VIDEO: IS THERE A TEACHER WHO HAD A SIGNIFICANT IMPACT ON YOU?
TEACHING EFFECTS

COMPOUND EFFECTS

- Teacher sequence can affect student achievement by up to 50 percentile points after only three years.
- Low achieving students have the most to gain from an effective teacher.
- The top quintile of teachers facilitate appropriate to excellent gains for students of all achievement levels.

Variation in Teacher Quality

- The most important in-school factor affecting student learning is the teacher.
- There is wide variation in effectiveness among teachers.

Wright, Horn, & Sanders (1997)

LONG-TERM IMPACT

- Children who do not read proficiently by the end of third grade are four times more likely to drop out.
- Workers with a bachelor’s degree or more earned almost twice as much as workers with only a high school diploma.

Fiester (2013)

DISCIPLINE

- Latinx, Black, and Native/Indigenous students are punished more often and more harshly than other groups.
- Black girls are disproportionately subjected to exclusionary discipline practices.
- Students with disabilities are punished more often and more harshly than other groups.
- Discipline disparities for Black students, boys, and students with disabilities are observed as early as pre-K.

Gregory, Skiba, & Noguera (2010)
Skiba, Horn, Chung, Rausch, May, & Tobin (2011)
Blake, Butler, Lewis, & Darenbourg (2011)
Morris (2016)
Noltemeyer & Moloughlin (2010)
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Morris (2016)
Noltemeyer & Moloughlin (2010)
Teaching is constrained by policies, curriculum, testing regimes. . .

Teaching is highly idiosyncratic and individual.

Lipsky (1980), Shulman (1983)
THE PARADOX OF CONSTRAINT AND DISCRETION IN TEACHING

CONSTRAINTS CAN:

- Support efforts to disrupt inequity.
- Restrict teachers’ professional freedom through standardization.
- Reproduce racism and other forms of oppression.
- Impede efforts to make schools responsive, contextual, culturally relevant.

DISCRETION CAN:

- Make possible teachers’ efforts to teach in contextually sensitive and culturally responsive ways.
- Enable teachers to connect school to the world.
- Enable racism and other forms of oppression to flow into schools and schools.

(e.g., Aguirre, Celédon-Pattichis, Civil, Dewey, Gutiérrez, Ladson-Bilings, Paris, Walker, Winn)
**Teacher**

Who would like to try to explain what you think the answer is? And show us your reasoning by coming up to the board?

- **Other children**
  - Playing with hair
  - Laying on arms

- **Teacher**
  - When someone's presenting at the board, what should you be doing?
  - Looking at them.

- **Other children**
  - Laying on arms

- **Teacher**
  - Looking at that person.
  - What are you thinking?

- **Student**
  - You want me to write it?

- **Teacher**
  - You're trying to make what you think this number is and explain how you figured it out.

- **Other children**
  - Laying on arms

- **Teacher**
  - Listen closely and see what you think about her reasoning and her answer. (Softly whispers 1 opin the orange one).

- **Student**
  - I put one seventh because there's one.

- **Teacher**
  - Did she say one seventh?

- **Student**
  - Dante told me. (Continues to count) Because there's seven equal parts, two one, two two, three, four, five, six, and seven. (Uses her fingers to count the parts on the number line).

- **Teacher**
  - Before you agree or disagree, I want you to ask questions if there's something you don't understand about what she did. No agreeing and disagreeing. Just ask questions. Who has a question for her?

- **Teacher**
  - Okay! Tell me what's your question for her?

- **Student**
  - Why did you divide by seven?

- **Teacher**
  - Go ahead. It's your turn.

- **Student**
  - Why did you pick one-seventh?

- **Teacher**
  - What did you learn from her answer? That was a very good question.
TEACHING IS DENSE WITH “DISCRETIONARY SPACES”
WHAT REGULARLY FILLS THE DISCRETIONARY SPACES IN TEACHING?

