WHAT DO WE KNOW ABOUT TEACHING?

1. Teaching is powerful.
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.

Sanders & Rivers (1996)

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, & Darendbourg (2011)
Morris (2016)
Noltemeyer & Motoughlin (2010)
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Morris (2016)
Noltemeyer & Moloughlin (2010)
WHAT MORE DO WE KNOW ABOUT TEACHING?

2. Teaching involves enormous discretion.

3. How that discretion is exercised can either reproduce oppression and inequity—or it can disrupt it.
What number does the orange arrow point to?

Explain how you figured it out.
VIDEO: ANIYAH AND TONI

This video and additional supporting materials are available online here.
### Teacher

**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.

**Teacher:** Okay. Anyone?

**Teacher:** Playing with hair. Laying on arms.

**Teacher:** When someone's presenting at the board, what should you be doing?

**Student:** Looking at them.

**Teacher:** Looking at that person.

**Teacher:** What else?

**Teacher:** You want me to write it?

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

**Teacher:** Listen closely and see what you think about her reasoning and her answer. (Ingrid writes 1/7 by the orange one.)

**Teacher:** Is it one-seventh because there's 1?

**Teacher:** No. What else?

**Teacher:** Dante. (Dante says, 'Uh, yes.')

**Teacher:** Yes. (Continues to close.) Because there's seven equal parts, one, two, three, four, five, six, and seven. (Uses her fingers to count the parts in the number one.)

**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 disagreement. Just. All you can do right now is ask any questions. Who has a question for her?

**Teacher:** Okay. Tom, what's your question for her?

**Teacher:** You did it?

**Teacher:** Why did you city another student who says something to her from across the room?

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

**Teacher:** Why did you pick one-seventh?

**Teacher:** You did not.

**Teacher:** Let's listen to her answer now. That was a very good question.
<table>
<thead>
<tr>
<th>Speaker</th>
<th>Talk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher</td>
<td>Why would you try to explain what you think the answer is? And show us your thinking by coming over to the board? Who'd like to come up to the board and try to tell? And you know, it might not be right. That's okay because we're learning something new. I'd like someone to come up and sort of be the teacher and explain how you are thinking about it. Who'd like to try that this morning?</td>
</tr>
<tr>
<td>Student 1</td>
<td>Okay, Anya?</td>
</tr>
<tr>
<td>Students in chorus</td>
<td>Playing with hair</td>
</tr>
<tr>
<td>Teacher</td>
<td>When someone is presenting at the board, what should you be doing?</td>
</tr>
<tr>
<td>Student 1</td>
<td>Looking at them.</td>
</tr>
<tr>
<td>Teacher</td>
<td>Looking at that person.</td>
</tr>
<tr>
<td>Student 1</td>
<td>Uh huh?</td>
</tr>
<tr>
<td>Anya</td>
<td>You want me to write it?</td>
</tr>
<tr>
<td>Teacher</td>
<td>You're trying to work out what you think this number is and explain how you figured it out.</td>
</tr>
<tr>
<td>Student 1</td>
<td>I'm just one-seventh because there's...</td>
</tr>
<tr>
<td>Anya</td>
<td>Sort of Tand Pand. (Continues to count) Because there's seven equal parts, one, two, three, four, five, six, and then seven. Use her fingers to count the parts of the number one.</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 agreement and disagreement. Just. All you can do right now is ask any questions. Who has a question for her?</td>
</tr>
<tr>
<td>Teacher</td>
<td>Okay. Tony, what's your question for her?</td>
</tr>
<tr>
<td>Student</td>
<td>You did not.</td>
</tr>
<tr>
<td>Teacher</td>
<td>Why did you pick one-seventh?</td>
</tr>
<tr>
<td>Student</td>
<td>Okay. (laughs at another student who says something to her from across the room)</td>
</tr>
<tr>
<td>Teacher</td>
<td>Go ahead, it's your turn.</td>
</tr>
<tr>
<td>Teacher</td>
<td>Why did you pick one-seventh?</td>
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<tr>
<td>Teacher</td>
<td>Let's listen to her answer now. That was a very good question.</td>
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TEACHING IS DENSE WITH “DISCRETIONARY SPACES”
VIDEO: RE-VIEW AND RE-LISTEN TO THESE DISCRETIONARY SPACES

These videos 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>
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<tbody>
<tr>
<td>Teacher</td>
<td>Who would like to try to explain what you think the answer is? And show us your reasoning by coming up to the board?</td>
<td>1. Deciding when to open whole-group discussion</td>
</tr>
<tr>
<td></td>
<td>And you know, it might not be right. That's okay because we're learning something new. It's like someone is coming up and sort of the teacher and explain how you are thinking about it. Would you like to try that this morning?</td>
<td>2. Deciding what to do to launch discussion</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Framing the expectation for presenting</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Framing what it “coming to the board” entails</td>
</tr>
<tr>
<td>Teacher</td>
<td>Okay, Anyah?</td>
<td>5. Selecting a student to present</td>
</tr>
<tr>
<td>Tori</td>
<td>Playing with hair</td>
<td>6. Deciding whether to comment</td>
</tr>
<tr>
<td></td>
<td>Laying on arms</td>
<td>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</td>
<td>Looking at them.</td>
<td>9. Responding to students</td>
</tr>
<tr>
<td>in chunks</td>
<td></td>
<td>10. Taking up an individual student question</td>
</tr>
<tr>
<td>Teacher</td>
<td>Uhh huh?</td>
<td>11. Clarifying task</td>
</tr>
<tr>
<td>Anyah</td>
<td>You want me to write it?</td>
<td>12. Setting task for the other students</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>13. Requiring task for the students</td>
</tr>
<tr>
<td></td>
<td></td>
<td>14. Setting task for responding to student explanation</td>
</tr>
<tr>
<td>Anyah</td>
<td>I put one-seventh because there’s—</td>
<td>15. Requiring task for student</td>
</tr>
<tr>
<td>Tori</td>
<td>Did she say one-seventh?</td>
<td>16. Requiring task for student</td>
</tr>
<tr>
<td>Anyah</td>
<td>(Sings to Tori) Yeah, (continues to clasp) 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>17. Requiring task for student</td>
</tr>
<tr>
<td>Teacher</td>
<td>Better 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 any questions. Who has a question for her?</td>
<td>18. Requiring task for responding to student explanation</td>
</tr>
<tr>
<td>Teacher</td>
<td>Okay, Tori, what’s your question for her?</td>
<td>19. Requiring task for student</td>
</tr>
<tr>
<td>Doire</td>
<td>You did stall</td>
<td>20. Requiring task for student</td>
</tr>
<tr>
<td>Tori</td>
<td>Why did you pick one-seventh?</td>
<td>21. Requiring task for student</td>
</tr>
<tr>
<td></td>
<td>(Ask another student who says something to her from across the room)</td>
<td>22. Requiring task for student</td>
</tr>
<tr>
<td>Teacher</td>
<td>Go ahead, it’s your turn.</td>
<td>23. Requiring task for student</td>
</tr>
<tr>
<td>Tori</td>
<td>Why did you pick one-seventh?</td>
<td>24. Requiring task for student</td>
</tr>
<tr>
<td>Doire</td>
<td>You did nil</td>
<td>25. Requiring task for student</td>
</tr>
<tr>
<td>Teacher</td>
<td>Lastly, listen to her answer now. That was a very good question.</td>
<td>26. Requiring task for student</td>
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DISCRETIONARY SPACES IN JUST THESE FEW SECONDS

Speaker | Talk | Discretionary space
---|---|---
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? | 1. Deciding when to open whole-group discussion
 | And you know, it might not be right. That’s okay because we’re learning something new. I’d like someone to come up and sort of be the teacher and explain how you are thinking about it. Would like to try that this morning. | 2. Deciding what to do to launch discussion
 | Teacher | Okay, Anybody? | 3. Framing the expectation for presenting
 | Toni | Playing with hair | 4. Framing of what it “coming to the board” entails
 | Other children | Laying on arms | | Teacher | When someone’s presenting at the board, what should you be doing? | | Students in silence | Looking at them. | 5. Selecting a student to present
 | Teacher | Looking at that person. | 6. Deciding whether to comment
 | Teacher | What I would like to say. | 7. Deciding whether to comment
 | Anya | You want me to write it? | 8. Setting norms for what to do when a student is presenting
 | Teacher | You’re going to make what you think this number is and | 9. Responding to students
 | | Did she say one-seventh? | | Toni | Why did- (laughs at another student who says something to her from across the room) | 10. Taking up an individual student question
 | Anya | [jumps to seven over than same number it] | 11. Clarifying task
 | Teacher | Better yet there’s so | | Teacher | Okay, Ton... | 12. Responding to students speaking across room
 | Teacher | If you did not | 13. Responding to student speaking across room
 | Teacher | Why did you pick one-seventh? | 14. Setting norms for ideas
 | Teacher | Why did you pick one-seventh? | 15. Responding to student speaking across room
 | Teacher | You did not | 16. Setting norms for ideas
 | Teacher | Wait, listen to her answer now. What was a very good question. | 17. Responding to student
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<td>Teacher</td>
<td>Okay, Anyone?</td>
<td>5. Selecting a student to present</td>
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<td>Tvia</td>
<td>Playing with hair</td>
<td>9. Deciding whether to comment &lt;br&gt;7. Deciding whether to comment</td>
</tr>
<tr>
<td>Other students</td>
<td>Laying on arms</td>
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<td>You’re trying to mock what you think this number is and explain how you figured it out.</td>
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<td>Teacher</td>
<td>Listen closely and see what you think about her reasoning and her answer. Anyjah writes it on the orange line.</td>
<td>16. Responding to students</td>
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<tr>
<td>Anyjah</td>
<td>I put one-seventh because that’s...</td>
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<td>Tvia</td>
<td>Did she say one-seventh?</td>
<td>18. Responding to student</td>
</tr>
<tr>
<td>Anyjah</td>
<td>(turns to Tvia) “Yeah... (continues to close) Because that’s one-seventh equals...</td>
<td>19. Responding to student</td>
</tr>
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<td>Teacher</td>
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<td>Okay, Tvia what’s your question for her?</td>
<td>21. Responding to student to speak</td>
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<td>Oulala</td>
<td>You did it!</td>
<td>22. Responding to student speaking across room</td>
</tr>
<tr>
<td>Tvia</td>
<td>Willy did; (laughs at another student who says something to her from across the room)</td>
<td>23. Responding to student laughing across room</td>
</tr>
<tr>
<td>Teacher</td>
<td>Go ahead, it’s your turn.</td>
<td>24. Responding to student laughing</td>
</tr>
<tr>
<td>Tvia</td>
<td>Why did you pick one-seventh?</td>
<td>25. Responding to student</td>
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<tr>
<td>Oulala</td>
<td>You did not!</td>
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<td>Teacher</td>
<td>Let’s listen to her answer now. That was a very good question.</td>
<td>27. Setting task for class</td>
</tr>
</tbody>
</table>
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.
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
Ball (2018)
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.

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 Ball (2018)
LOOKING AT THE MICRO THROUGH THE MACRO: BLACK GIRLS’ RATES OF SUSPENSION

Epstein, Blake, & González (2017)

May 7, 2019
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)
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

Toni: Why did you pick one-seventh?
Student: You did not.

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
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)
“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)
Data on slides 26 and 27:

Image on slide 33: