BUILDING A JUST SOCIETY THROUGH THE POWER OF SKILLFUL TEACHING
OUR NATION AND OUR FUTURE AS A SOCIETY

- There are 78,000,000 people under the age of 18 in our country.
- Almost 25% of the nation’s population.
- 50,000,000 are in schools.

How can we teach so that people stop hating and killing one another?

- Adapted from Maisha Winn, inspired by Ihab Hassan
“Teaching has always come naturally to me.”

“I have learned teaching from experience; I like to pass on what I know to student teachers.”

“Teaching requires a lot of improvisation and can’t be specified in advance.”

“I have developed a style of teaching that works for me.”
CASE #1
ANIYAH AND TONI AND THEIR CLASSMATES: A RE-FRAMING
What number does the orange arrow point to? Explain how you figured it out.
VIDEO: WHAT DO YOU SEE AND HEAR ABOUT ANIYAH AND TONI IN THIS SHORT CLIP?

This video and additional supporting materials are available online [here](#).
What number does the orange arrow point to? \( \frac{1}{3} \)

Explain how you know: Because it's in \( \frac{3}{3} \) parts.
LAKEYA

What number does the orange arrow point to?

2

Explain how you know: Because there are four equal parts and you are pointing to the second one so it's 2/4.
What number does the orange arrow point to? \( \frac{1}{2} \)

Explain how you know: *Because if you look at it and count.*
WHAT DO MANY “HEAR” IN ANIYAH AND TONI?

ANIYAH
- She has the wrong answer: 1/7

TONI
- She is playing with her hair and trying to get attention
- She is trying to embarrass Aniyah
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
TEACHER PERCEPTIONS

- Many studies that show effects of racial and gender bias in teachers’ perceptions, interpretations, and interactions with students
- These affect: assignment to special education and gifted/talented programs, discipline (including suspensions and expulsions)
SOME EXAMPLES

- Black students suspended at a rate 3x of White students
- Boys receive 2/3 of suspensions; Black girls suspended at a much higher rate than girls of any other group

Exclusion from class reduces opportunity to learn.

- Black students are 2x as likely to be classified as having learning or emotional problems (special ed)

Exclusion from rigorous content; long-term effects of labeling.

- Black students 60% as likely to be selected for gifted programs.

Lack of access to accelerated and enrichment programs.
HOW DOES THIS HAPPEN?

Instruction is co-constructed

- . . . in broad socio-political, historical, economic, cultural, community, family environments
- . . . through the interpretations and interactions of teachers, students, and “content”

Cohen, Raudenbush, and Ball (2003)
What is involved in learning to be a skillful teacher who can promote justice and help each student thrive?
HIGH-LEVERAGE PRACTICES

Things teachers DO—

- All the time!
- That leverage students’ learning
- That put young people at risk when done badly
- That create equitable access to learning rigorous content and skills

- That can be named at a “grain-size” that is useful for learning to do the work of teaching
- That can be illustrated, unpacked, and practiced
- That support the development of more advanced teaching skills
- That can be assessed
EXAMPLES OF HIGH-LEVERAGE PRACTICES¹

- Explaining and modeling content, practices, and strategies
- Leading a group discussion
- Eliciting and interpreting students’ thinking
- Establishing norms and routines for classroom discourse and work
- Diagnosing particular common patterns of student thinking and development
- Learning about students’ cultural, religious, family, intellectual, and personal experiences and resources for use in instruction
- Setting up and managing small group work
- Building respectful relationships with students
- Checking student understanding during and at the conclusion of lessons
- Providing oral and written feedback to students on their work
- Setting long- and short-term learning goals for students
- Talking about a student with parents or caregivers

¹TeachingWorks and the University of Michigan School of Education
CASE #2

VIRSHAWN, A COUNTER-STORY
Abstract mathematical context for work on number relationships, mathematical structure, arithmetic properties (e.g., distributive property), even and odd numbers

Also a setting for developing skills of mathematical argument and analysis, as well as proof

Novel and complex mathematical environment for children

(Papy Minicomputer)
REASONING WITH THE MINICOMPUTER

Diagram with various numbers and shapes.
MEET VIRSHAWN

10 years old, Black male
In fourth grade:

- He was often sent out of the room, to the hall or the principal’s office
- He was in trouble often
- He wasn’t doing well in math
- He was articulate and liked to write
WHAT SHAPES HOW WE PERCEIVE CHILDREN?

Virshawn between
11:19 – 11:25

What do you think about Virshawn?
QUIET WRITING TIME (QWT)

- Choose a blank row in the Google doc
- Jot a few notes:
  - What is Virshawn doing?

2:00
At 11:26, the teacher says, “You know what, Virshawn, I am going to need you to come up here closer where you can see and hear and won’t be distracted.”
Over the next minute, Virshawn is raising his hand to answer questions.
At 11:27, the teacher says, “Virshawn, you get to come up and make a number because you are the closest person to the board.” “You can have two checkers and you can put them wherever you want, and make a number, and then you can call on somebody.”
AT 11:28, VIRSHAWN TAKES THE ROLE OF “TEACHER”

What do you think about Virshawn?
VIRSHAWN, ONE WEEK LATER

THE TWO-CHECKER PROBLEM

What numbers are possible to make on the Minicomputer with exactly two positive checkers?
ADDING A NEGATIVE CHECKER

The children found that 7, 11, 13, 14, and 15 were impossible with exactly two checkers.