1. Teachers’ experiences in a society filled with racism and oppression.
2. Normalized practices in schools that institutionalize dominant values and habits.

Lortie (1975), Banks, Grant and Koskela, Moll
Anyon (1981), Heath, Martin, Tuck
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1. Teachers’ experiences in a society filled with racism and oppression.
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Professional education does not effectively intervene on these.

Professional education and teaching experience often teach these.

Lortie (1975), Banks, Grant and Koskela, Moll Anyon (1981), Heath, Martin, Tuck
How do macro-structures play out in the micro-moments of Black and Brown children’s experiences in classrooms?

Gholson & Wilkes, 2016
What number does the orange arrow point to? Explain how you figured it out.
ANIYAH AND TONI

ANIYAH

TONI
VIDEO: ANIYAH AND TONI

This video and additional supporting materials are available online here.
DISCRETIONARY SPACES IN JUST THESE FEW SECONDS

<table>
<thead>
<tr>
<th>Speaker</th>
<th>Talk</th>
<th>Discretionary space</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher</td>
<td>Who would like to try explaining what you think the answer is? And show us your reasoning by coming up to the board? And you know, it might not be right. That's okay because we're learning something new. It's like someone to come up and sort of be like the teacher and explain how you are thinking about it. Would like to try that this morning?</td>
<td>1. Deciding when to open whole group discussion. 2. Deciding what to do to launch discussion. 3. Framing the expectation for presenting. 4. Framing of what it 'coming to the board' entails.</td>
</tr>
<tr>
<td>Tobi</td>
<td>Playing with hair</td>
<td>5. Selecting a student to present.</td>
</tr>
<tr>
<td>Other students</td>
<td>Laying on arms</td>
<td>6. Deciding whether to comment. 7. Deciding whether to comment.</td>
</tr>
<tr>
<td>Teacher</td>
<td>When someone's presenting at the board, what should you be doing?</td>
<td>8. Setting norms for what to do when a student is presenting.</td>
</tr>
<tr>
<td>Students in silence</td>
<td>Looking at them.</td>
<td>9. Responding to students.</td>
</tr>
<tr>
<td>Teacher</td>
<td>Looking at that person.</td>
<td>10. Taking up an individual student question.</td>
</tr>
<tr>
<td>Anya</td>
<td>You want me to write it?</td>
<td>11. Clarifying task.</td>
</tr>
<tr>
<td>Teacher</td>
<td>You're trying to ask what you think this number is and explain how you figured it out.</td>
<td>12. Setting task for the other students.</td>
</tr>
<tr>
<td>Anya</td>
<td>I put one-seventh because there's-</td>
<td>13. Responding to student.</td>
</tr>
<tr>
<td>Tobi</td>
<td>Did she say one-seventh?</td>
<td>14. Setting task for responding to student explanation.</td>
</tr>
<tr>
<td>Anya</td>
<td>(turns to Tobi) Yeah, (continues to class) Because there's seven equal parts, like one, two, three, four, five, six, and then seven. (Uses her fingers to count the parts on the number line).</td>
<td>15. Responding to student.</td>
</tr>
<tr>
<td>Teacher</td>
<td>Before you agree or disagree, I want you to ask questions if there's something you don't understand about what she did. No agreeing and disagreeing. Just- All you can do right now is ask Anya questions. Who has a question for her?</td>
<td>16. Responding to student speaking across room.</td>
</tr>
<tr>
<td>Teacher</td>
<td>Okay, Tobi, what's your question for her?</td>
<td>17. Responding to student laughing.</td>
</tr>
<tr>
<td>Oliver</td>
<td>You did tell</td>
<td>18. Responding to student speaking across room.</td>
</tr>
<tr>
<td>Tobi</td>
<td>Willy did (laughs at another student who says something to her from across the room)</td>
<td>19. Responding to student laughing at the other student.</td>
</tr>
<tr>
<td>Teacher</td>
<td>Go ahead, it's your turn.</td>
<td>20. Responding to student speaking across room.</td>
</tr>
<tr>
<td>Oliver</td>
<td>You did not.</td>
<td>22. Responding to student.</td>
</tr>
<tr>
<td>Teacher</td>
<td>Let's listen to her answer now. That was a very good question.</td>
<td>23. Responding to student.</td>
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**Speaker** | **Talk** | **Discretionary space**
--- | --- | ---
Teacher | Who would like to try explaining what you think the answer is? And show us your reasoning by coming up to the board? | 1. Deciding when to open whole-group discussion. 2. Deciding what to do to launch discussion.
Teacher | And you know, it might not be right. That's okay because we're learning something new. | 3. Framing the expectation for presenting.
Teacher | I'll like someone to come up and sort of to the teacher and explain how you are thinking about it. Would like to try to that this morning. | 4. Framing of what it 'coming to the board' entails.
Toni | Playing with hair | 6. Deciding whether to comment.
Toni | Laying on arms | 7. Deciding whether to comment.
Toni | When someone's presenting at the board, what should you be doing? | 8. Setting norms for what to do when a student is presenting.
Toni | It's really important to make sure that when someone presents, you're actually paying attention to that person. | 9. Responding to students.
Toni | Uh huh? | 10. Taking up an individual student question.
Teacher | You want me to write it? | 11. Clarifying task.
Teacher | You're thinking too much what you think this number is and. |

