MARYLAND PROGRAM NETWORK LAUNCH

September 14 - 15, 2017



UNIVERSITY of MICHIGAN

WELCOME!!

- We are so glad to finally meet you!
- Thank you for taking time out of your incredibly busy schedules to be here.
- Thank you to Nancy Shapiro and DeWayne Morgan for all the work they did to make this happen.
- Introduction of the team leads





THE TEACHINGWORKS TEAM

- Deborah Ball
- Monique Cherry-McDaniel
- Karen Ahn
- Melissa Kemmerle
- Nicole Garcia
- Kyana Taylor

- Meghan Shaughnessy
- Laura Jones
- Alexis Yowell
- Alistair Bomphray
- Brianne Dotson
- Alyssa Brandon





INSTITUTIONS IN THE MARYLAND PROGRAM NETWORK

- Bowie State University
- Coppin State University
- Salisbury University
- Towson University
- University of Maryland College Park





GETTING TO KNOW ONE ANOTHER

- Turn and talk in pairs (5 minutes)
 - 1. What do you like to be called?
 - 2. What institution do you work at?
 - 3. What is one thing you are trying to learn right now?
- After 5 minutes, we will go around the room and share what we found out about each other.





SOME PAPERWORK...

- Photo release forms—Alyssa
- Reimbursement forms—Kyana
- Any questions about anything so far?





FRAMING OUR WORK

Video clips

1. 13th (available on Netflix) timestamp 4:30-11:00

2. Vice documentary <u>https://news.vice.com/story/vice-news-tonight-full-episode-charlottesville-race-and-terror</u> Time stamp: 0:10 - 2:08

3. Suspensions http://www.dptv.org/one-detroit/pathways-to-prison/ Time stamp: 5:54- 9:55

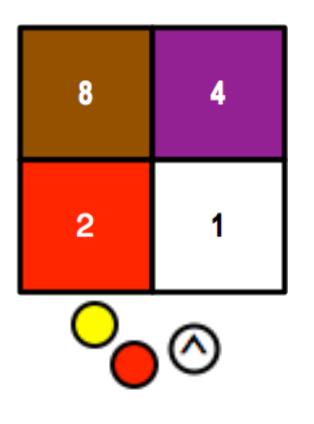
4. Success Academy video https://www.youtube.com/watch?v=AzWicLyDTkw Entire Video

5. Uncommon Schools video https://vimeo.com/164137363 0.03- end





THE MINICOMPUTER



(Papy Minicomputer)

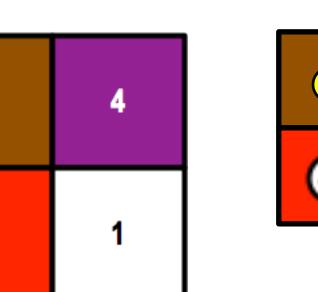
Abstract mathematical context for work on number relationships, mathematical structure, arithmetic properties (e.g., distributive property), even and odd numbers

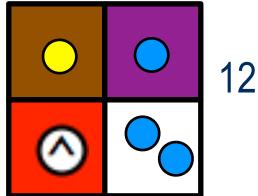
- Also a setting for developing skills of mathematical argument and analysis, as well as proof
- Novel and complex mathematical environment for children

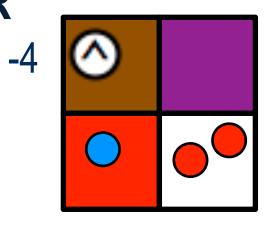


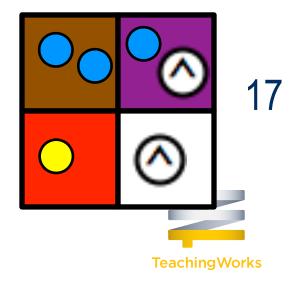


THE MINICOMPUTER











9

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





SEEING VIRSHAWN





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."

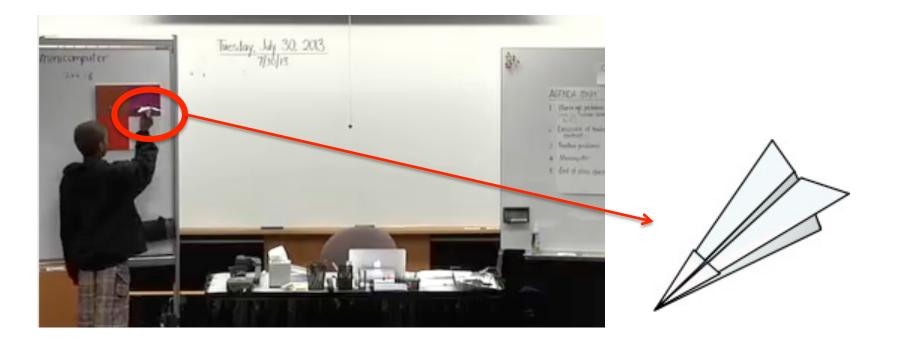
"You can have two checkers and you can put them wherever you want, and make a number, and then you can call on somebody."