EXTENSION:
Can you make 7, 11, 13, 14, and 15 if you have a negative checker?
You must use both positive checkers and you can use one negative checker if it is useful.
VIDEO: VIRSHAWN AND THE NEGATIVE CHECKER

Then the purple is a four, the red is a two, and the white is a one, so you couldn't do it without a- without if- without another negative number.

I think the negative checker is Awesome.
WHAT SHAPES HOW HIS TEACHERS MIGHT PERCEIVE VIRSHAWN?

- Views about what counts as “engagement” or being “off-task”
- Their own knowledge of math and what “doing math” involves
- Decisions about how to “read” him, and actions following those decisions
All this talk about not focusing on children’s deficits—why does this matter so much? Isn’t our job to figure out what children don’t know and help them grow?
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1. Learning occurs through a process of building on prior knowledge and experience.

2. Strong academic and mathematical identities are a means to developing competence. They are also instructional goals.

3. For children of historically marginalized groups, stereotype threat and other biases interfere with and impede children’s performance.
All this talk about not focusing on children’s deficits—why does this matter so much? Isn’t our job to figure out what children don’t know and help them grow?

1. Learning occurs through a process of building on prior knowledge and experience.

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So—focusing on children’s strengths is crucial for effective and equitable instruction and for advancing social justice.
Okay, I see why this is important. But it isn’t easy. How do I learn to be more skillful at recognizing and using children’s strengths?
MAKING THE SHIFT FROM A PREOCCUPATION WITH DEFICITS TO A FOCUS ON STRENGTHS

- Pausing on “apparently incorrect” answers
  - Actually not incorrect
  - Answer to a different (and reasonable) question
  - More correct than incorrect

- Seeing past “distractions” or issues that are not about learning
  - Behavior that distracts the teacher, but not the child or the other children (Noel, 2014)
  - How children talk (as they are learning; and when they are speaking academic language, or in English when that is not their first language)

- Reframing “control”
  - Controlling the environment to make respect and learning the focus
  - Not controlling children’s bodies and selves
DILEMMAS OF LEARNING TO SEE AND HEAR STUDENTS’ RESOURCES

1. Feeling committed to students as sensemakers who bring many strengths and feeling pressure to make sure students get it “right”

2. Using yourself yet also suspending assumptions based on what you would mean or feel

3. Knowing mathematics well enough to see “mathematics” in children’s talk, representations, etc. while also not letting your own mathematical knowledge overtake your capacity to see and hear what they are saying or showing
CASE #3
OGECHI: THE POWER OF POSITIONING STUDENTS AS COMPETENT
BEFORE THE VIDEO CLIP

- A boy has proposed that 6 “can be both even and odd” and demonstrates this:
  \[ \circ \circ | \circ \circ \circ \circ \circ \circ \]

- The children are agitated and one asks him to “prove it”

- A girl tries to show him that “it is not the number of groups it is” and shows that if this was right, then would he call 10 “even and odd” too?
  \[ \circ \circ | \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \circ \]
A girl named Ogechi wants to speak
Follow her and try to figure out what she is saying

What is the work of teaching here?
VIDEO: WHAT IS THE WORK OF TEACHING?
ELICITING AND INTERPRETING A STUDENT’S THINKING DURING A CLASS DISCUSSION

What is the work of teaching here?

- Encouraging Ogechi to talk
- Listening in the moment, asking probing questions, interpreting her thinking, and supporting her and her classmates to consider her idea

Teacher: You don't need to show something? What are you trying to say?
Ogechi: I just wanted to say if you wanted an odd number, you just have to take one- one off of it.
Teacher: Why would that work?
Ogechi: Because usually odd numbers are like this — (diagram)

Teacher: So you're saying the even numbers are the ones where you can group them all by twos, and the odd ones are the ones where you end up with one left over?

Teacher: Can we listen to her one more time? Say again one more time what you're saying the definition is of an odd number.
ELICITING AND INTERPRETING A STUDENT’S THINKING DURING A CLASS DISCUSSION

What is the work of teaching here before this moment?

- Teaching students to share their own mathematical ideas with others in class
- Teaching students to listen to one another and to see others’ ideas as part of the material for class
- Thinking about definitions of even and odd numbers and what is involved in understanding the concepts
COMMON BELIEFS ABOUT TEACHING

- Teaching is not difficult.
- Teaching is best learned through experience.
- Teaching depends on creativity and improvisation.
- Teaching is a natural talent—some people are just born teachers.
THE REALITY ABOUT TEACHING

- Teaching is complex work that requires a special blend of knowledge and skill.
- Teaching involves substantial skill, reasoning, and technique.
- It is a chancy strategy for a nation to supply quality teaching to all students by relying on individual creativity, experience on the job, or innate talent.
DEVELOPING YOUR SKILLS WITH HIGH-LEVERAGE PRACTICES

- Explaining and modeling content, practices, and strategies
- Leading a group discussion
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TeachingWorks and the University of Michigan School of Education
THANK YOU!

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Slides will be available on my website
(deborahloewenbergball.com)

Google Deborah Ball
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