---

**Toni**

**Did she say one-seventh?**

**Arlyah**

(yawns to seven-eighths than seven number)

---

**Teacher**

Before you there's so No agree is ask Am

---

**Toni**

Why did- (laughs at another student who says something to her from across the room)

---

**Toni**

Why did you pick one-seventh?

---

**Toni**

You did not.

---

**Toni**

Why did you pick one-seventh?

---

**Toni**

You did not.

---

**Toni**

Listen to her answer now. What was a very good question.
DISCRETIONARY SPACES IN JUST THESE FEW SECONDS
VIDEO: RE-VIEW AND RE-LISTEN TO THESE DISCRETIONARY SPACES

These videos and additional supporting materials are available online here.
IN THIS MOMENT, A MOVE CAN REPRODUCE PATTERNS OF MARGINALIZATION OF BLACK GIRLS AND OF REDUCTIONIST VIEWS OF MATH

NORMALIZED NEXT MOVES

- “Can someone help Aniyah out and show what we call the whole on the number line?”
- “Thumbs up if you agree with Aniyah; thumbs down if you disagree.”
- “What do others think?”

RESULTS

- 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.
- Aniyah is excluded and her mathematical point is sidelined.
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?”

- “What do others think?”

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 excluded and her mathematical point is sidelined.

27 March 1, 2019
LOOKING AT THE MICRO THROUGH THE MACRO: BLACK GIRLS’ RATES OF SUSPENSION

Black girls
- % of enrollment: 15.6%
- % of single suspensions: 36.6%
- % of in-school suspensions: 41.6%
- % of multiple suspensions: 52.0%

White girls
- % of enrollment: 50.1%
- % of in-school suspensions: 32.9%
- % of single suspensions: 28.4%
- % of multiple suspensions: 22.7%

Epstein, Blake, & González (2017)
BLACK GIRLS MORE LIKELY TO BE DISCIPLINED FOR SUBJECTIVE INFRACTIONS

2X
For minor violations
(dress code violations, inappropriate cell phone use, loitering)

2.5X
For disobedience

3X
For disruptive behavior

3X
For bullying/harassment

Epstein, Blake, & González (2017)
DEMOGRAPHIC DIVIDE IN THE U.S.: K-12 TEACHERS AND STUDENTS

Teachers
- 82% White
- 18% Of Color

Students
- 52% White
- 48% Of Color
WHAT DOES IT TAKE TO DISRUPT THESE PATTERNS?

- Seeing Aniyah’s solution and Toni’s question as mathematically sophisticated and key to the class’s work
- Taking as axiomatic the brilliance of Black girls, and thus Aniyah and Toni
- . . . And having something different to do

(Gholson & Martin, 2014; Joseph, Viesca, Bianco, 2016; Martin, 2012; Leonard & Martin, 2013)
VIDEO: ANIYAH AND TONI

Okay, Toni, what's your question for her?

This video and additional supporting materials are available online [here](#).
USING DISCRETION TO DELIBERATELY DISRUPT THE PATTERNS THROUGH WHICH BLACK GIRLS ARE MARGINALIZED

COUNTERING THE PATTERN

- Acknowledge publicly the importance of Toni’s question.

POSSIBLE RESULT

- Toni is trusted, seen, and recognized for her contribution to the mathematical work:
  - The mathematical precision of her question
  - Asking Aniyah a question instead of disagreeing.
ANIYAH
- Identified the "whole" as 0 to 1 on the number line

TONI
- Modeled at the board a complete explanation of how to understand and identify a fraction on the line

THE OTHER CHILDREN
- Developed a depth of understanding of fractions as numbers on the line and how to explain them
- Saw Black girls’ brilliance
OUR RESPONSIBILITY, AND CHANGING THE PATTERNS

Given the ubiquity and density of discretionary spaces in teaching, what is the imperative for teacher support and development?
HOW CAN MATH TEACHING DISRUPT PATTERNS THAT REPRODUCE INJUSTICE?

PROMOTING JUSTICE

- Choosing tasks and problems that engage all students in high-level mathematical thinking
- Working to ensure access for all to participate
- Ensuring that every student has opportunities to contribute their ideas
- Assigning competence strategically

PREVENTING INJUSTICE

- Disrupting persistent patterns that marginalize particular groups of students
  - Discipline and punishment
  - Deficit orientations
- Challenging notions of smartness in mathematics
  - Focusing on reasoning and meaning
  - Collective knowledge-making
  - Welcoming non-standard methods and solutions
THE WORK OF JUSTICE LIVES INSIDE THE WORK OF TEACHING

- By understanding one’s identity and role as part of a broader system of oppression that is historical and persistent
- By knowing what “normally” happens and how these patterns reproduce oppression, and by deliberately doing things that counter those patterns
- By seeing and affirming each student—their strengths and their academic work
- By opening up “content” and possibilities for students to connect with and do complex work

Mann, Willis, Hickman, Ball, Goffney (2017)
DESIGNING TO TEACH TEACHING:
ATTENTION TO *DOING* THE WORK OF TEACHING

**DECOMPOSING PRACTICE**
- Breaking teaching practices into smaller elements that can be focused on
- Doing so in careful ways that do not distort or atomize teaching

**“LAYERING” ELEMENTS OF PRACTICE**
- Choosing small parts of teaching that intersect content knowledge for teaching, specific HLPs, disrupting racism and inequity
- *E.g.*,%
  - Centering work in recurrent situations in the work of teaching, such as dealing with students’ unexpected ideas, or positioning students during a discussion
AND . . . PRACTICE!

- Designing instructional activities that provide opportunities to do things that teaching actually entails
Let’s look at some examples of practice-based instructional activities that—

- Approximate actual parts of the work of teaching
- Have layered learning goals: content knowledge for teaching, specific high-leverage practices, specific discretionary moments that demand attending to and disrupting inequity
- Teachers DO
ACTIVITY #1

- **Layered learning goals:** To see and identify children’s mathematical understanding (CKT, interpreting student thinking), develop orientation to see Black girls as smart

- Watch the video, name what Aniyah knows and can do, and what Toni knows and can do
WHAT DO ANIYAH AND TONI KNOW AND WHAT CAN EACH DO?