AT 11:28, VIRSHAWN TAKES THE ROLE OF THE TEACHER



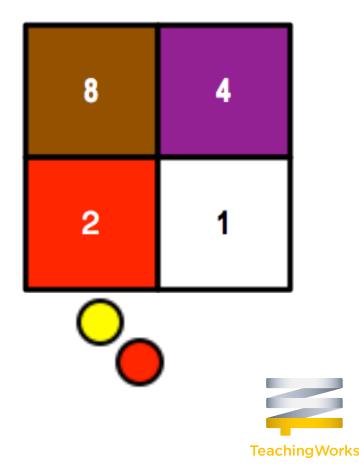




VIRSHAWN, ONE WEEK LATER

THE TWO-CHECKER PROBLEM

What numbers are possible to make on the Minicomputer with exactly two positive checkers?





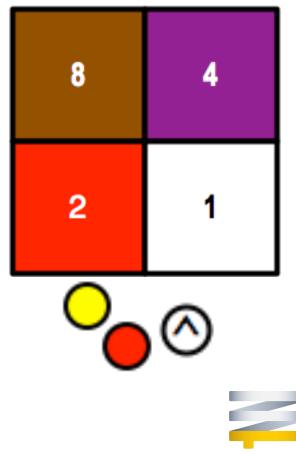
ADDING A NEGATIVE CHECKER!

The children found that 7, 11, 13, 14, and 15 were impossible with exactly <u>two</u> 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 <u>one</u> negative checker if it is useful.

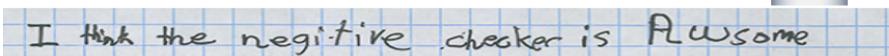


TeachingWorks



VIDEO: HOW DOES THIS DAY RELATE TO WHAT HAPPENED ONE WEEK EARLIER?





TeachingWorks



WHAT IS THE WORK OF TRUSTING STUDENTS TO LEARN AND HOLDING HIGH EXPECTATIONS OF THEM IN REAL TIME IN THIS EXAMPLE?

- Trusting Virshawn to be mathematically engaged
- Making explicit positive mathematical roles that actively include and support children (e.g., "being the teacher")
- Creating opportunities to "practice mathematics"
- Making available an opportunity to develop agency through "proving the impossible"
- Focusing on mathematics as a context for positive roles and identity



OUR WORK

- What can we do specifically as teacher educators to disrupt injustice, inequity, and hatred?
- How do we make our commitment to equity, justice and respect present in the ways we prepare teachers?
- What are we doing well right now already, and what do we need to work on?





PRE-CONVENING SURVEY

- Thank you to those of you who have already completed the survey.
- If you haven't yet completed it, please do so tonight.
- Please let us know if you do not have the link to the survey.





TOMORROW...

- Breakfast at 8:30 a.m. at the Sheraton Columbia Town Center
 - 10207 Wincopin Circle, Columbia
 - Please let us know if you need transportation to the Sheraton
- Lunch at 12:30 p.m. (approx)
- Meetings end at 4:30 p.m.





MARYLAND PROGRAM NETWORK LAUNCH

Day 2 September 15, 2017



UNIVERSITY of MICHIGAN

GOOD MORNING!

- Wifi: Sheraton_CONF passcode: sheraton
- Photo release forms—Alyssa
- Reimbursement forms Kyana
- #MdPN (that's us!)
- New introductions
- Style of today





THE DAY'S AGENDA

- 9:10 Maryland Program Network Compact
- 9:45 Creating a shared understanding of what we mean by *Practice-Based Teacher Education*
- 10:15 Looking in depth at one *High Leverage Practice* and developing *Critical Consciousness* in pre-service teachers
- 12:30 Lunch
- 1:00 The pedagogy of *Rehearsal*
- 2:00 *Crosswalk* between High Leverage Practices and Teacher Educator Pedagogies
- 2:45 Institutional time
- 3:30 Wrap-up discussion and next steps
- 4:30 Close





MARYLAND PROGRAM NETWORK COMPACT

Compact: A covenant or contract made between persons or parties; a mutual agreement or understanding.





MARYLAND PROGRAM NETWORK COMPACT

TeachingWorks asks of you that you commit to--

- 1. Participate in the convenings and meetings, and conduct ourselves remembering that our work will affect the quality of education that children will receive.
- 2. Create or revise and then pilot activities that enact one or more of the teacher educator pedagogies, on the HLP's the group chooses to focus on.
- 3. Collect and share data on the results of that work.
- 4. Assess candidates' development and proficiency with specific HLPs.
- 5. Take appropriate advantage of the support available to you between convenings.
- 6. Share among one another, to include things learned, materials created, information and results from piloting.
- 7. Demonstrate respect and regard for one another as professionals and as individuals.
- 8. Enact values of inclusiveness and equity as we work together to develop ourselves as a professional community.
- 9. Respect the diversity among us and our contexts while also seeking to do as much in common as possible in our areas of focus as a program network.



PLEASE REVIEW AND ADD TO THE COMPACT

Tinyurl.com/MarylandTWCompact





DEVELOPING SHARED LANGUAGE FOR OUR WORK



UNIVERSITY of MICHIGAN

WHAT DO WE MEAN BY <u>PRACTICES-BASED</u> TEACHER EDUCATION AND SUPPORT?

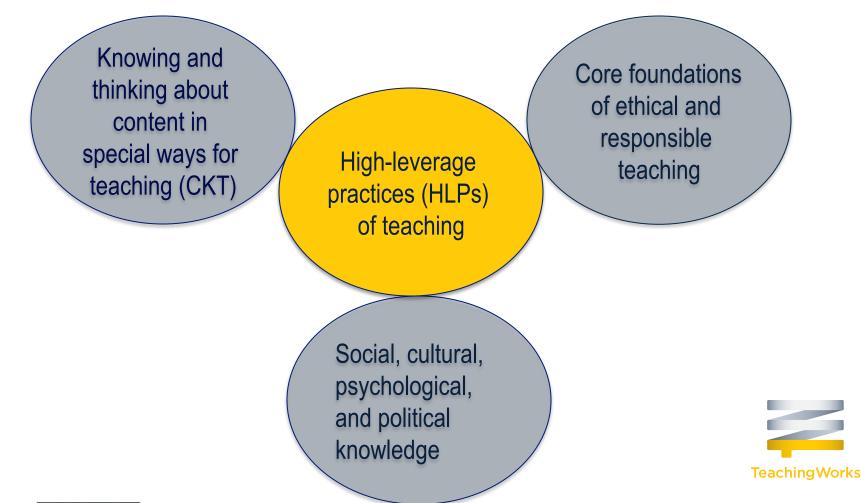
Programs provide opportunities to:

- Understand the specific, <u>high-leverage practices</u> required for graduation;
- Observe and practice, with close coaching, <u>high-leverage</u> practices of teaching;
- Learn the <u>knowledge</u> they need to use <u>high-leverage practices</u> in the classroom;
- Assess teacher candidates' progress toward basic competency in <u>high-leverage practices.</u>





WHAT DO TEACHER CANDIDATES LEARN IN A PRACTICES-BASED TEACHER EDUCATION CURRICULUM?





This work is licensed under the Creative Commons Attribution-Noncommercial-No Derivative Works Version 3.0 United States License: http://creativecommons.org/licenses/by-nc-nd/3.0/us/ © 2017 TeachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingworks.org

WHAT DO WE MEAN BY HIGH-LEVERAGE PRACTICES?

- Things teachers DO—
 - All the time!
 - That leverage students' learning and flourishing
 - That put young people at risk when done badly
 - That create equitable access to ambitious content
 - That can be taught to beginners, and support the development of more advanced practice later
 - That can be assessed





HIGH-LEVERAGE PRACTICES

- 1. Leading a group discussion
- 2. Explaining and modeling content, practices, and strategies
- Eliciting and interpreting individual students' thinking
- 4. Diagnosing particular common patterns of student thinking and development in a subject-matter domain
- 5. Implementing norms and routines for classroom discourse and work
- 6. Coordinating and adjusting instruction during a lesson
- 7. Specifying and reinforcing productive student behavior
- 8. Implementing organizational routines
- 9. Setting up and managing small group work
- 10. Building respectful relationships with students
- 11. Talking about a student with parents or other caregivers

- 12. Learning about students' cultural, religious, family, intellectual, and personal experiences and resources for use in instruction
- 13. Setting long- and short-term learning goals for students
- 14. Designing single lessons and sequences of lessons
- 15. Checking student understanding during and at the conclusion of lessons
- 16. Selecting and designing formal assessments of student learning
- 17. Interpreting the results of student work, including routine assignments, quizzes, tests, projects, and standardized assessments
- 18. Providing oral and written feedback to students
- 19. Analyzing instruction for the purpose of improving it





HOW DO WE TEACH PRACTICES?

