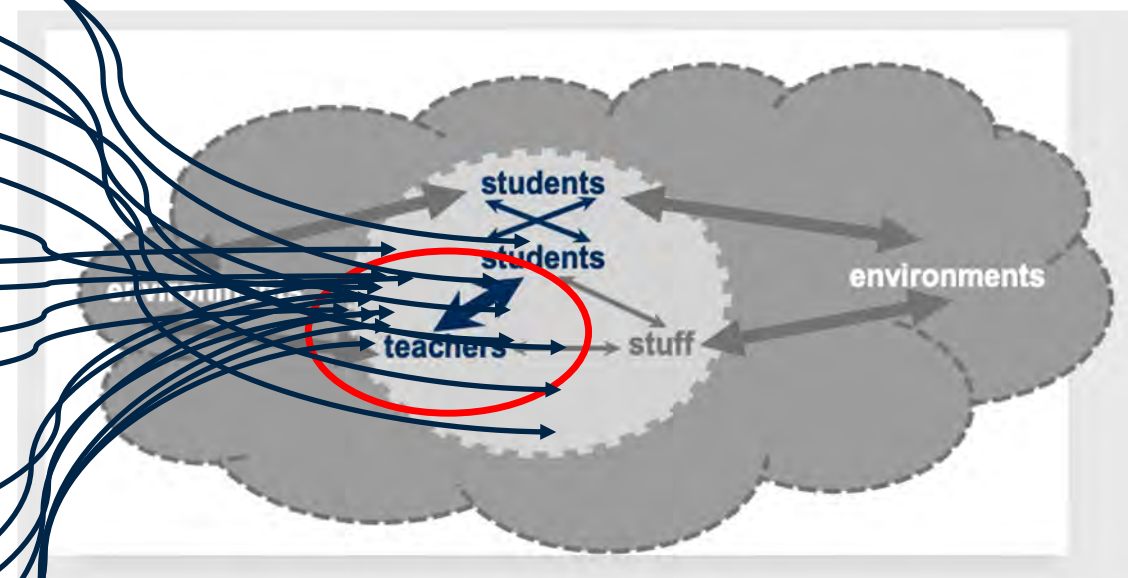
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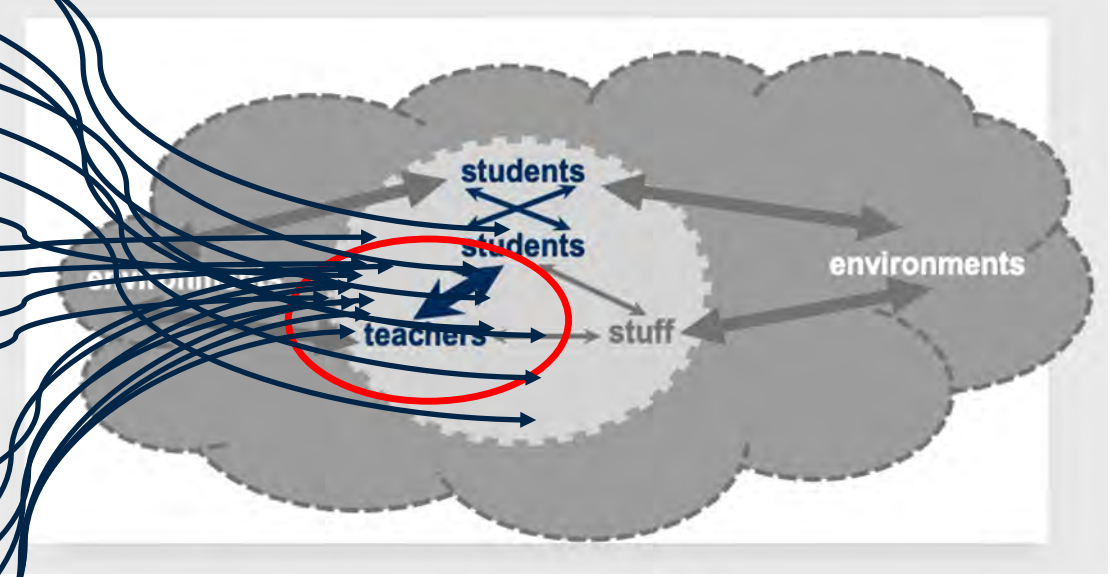
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25 in 2:21

Teaching Is Dense with “Discretionary Spaces”

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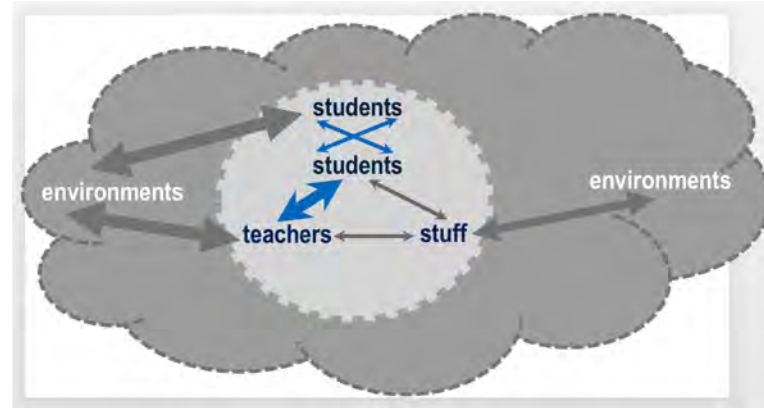
25 in 2:21

Why So Much Discretion?

- Routine actions and interactions are situated in contexts and involve specific people interpreting and reacting to others and to conditions in those contexts.
- People act dynamically and responsively based on their subjective interpretations of these situations.
- These actions cannot be fully constrained or prescribed because they are inherently contextualized and require automatic or deliberate interpretation.

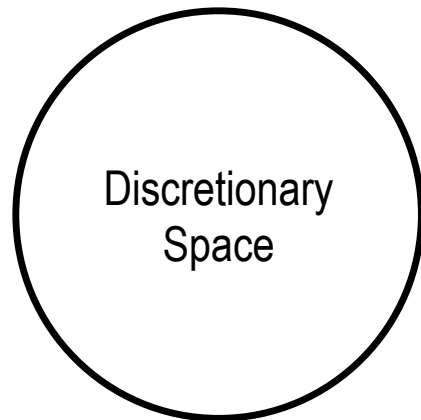
How that discretion is exercised can either **reinforce** patterns of social, personal, and epistemic injustice and harm — or it can **disrupt** these patterns.

Enactments (of All Kinds) Take Place Inside Broader Environments

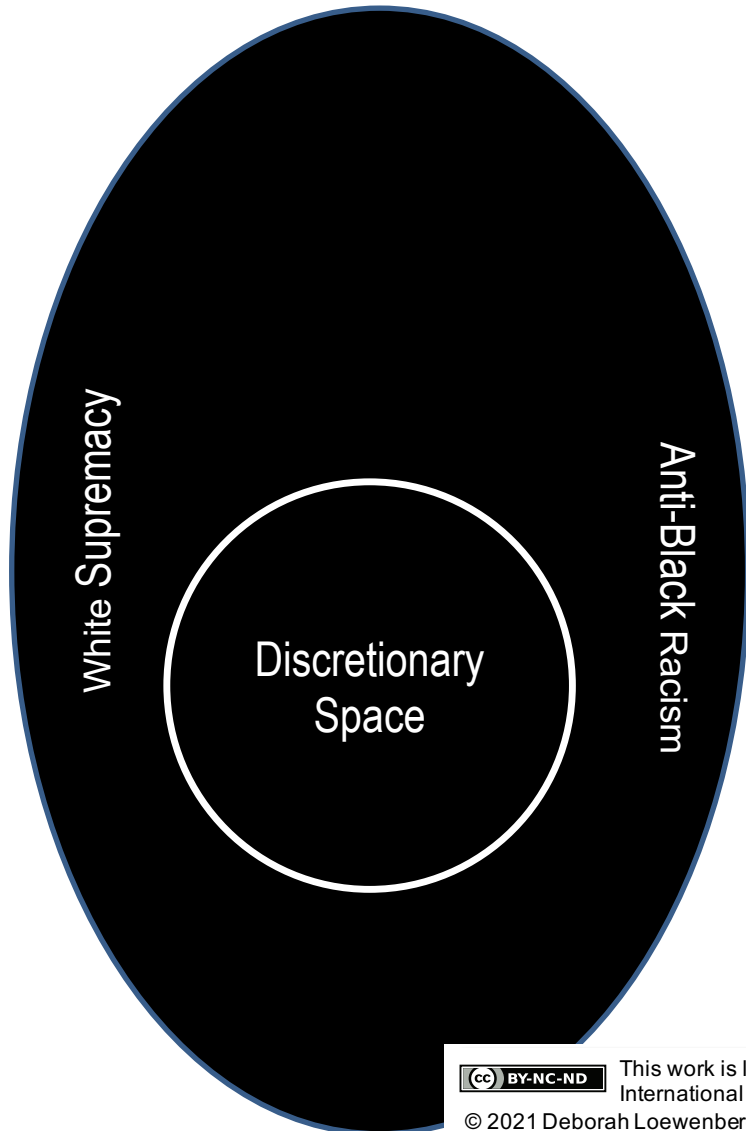


- As people act inside these situations, influences emanating from the broader environments influence, shape, or even determine actions.
- These influences take place without deliberate decision on the part of actors. Many of these actions and interactions are habitual. People's actions are often more or less intuitive or based on habit and routinized ways of being, acting, talking, etc.
- Others are novel. People's actions are sometimes then “made up” based on their experiences, skills, understanding, available resources, etc.

What Regularly Fills the Discretionary Spaces in Teaching?



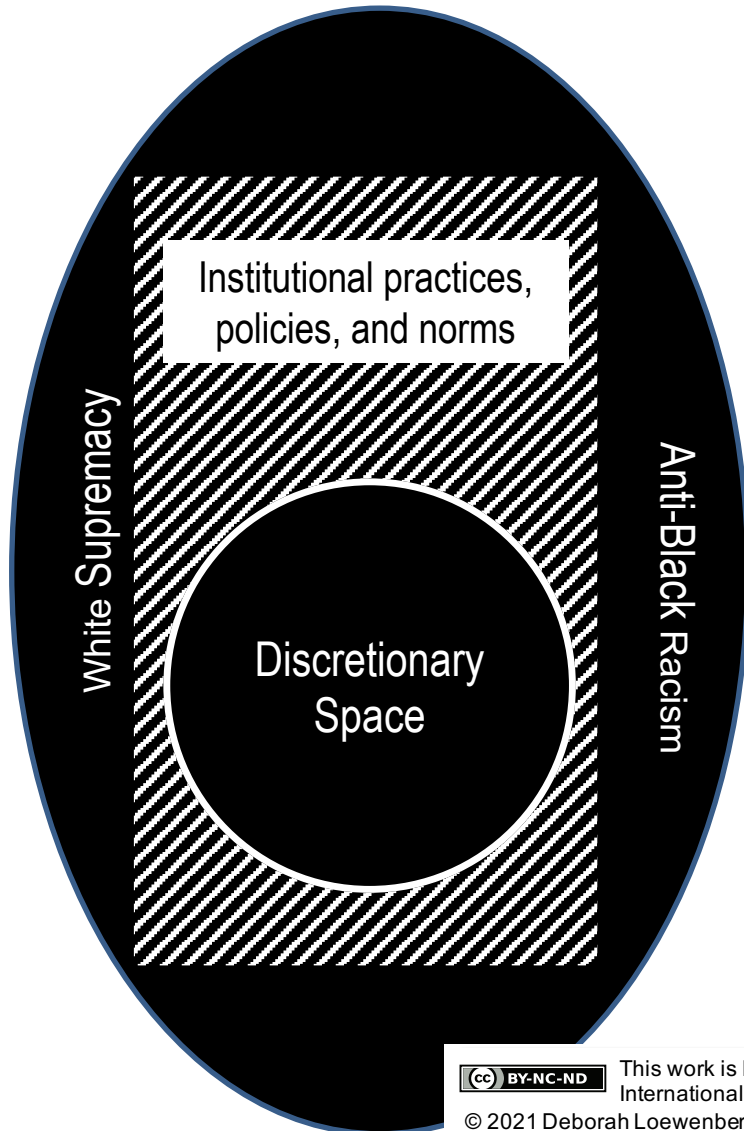
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Subjective judgements informed by:

1. Teachers' experiences in a society filled with anti-Black racism, other forms of racism, and white supremacy.

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Subjective judgements informed by:

1. Teachers' experiences in a society filled with anti-Black racism, other forms of racism, and white supremacy.
2. Normalized practices in schools that institutionalize dominant values and habits.