ANIYAH

- Uses the definition for a fraction to explain
  - She identifies the “whole”
  - She makes sure the intervals are equal
  - She counts intervals and not tick marks
  - She knows how to write “one-seventh”

- Produces a mathematically well-structured explanation

- Presents her ideas clearly

TONI

- Listens closely to a classmate’s presentation

- Uses the definition for a fraction to ask
  - How Aniyah decided on 7 parts

- Asks a pointed mathematical question
ACTIVITY #2

- **Layered learning goals:** To develop crucial practices that are central to leading a class discussion, to consider the content, the goals, and the positioning of children.

- Tape children’s work on the walls of the classroom, walk around for 5 minutes, with class list, looking at what children are writing.

- Decide and justify and discuss whom to ask to present their solution first, and how different considerations intertwine.
MARIANA

What number does the orange arrow point to? 

\[ \frac{1}{2} \]

Explain how you know: How I know its zero is that there is an interval from 0 to 1. There was a line between 0 and 1.

ASHTON

What number does the orange arrow point to?

\[ \frac{1}{3} \]

Explain how you know:

MAKAYLA

What number does the orange arrow point to? 

\[ \frac{1}{3} \]

Explain how you know:

Can't from 0. Now turn it even and then it's equal. Then can't from the 1. I saw the one then is \[ \frac{3}{2} \]. Maybe not.

Write a complete sentence with one goal for yourself for our math class today. Give an example of what it looks like to do this really well.
What number does the orange arrow point to? $\frac{1}{3}$

Explain how you know: Because its in 3 parts.

What number does the orange arrow point to? $\frac{1}{7}$

Explain how you know: Because this seven equal parts that's why I put seven and I put the one down because that's one equal part out of seven. So one-seventh is seven.
What number does the orange arrow point to?

Explain how you know: because there were equal parts and you were pointing to the second one so it's \( \frac{2}{4} \).

Write a complete sentence with one goal for yourself for our math class today. Give an example of what it looks like to do this really well.

To listen to other people's ideas, I know the answer that I will still listen to others.
What number does the orange arrow point to?

Explain how you know:

First I thought it was 1/2 because the zero messed me up.
ACTIVITY #3

- **Layered learning goals:** To learn to notice discretionary spaces, pause, be conscious of habits that reproduce racism, break and develop new habits

- Watch video, identify possible next steps, critically analyze results of these

- Name and *practice* different steps to disrupt patterns that marginalize
What part of the rectangle below is shaded gray?
VIDEO: ANTAR

Antar: I think it's not a fraction because all the parts are not equally the same.
IN THIS MOMENT, A MOVE CAN REPRODUCE PATTERNS OF MARGINALIZATION OF BLACK BOYS

NORMALIZED NEXT MOVES

- Clarify for Antar that he is right—that the parts are not equal but that it is a fraction; ask someone else to give “the correct answer”
- Ask the class to indicate agreement/disagreement
- “What do others think?”

RESULTS

- Antar’s answer is signaled to be incorrect and he is positioned as not having contributed to the work.
- Antar’s solution is “voted” on by his classmates.
- Antar is excluded and his mathematical point is sidelined.
COUNTERING THE PATTERN

- Ask students to say what Antar said or to ask a question before agreeing/disagreeing.

- Ask Antar to say what he means by “it’s not a fraction.”

RESULT

- Maintain Antar’s authority and agency and position him and his thinking to advance the key mathematical idea.
“Teaching is a revolutionary act.”

Dr. Marcelle Haddix

Reaching for the possibilities and the power must be our collective work.
VIDEO: BRANDON
THANK YOU!

dball@umich.edu

Slides will be available on my website
https://deborahloewenbergball.com/
(“Google” Deborah Ball)
Image on slide 3:
“Oxon Hill High School Visit” by Flickr user Maryland GovPics
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Image on slide 18:
“microscope-research-laboratory-3101403” by Pixabay user AdrianoKF
Licensed under a Creative Commons Public Domain Dedication
https://creativecommons.org/publicdomain/zero/1.0/deed.en

Data on slides 28 and 29:
Data on slide 30:


Data on slides 31:

Image on slide 54: