PREPARING JUST TEACHERS: LEVERAGING THE DISRUPTIVE POTENTIAL OF TEACHER EDUCATION

Deborah Loewenberg Ball
@deborah_ball

Teaching Practices Conferences: Opportunities and Challenges
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SCHOOL OF EDUCATION
TeachingWorks
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.
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.
Antar: I think it's not a fraction because all of the parts are not equally the same shape.
What does Antar mean by "it's not a fraction"?

How is Antar being positioned?

What is the mathematical point of this?

Should Antar stay at the board while Gabi presents?

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

Whom shall I call on?

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

How shall I try to position Antar and Gabi?

How shall I say or ask next?

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

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

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

How is Antar feeling about his contribution?

Where shall I stand?
Teacher: Would you like to share what you think about the second challenge? We're only going to be able to talk about the three. We're probably won't finish it.

Teacher: Would you like to explain what you think? And, what do you mean?

Teacher: Could you come up to the board and explain? Thank you.

Teacher: I really like the way you guys are collaborating and then the board are doing today. You're explaining really well.


Antar: I think it's not a fraction because all of the parts are not equal, the same shape.

Teacher: Can you say that one more time to the idea? Support presenter.

Antar: I think it's not a fraction because all the parts are not equal, the same.


Teacher: Many students have that hands up.

Gabriella: Oh, He said that he doesn't think it's a fraction because all of the parts are equal.

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?

Teacher: Okay, let's see, how about Gabriella. Choose student to call on.

Gabriella: I disagree.

Teacher: What do you think?

Gabriella: I think the fraction is one third.

Teacher: One third? Do you want to come up and say, how you think it is one third?

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 participation.

Teacher: So, let's hear what Gabriella's thinking. Choose students to one another.

Gabriella: 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.

Teacher: What's something you can use so if someone wants to take it all off, they could. Okay, so now explain what you've done. Talk to the class. Okay?

Gabriella: I divided it down the middle because, since it's not equal, you have to divide it equal. Provide model support.

Teacher: And so then you decided?

Gabriella: It's one-fourth.

Teacher: Would you like to explain what you think? And, what do you mean?

Teacher: Could you come up to the board and explain? Thank you.

Teacher: I really like the way that you guys are collaborating and then the board are doing today. You're explaining really well.

Teacher: Would 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.

Teacher: Would like to elaborate what you think? Antar, what do you think?

Teacher: Could you come up to the board and explain? Thank you. Frame task for student who is presenting. Many students have their hands up.

Teacher: I really like the way that people who are coming to the board are doing today. You are explaining really well.

Teacher: Here's a question. Can you explain your thinking? Provide material support.

Antar: I think it's not a fraction because all of the parts are not equal to the same shape.

Teacher: Can you say that one more time to the idea? Support presenter.

Antar: I think it's not a fraction because all of the parts are not equal to the same.

Teacher: Can someone repeat what Antar said? Very nice. Antar, Great students to present.

Teacher: Many students have their hands up.

Gabrielle: Oh, he said that he doesn't think it's a fraction because not all the parts are equal.

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? Original students to one another

Teacher: Okay, let's see, how about Gabrielle? Choose student to call on.

Gabrielle: I disagree.

Teacher: What do you think?

Gabrielle: I think the fraction is one-fourth.

Teacher: One-fourth? Do you want to come up and say why you think that's the right answer?

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.

Teacher: So, let's hear what Gabrielle's thinking.

Gabrielle: 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.

Teacher: Okay, let's hear what Gabrielle's thinking.

Gabrielle: 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.

Teacher: Many students have their hands up. Stuff.

Teacher: Now's something you can use if someone wants to take it off again, they can. Okay, do you explain what you've done. Talk in the class, okay?

Gabrielle: I divided it down the middle, because the lines are not equal. You have to make it equal.

Teacher: And so then you decided?

Gabrielle: It's one-fourth.
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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.
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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- People choose to become teachers who were successful in these schools. They often take “the way things are” for granted.
What is involved in disrupting these patterns?
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

<table>
<thead>
<tr>
<th>Discussion Enabling</th>
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</tr>
</thead>
<tbody>
<tr>
<td>• Selecting a task</td>
<td>Framing</td>
</tr>
<tr>
<td>• Anticipating student thinking</td>
<td>- Launching</td>
</tr>
<tr>
<td>• Setting up the task</td>
<td>Orchestrating</td>
</tr>
<tr>
<td>• Monitoring student work</td>
<td>- Eliciting</td>
</tr>
<tr>
<td></td>
<td>- Orienting</td>
</tr>
<tr>
<td></td>
<td>- Making contributions</td>
</tr>
<tr>
<td></td>
<td>Framing</td>
</tr>
<tr>
<td></td>
<td>- Concluding</td>
</tr>
</tbody>
</table>

**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
A SEQUENCE, MIDDLE OF SEMESTER

What is important in launching?

What patterns can reinforce inequity and marginalization?

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

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

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A SEQUENCE, MIDDLE OF SEMESTER

What is important in launching?

Choosing who will contribute first

Positioning who and what is seen as competent

Orienting students to the collective discussion

What patterns can reinforce inequity and marginalization?

Questions: what, who

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

Developing a sense of the mathematical territory and possibilities

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

Circulating before the discussion begins

Acknowledging competence: who, what, why, when

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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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<td>Orchestrating - Eliciting - Probing</td>
</tr>
<tr>
<td>• Setting up the task</td>
<td>- Orienting - Making contributions</td>
</tr>
<tr>
<td>• Monitoring student work</td>
<td>Framing - Concluding</td>
</tr>
<tr>
<td></td>
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</tr>
<tr>
<td></td>
<td>Maintaining a focus on the instructional point</td>
</tr>
<tr>
<td></td>
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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)

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?

RATES OF SUSPENSION: BLACK STUDENTS VS. WHITE STUDENTS

Write equations for 10.
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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 (option to discuss order of operations and use of parentheses)?

Does anyone have a strategy for combining with more equations for 10?

How many equations for 10 do you think there are?

Write equations for 10.
Write equations for 10.

**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?
Instructors model in front of the class, “fishbowl” format.

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<td>• Framing - Granting</td>
</tr>
<tr>
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</tr>
</tbody>
</table>

Recording and representing content
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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.

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!

dball@umich.edu

Slides will be available on my website

https://deborahloewenbergball.com/

(“Google” Deborah Ball)
CREDITS

Image on slides 21 and 37–40:
Photo from “Cake Mix Neapolitan Layer Cake,” by Cookie Madness

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:


Teacher Education by Design. (2014). University of Washington College of Education.
Image on slides 34–36:

Data on slide 34–36:
2013–14 Discipline Estimations by Discipline Type, U.S. Department of Education