Logics of White Supremacy and Anti-Blackness

- White ways of being are “natural” and normal, and therefore superior
- Black people are intellectually inferior than White people
- Black people are predisposed to violence and other criminal behavior

From Micro Moments to Macro Structures

INFLUENCES ON TEACHERS

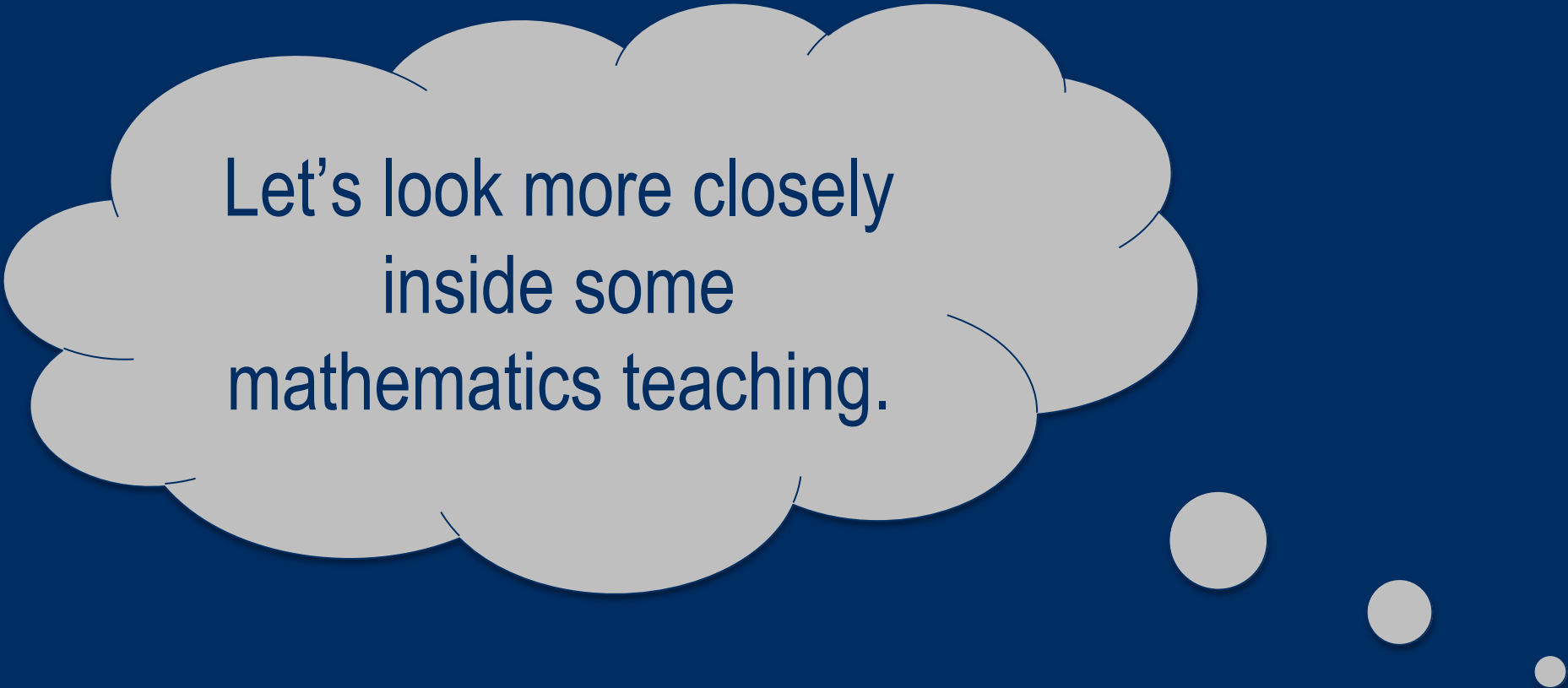
- Control of classroom
- Rate of learning

LOGIC

- Students need discipline to learn, particularly Black students
- Black students are behind and need to learn efficiently to catch up

STRUCTURAL EQUIVALENT

- School to prison nexus
- Overrepresentation in Special Ed; underrepresentation in gifted and talented



Let's look more closely
inside some
mathematics teaching.



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The Unique Potential of Mathematics to Perpetuate Injustice — or Disrupt It

- The history of “mathematics” and who has constructed what we call math (i.e., white, male, western)
- The melding of “intelligence” and mathematics (and the history of “intelligence”)
- Narrow constructions of “mathematics” that uphold these
- The rich resources of mathematics in many communities and cultures
- The power afforded by seeing oneself as “smart” or “good at math”
- The imaginative creative space possible in mathematics, for invention, experimentation, construction, representation, and performance
- The assets of collective work in mathematics

What would it take to harness the power of mathematics teaching to disrupt white supremacy and oppression?



What would it take to harness the power of mathematics teaching to disrupt white supremacy and oppression?

leveraging the many discretionary spaces of teaching



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What would it take to harness the power of mathematics teaching to disrupt white supremacy and oppression?

and knowing mathematics in ways that support that work

leveraging the many discretionary spaces of teaching



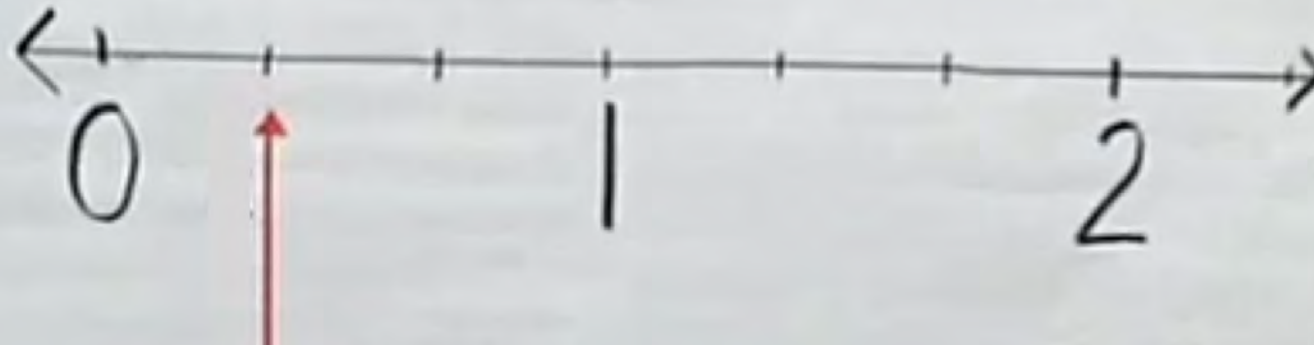
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Aniyah and Toni



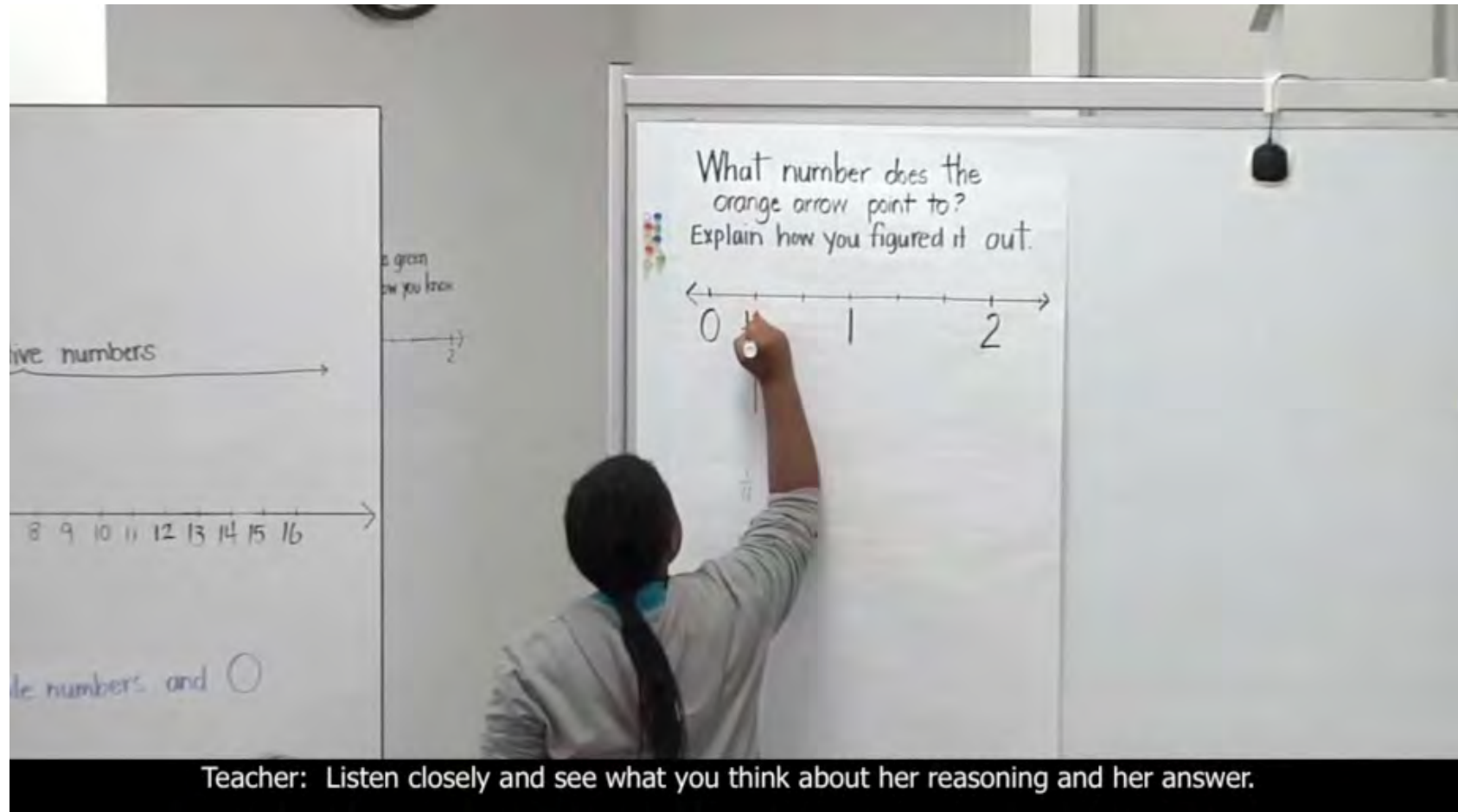
What number does the orange arrow point to?
Explain how you figured it out.



Viewing Focus for One Short Segment

What do you think are the most frequent comments that educators make about Toni? About Aniyah?

Video: Aniyah and Toni



This video and additional supporting materials are available online [here](#).

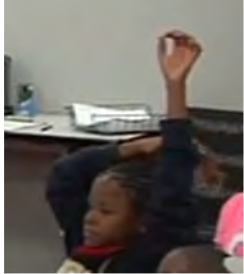
What Are the Most Frequent Reactions?



TONI

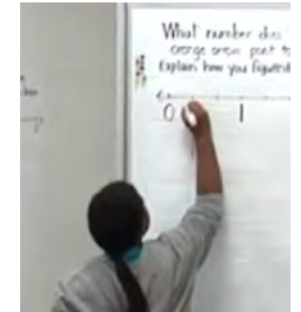
- Toni is fooling around with another student across the room and laughing at Aniyah.
- Toni is being disrespectful to Aniyah.
- Toni knows that Aniyah is wrong and is trying to point that out.

What Are the Most Frequent Reactions?



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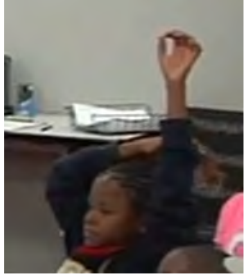
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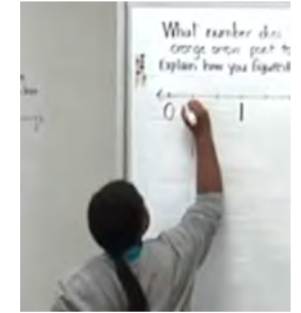
- Aniyah has the wrong answer.
- Aniyah should not be left up there with a wrong answer, feeling bad and possibly confusing other children.
- Aniyah is being harmed by how Toni is treating her.

What Are the Most Frequent Reactions?



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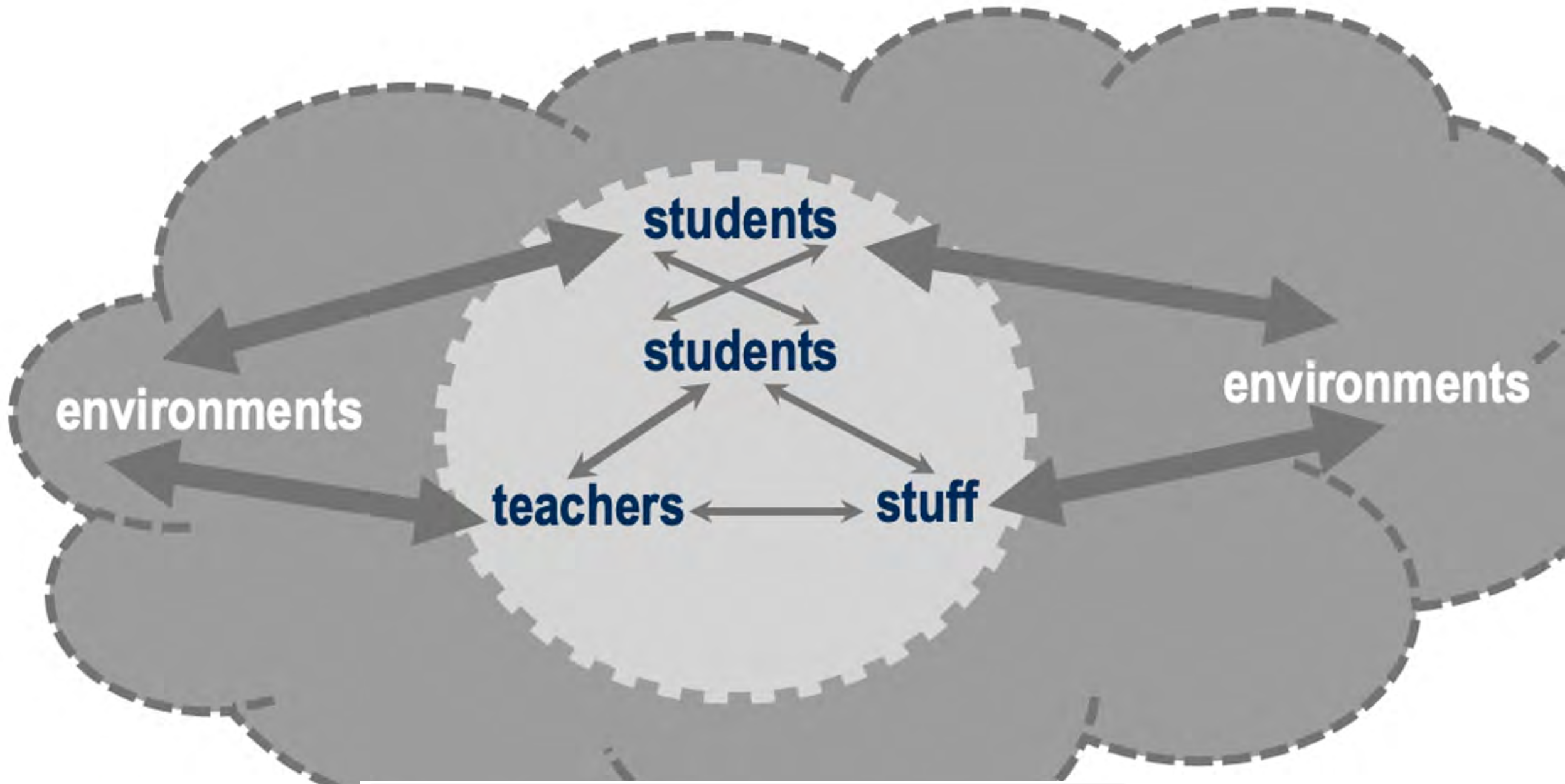
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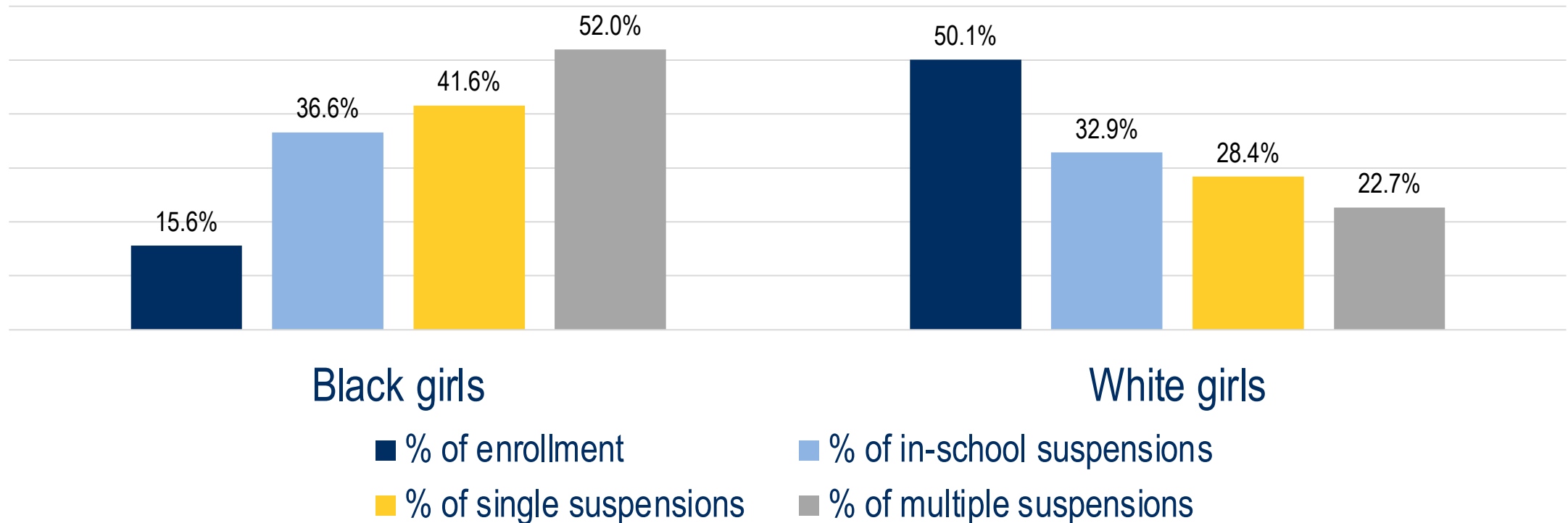
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Systemic Pattern #1

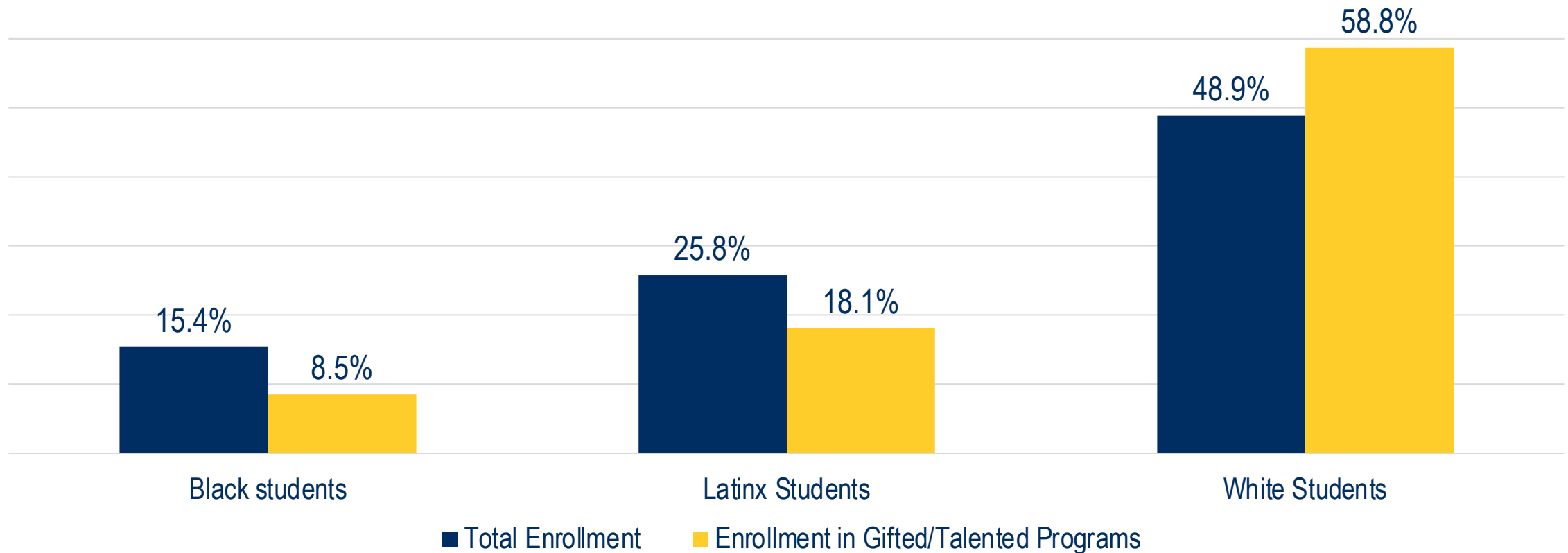
The Disproportionate (Over)Punishment of Black Girls



Epstein, R., Blake, J., & González, T. (2017). *Girlhood interrupted: The erasure of Black girls' childhood*. Washington, DC: Georgetown Law Center on Poverty and Inequality.


Systemic Pattern #2

Disproportionate (Under)Assignment to Gifted/Talented Programs

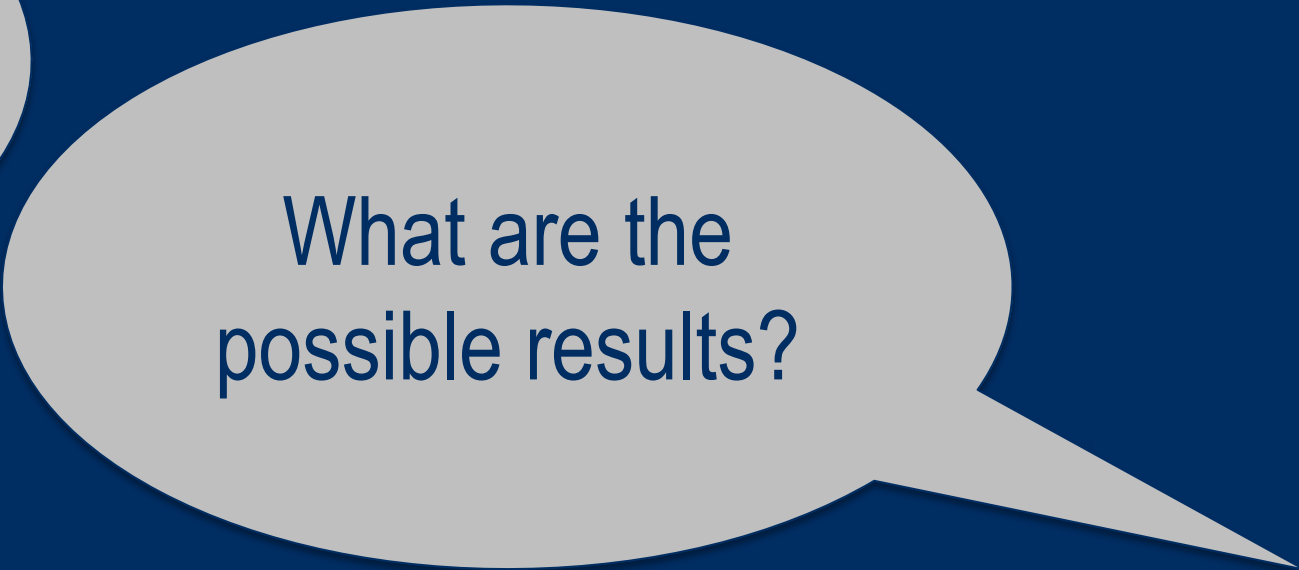


U.S. Department of Education Office for Civil Rights. (2020). 2015–16 Estimations for Enrollment: Overall. [Data spreadhseet]. Retrieved from <https://ocrdata.ed.gov/assets/downloads/2015-2016/Enrollment-Overall.xlsx>.

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What commonly
would happen
next?



What are the
possible results?



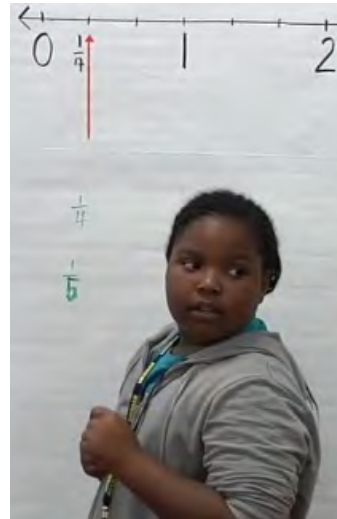
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In This Moment, a Move Can Reproduce Patterns of Marginalization of Black Girls and Reductionist Views of Math

Normalized Next Moves

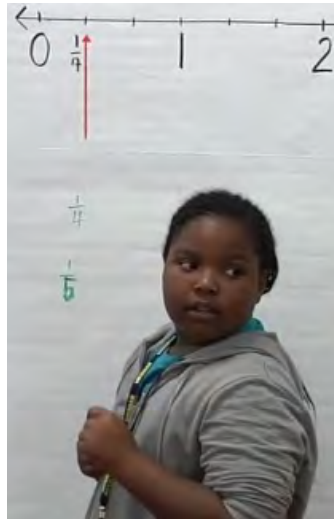
- “Can someone help Aniyah out and show what we call the whole on the number line?”
- “Great, Aniyah, almost! But remember that the whole is from 0 to 1.”
- “Thumbs up if you agree with Aniyah; thumbs down if you disagree.”



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Results

- Aniyah is excluded and her mathematical contributions are sidelined.
- Aniyah’s answer is signaled to be incorrect and she is positioned as not having contributed to the work.
- Aniyah’s solution is “voted” on by her classmates.

In This Moment, Too . . .

Normalized Next Moves

- “Toni, when you’re ready to participate appropriately by not playing with your hair and laughing, and have a question to ask, I will come back to you.”
- “You need to be a better listener, Toni. Aniyah already explained why she picked one-seventh. Who else has a real question for Aniyah?”
- “In this classroom, we are respectful of one another. When you are ready to be respectful, you can rejoin the discussion, Toni.”



In This Moment, Too . . .

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Results

- Toni is publicly excluded from the discussion.
- Toni is judged to not be listening, her question is judged as not good, and she is excluded from the discussion.
- Toni is publicly named and shamed as “disrespectful,” rebuked, and her role in advancing the mathematics is sidelined.

What Do These Different Teaching Moves Do To Toni And Aniyah? And the Other Children?

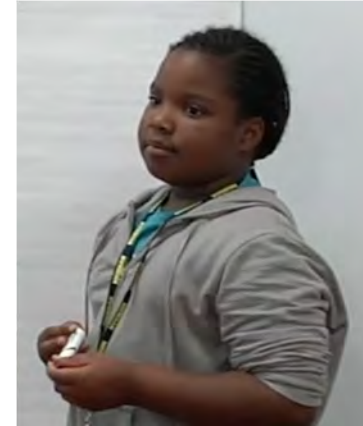


- Toni's contributions to the class are not read as appropriate or valuable.
- Her participation and mathematical attentiveness are made invisible.
- Her mathematical identity is not supported.

What Do These Different Teaching Moves Do To Toni And Aniyah? And the Other Children?



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- Aniyah is positioned as “struggling.”
- Her precise explanation is not only not highlighted and acknowledged, but not even heard.
- Aniyah is interpreted as lacking confidence and needing to be protected.

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These perpetuate images of Black girls as “troublemakers” and not “good at math.”

Using Discretionary Spaces to Disrupt Instead of Perpetuate Patterns



- Reading Toni as asking a real question that she means.
- Hearing Toni's question as central to the advancing of the mathematical content.
- Reinforcing her mathematical identity, not choosing to read her body as disruptive.

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- Reading Aniyah as competent to answer questions about her ideas.
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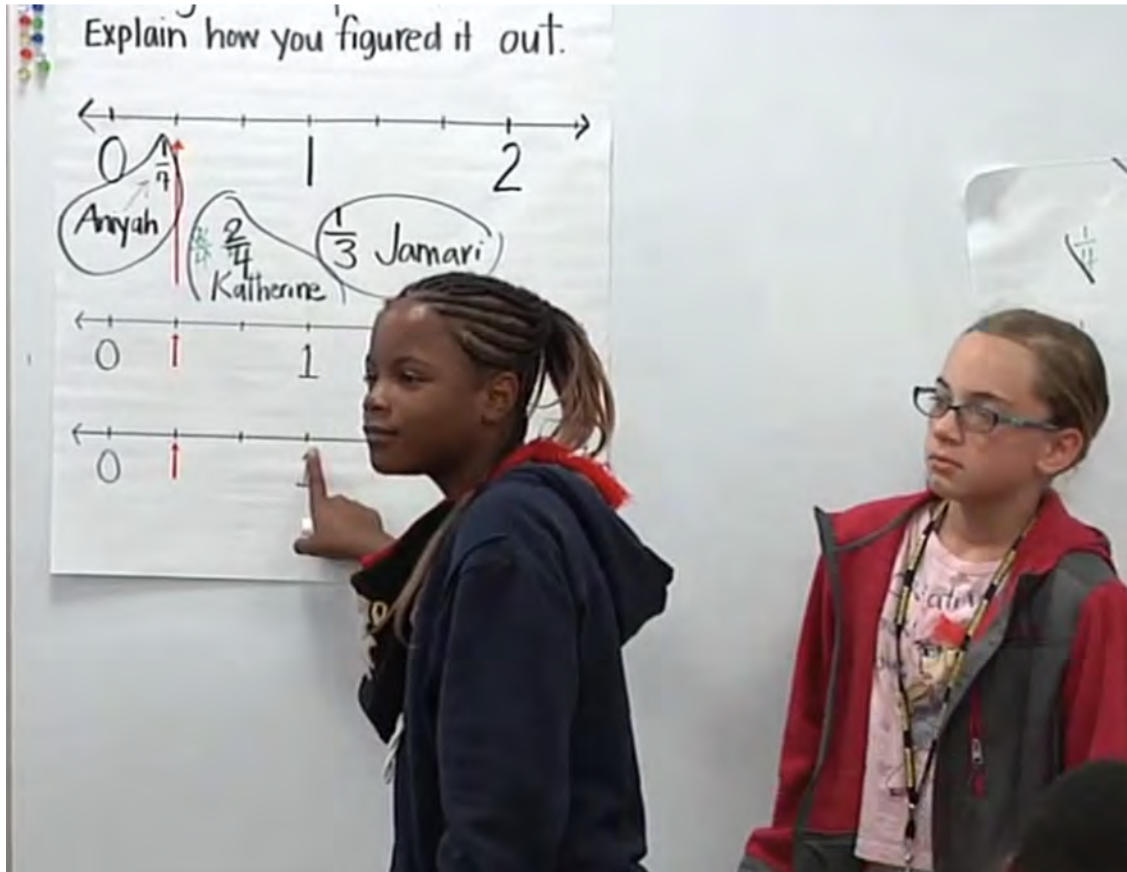
- Reading Aniyah as competent to answer questions about her ideas.
- Hearing Aniyah's explanation as central to the advancing of the mathematical content.
- Reinforcing her mathematical identity, not choosing to read her body as struggling.



- Other children hear these children as contributing valuably to the advancement of the discussion and learn from their contributions.
- Other children see a teacher attending to Black and Brown children as mathematical thinkers and contributors to collective work, not as “troublemakers” or “struggling.”

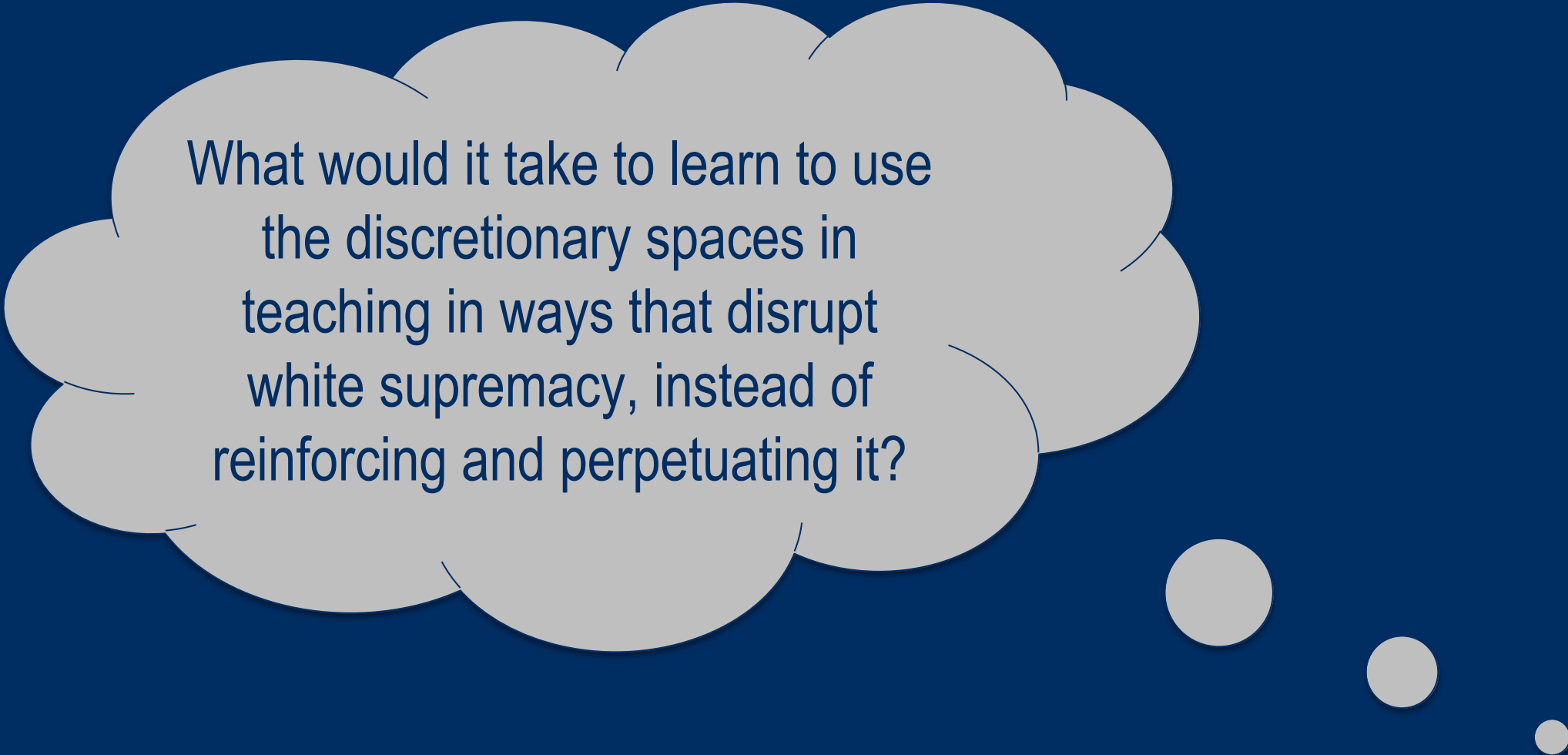
14 Minutes After Where We Stopped

TONI



ANIYAH

I did well on my goal today because my goal was to to share my ideas with the class and I did I went up to the board and share my idea with the class on Fractions.



What would it take to learn to use
the discretionary spaces in
teaching in ways that disrupt
white supremacy, instead of
reinforcing and perpetuating it?

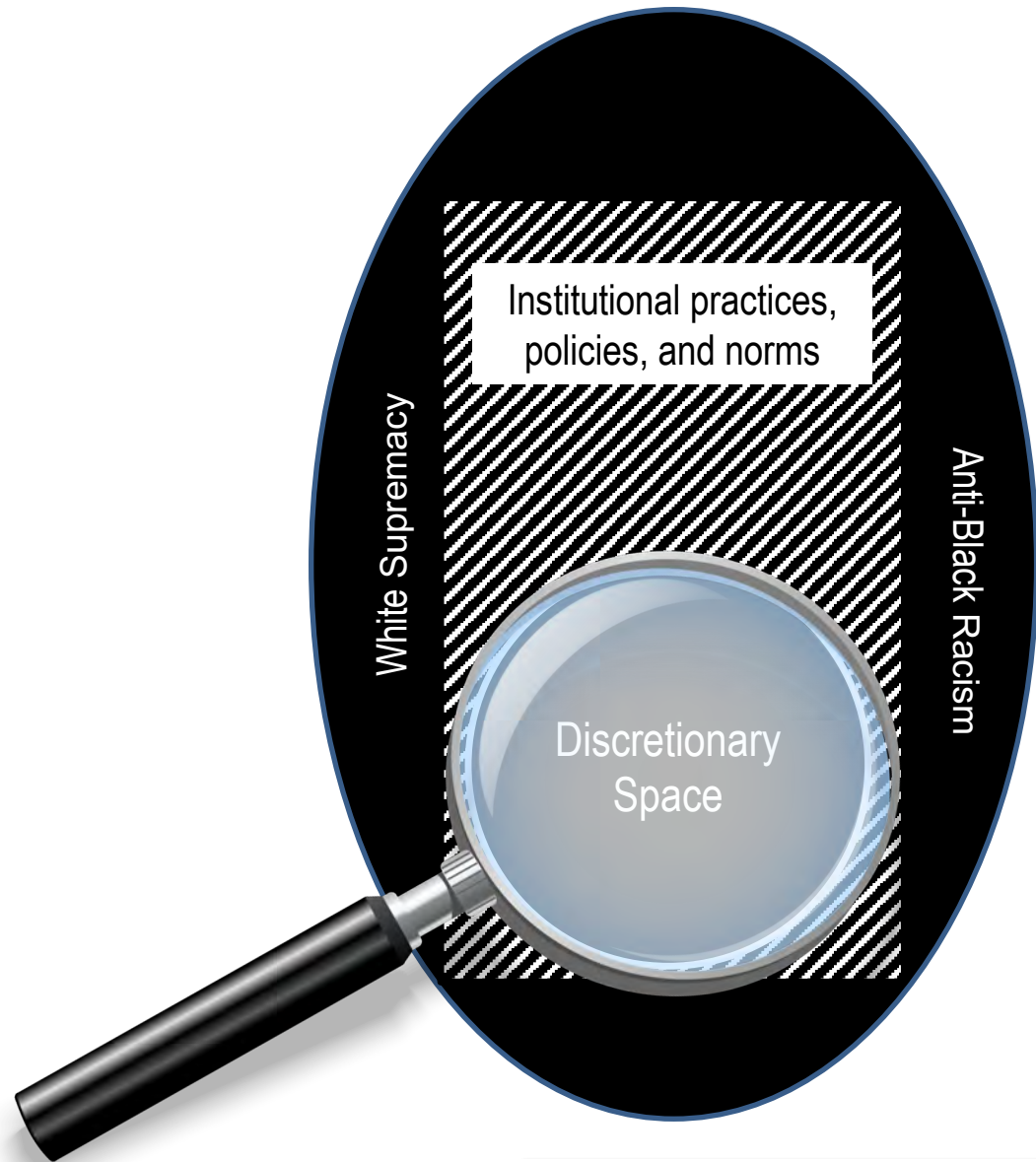


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Using Discretion to Disrupt Inequity

- Commitment to interrupting the influence of white supremacy and anti-Blackness
- Requires raising awareness through analysis AND developing new logics and patterns of behavior



Am I causing harm to students in the course of the routine ways that I use my discretion?

Is my use of discretion undergirded by logics of white supremacy and anti-Blackness?





There is no neutral.

*Imani Goffney, Ibram X. Kendi



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Teaching is a natural human activity.

but . . .

Natural = “Normal” = White

So — teaching that enables children to thrive and that disrupts patterns of white supremacy and oppression requires **challenging** what seems natural.



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What Does this Work Require?

Seeing children.

Seeing teachers.

Seeing systems of white supremacy and anti-Blackness.

Seeing how systems of white supremacy and anti-Blackness play out in views of and outcomes for children and teachers.

Seeing ourselves.

Seeing how white supremacy and anti-Blackness play out in ourselves.

Seeing how white supremacy and anti-Blackness play out in ourselves in relationship to others.

This is our work.

To build mathematics teaching as a force for justice.

Our power is in our collective efforts to make mathematics teaching work.

. . .to learn, to grow, to share, and to push forward with the fight.



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THANK YOU!

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Slides will be available on Deborah's website

<https://deborahloewenbergball.com/>

("Google" Deborah Ball)



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TeachingWorks



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Credits



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Image on slides 3, 6–7, and 55–56:

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