- "pedagogies of investigation" (e.g., what do you notice? analyzing a video, reading cases)
- "pedagogies of reflection" (e.g., reflect on field experience, reflect on own teaching, own videos)
- "pedagogies of enactment"

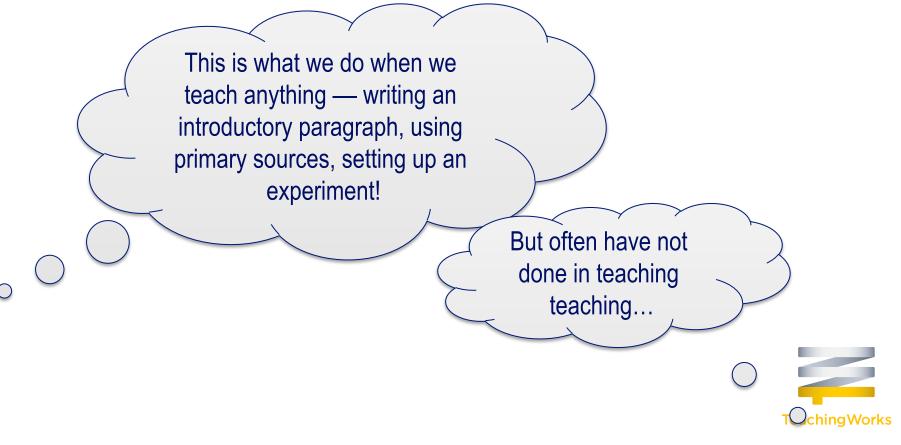


Grossman, P., Hammerness, K., and McDonald, M. (2009.) Redefining teaching, reimagining teacher education, *Teachers and Teaching: Theory and Practice*, 15:2, 273-289



WHAT IS A DECOMPOSITION?

A careful unpacking of a teaching practice into chunks or elements that can be taught helpfully to novices.



0

HOW DO WE INTEGRATE THESE COMPONENTS INTO ACTIVITY DESIGN?





Four domains of consideration for activity design The Teaching Practice

How do we select a teaching practice worth developing in our novices?

Content Knowledge

There's a lot of content in the K12 curriculum; what matters deeply for beginners to know and in what ways? Teacher Educator Pedagogy

How should WE teach this teaching practice?

Ethical Obligations and Considerations

What are our responsibilities to young people, to their families and communities, and to our central task of advancing justice?



This work is licensed under the Creater Commons Attribution-Noncommencial-No Derivative Works Version 3.0 United States License: http://creativecommons.org/licenses/by-nc-nors.2019/10/2017 TotomingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • License

Ethical Considerations and Obligations

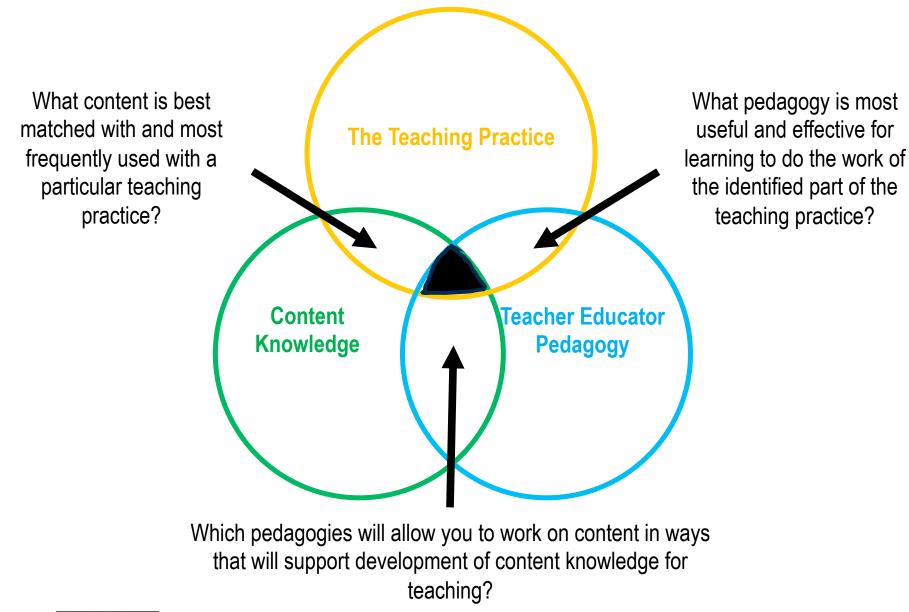
What are our responsibilities to young people, to their families and communities, and to our central task of advancing justice?

Some questions that guide our work:

- What does this teaching practice imply about how we think young people deserve to be treated?
- What classroom conditions are required for this practice to be successfully used?
- What does the teaching practice accomplish—by way of advancing justice—when it is done well?
- What are the consequences of enacting this practice badly? For the individual student? For the collective?
- What messages will young people receive from the content we choose, and the materials and texts we put in front of them?

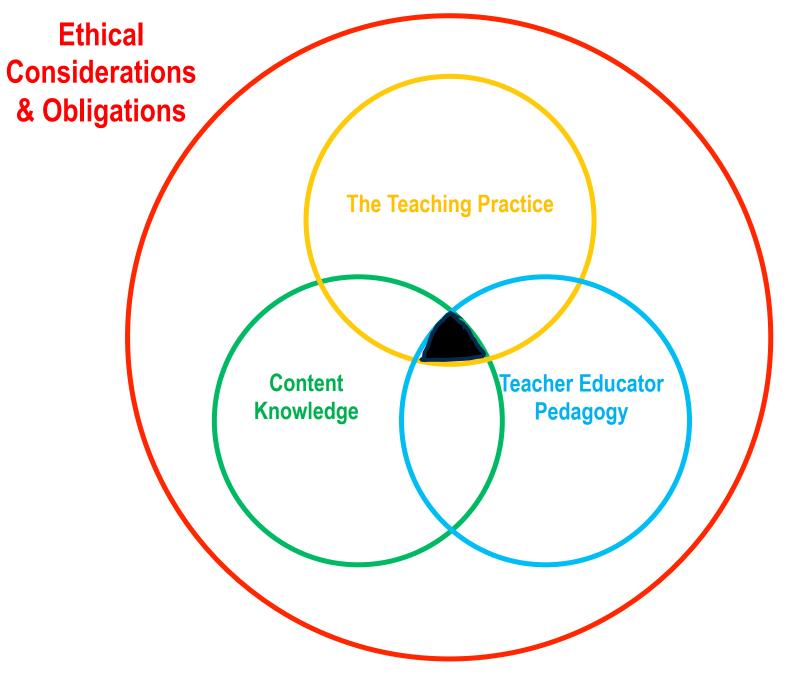


This work is licensed under the Creative Commons Attribution Noncommercial-No Derivative Works Version 3.0 United States License: http://creativecommons.org/licenses/by-nc-nd/3.0/us/ © 2017 Teaching vortee 3.0 United States License:





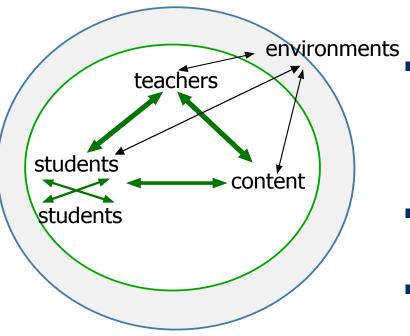
This work is licensed under the Creative Commons Attribution-Noncommercial-No Derivative Works Version 3.0 United States License: http://creativecommons.org/licenses/by-nc-nd/3.0/us/ © 2017 TeachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingworks.org





This work is licensed under the Creative Commons Attribution-Noncommercial-No Derivative Works Version 3.0 United States License: http://creativecommons.org/licenses/by-nc-nd/3.0/us/ © 2017 TeachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingworks.org

THE WORK OF SOCIAL JUSTICE LIVES INSIDE THE WORK OF TEACHING By understanding one's identity and u



- By understanding one's identity and role as part of a broader system of oppression that are 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 each student —their strengths and their work
- By opening up "content" and possibilities for students to connect with and do the content





IN TEACHING AND LEARNING TO TEACH, SOCIAL JUSTICE IS INTERTWINED WITH SUBJECT MATTER CONTENT AND TEACHING PRACTICES

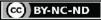
Eliciting and interpreting student thinking

- Seeing and naming students' strengths and knowledge
- Demonstrating interest in and respect for students
- Posing questions that are attuned to students' thinking, language, experience
- Listening generously and carefully
- Representing and drawing on a broad and nuanced way of thinking about what mathematics (or ELA, science, etc.)

In ways that disrupt inequity and injustice:

- Not focusing on what students <u>don't</u> know and their "misconceptions"
- Not conveying impatience or lack of regard for students' ideas
- Not posing questions in ways that make sense to you, but not to the student
- Not assuming you know what students are saying
- Not reproducing narrow views of what the "content" is and what being "good at it" comprises



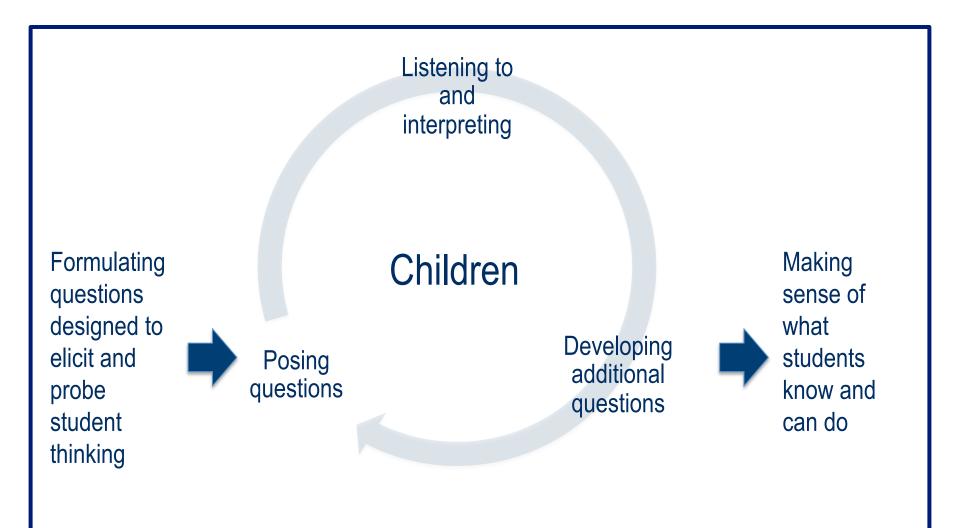


ELICITING AND INTERPRETING STUDENT THINKING

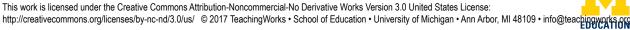
Teachers pose questions or tasks that encourage and support students to share their thinking about specific ideas in order to learn about what students know and how they think. Eliciting student thinking makes it possible to surface ideas for other students to consider and to make responsive instructional decisions. To do this skillfully, a teacher draws out a student's thinking through carefully-chosen questions and tasks, listens attentively and generously, and considers and checks alternative interpretations of the student's ideas and methods.



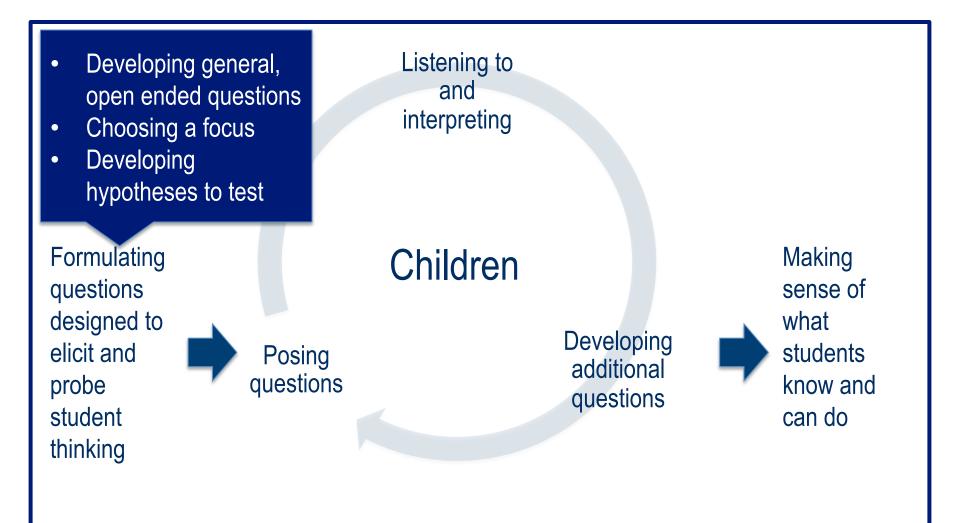




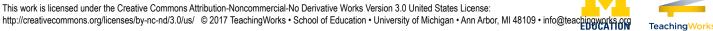


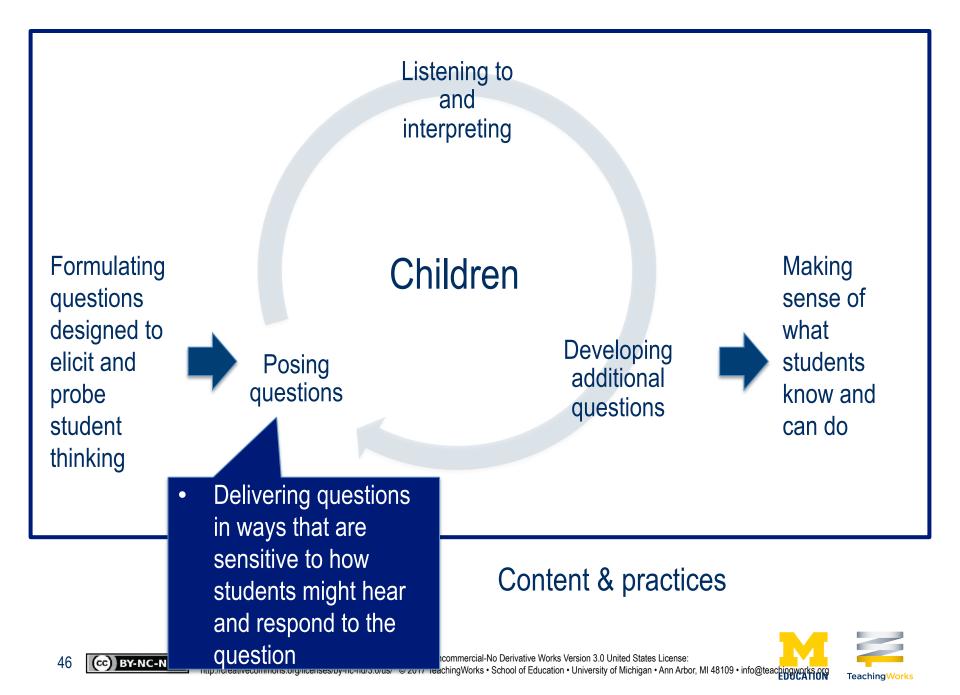


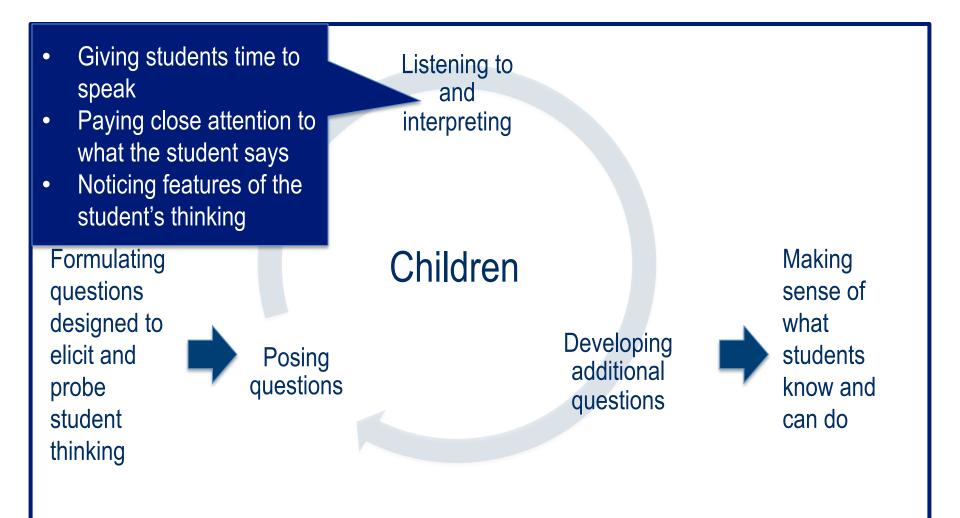




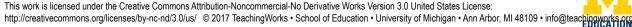




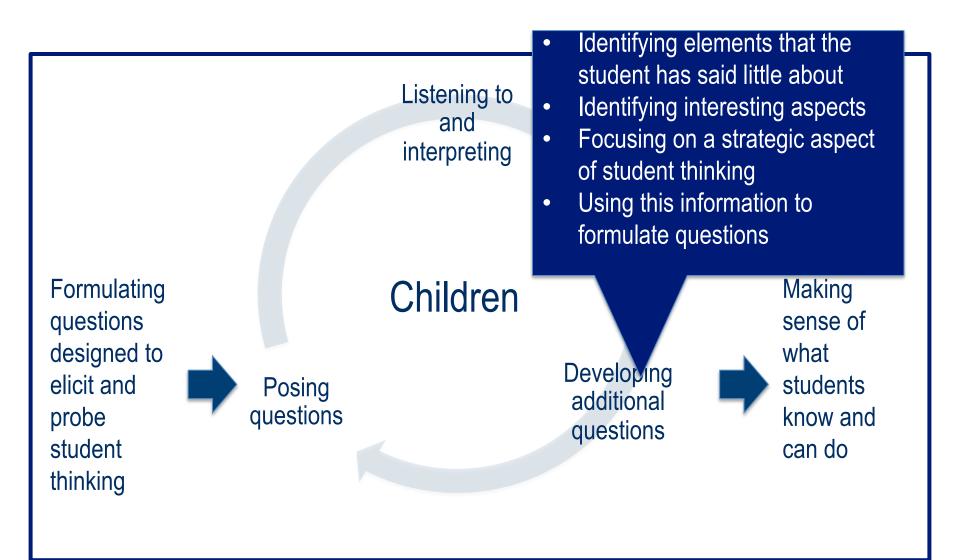




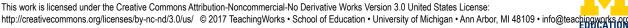




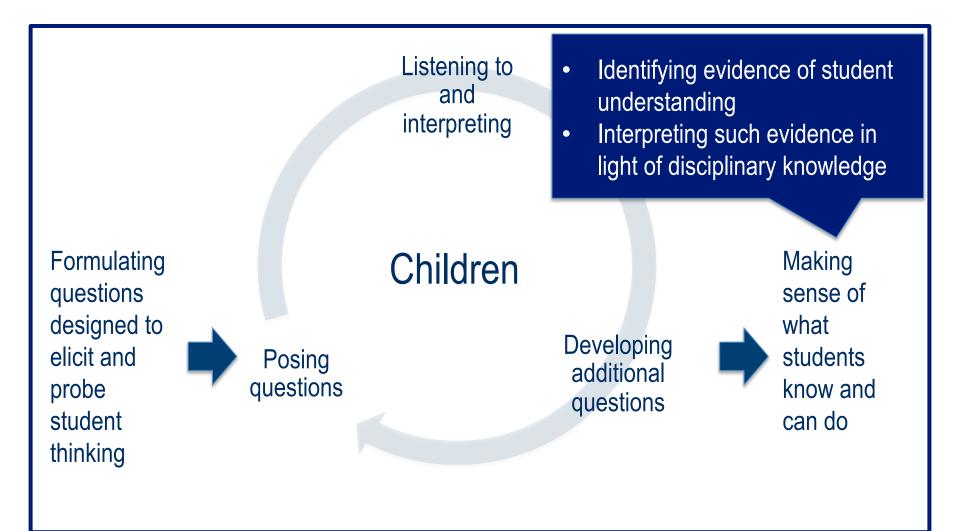








TeachingWorks





This work is licensed under the Creative Commons Attribution-Noncommercial-No Derivative Works Version 3.0 United States License: http://creativecommons.org/licenses/by-nc-nd/3.0/us/ © 2017 TeachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • School of Education • University of Michigan • School of Education • School of Educ



USING VIDEO AS MATERIAL FOR TEACHING TEACHING





9/25/17

VIDEO AS MATERIAL FOR DESIGNING LEARNING OPPORTUNITIES FOR TEACHER CANDIDATES

AFFORDANCES

- Makes it possible to get inside the work of teaching and its complexities
- Specifically makes possible work centered on equity and social justice in ways that are intertwined with teaching

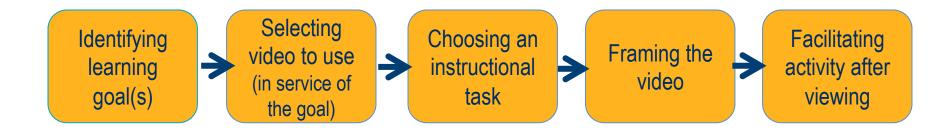
POSSIBLE PITFALLS

- Difficult to locate video that represents the classrooms and children we are preparing teachers for
- Can lose focus on subject matter content
- Challenging to locate video examples that offer examples of disrupting inequity
- Racial narratives and lenses shape viewers' perceptions and can reinforce bias/stereotypes if not acknowledged



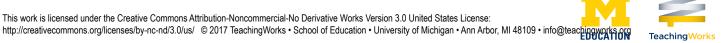


USING VIDEOS TO SUPPORT TEACHER LEARNING



Ball, Shaughnessy, & Garcia, 2017





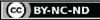
LEARNING GOAL RELATED TO ELICITING AND INTERPRETING STUDENT THINKING

- 1. Developing practice-based critical consciousness about racial/gender narratives: *Noticing Black girls' strengths*
- 2. Listening carefully and generously to children
- 3. Developing mathematical knowledge for teaching
- Posing attuned questions to probe student thinking and demonstrate interest in and respect for them as thinkers and knowers

1 & 2. Name ways that Aniyah and Toni *might* be "read" and how <u>you</u> see their strengths

- 3. See and name the mathematics that the girls know and are using
- 4. Design and pose specific questions to probe student thinking





LEARNING GOAL RELATED TO ELICITING AND INTERPRETING STUDENT THINKING

- 1. Developing practice-based critical consciousness about racial/gender narratives: *Noticing Black girls' strengths*
- 2. Listening carefully and generously to children
- 3. Developing mathematical knowledge for teaching
- Posing attuned questions to probe student thinking and demonstrate interest in and respect for them as thinkers and knowers

1 & 2. Name ways that Aniyah and Toni *might* be "read" and how <u>you</u> see their strengths

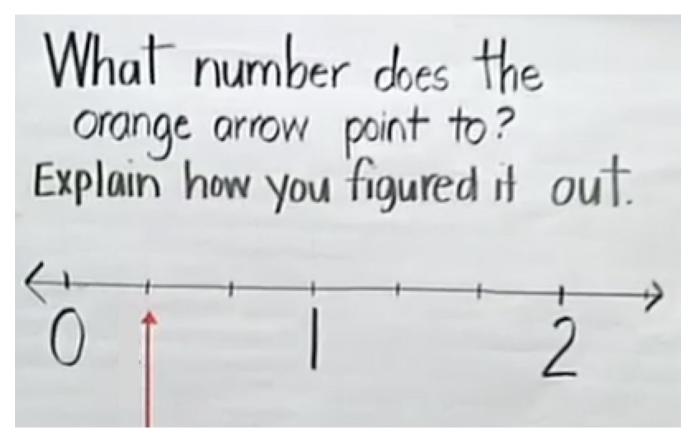
- 3. See and name the mathematics that the girls know and are using
- 4. Design and pose specific questions to probe student thinking





This work is licensed under the Creative Commons Attribution-Noncommercial-No Derivative Works Version 3.0 United States License: http://creativecommons.org/licenses/by-nc-nd/3.0/us/ © 2017 TeachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School • Scho

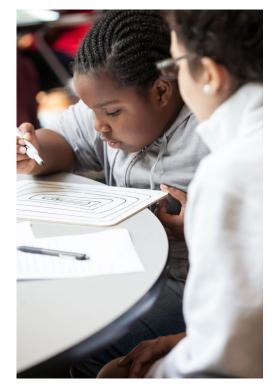
A MATHEMATICAL TASK







This work is licensed under the Creative Commons Attribution-Noncommercial-No Derivative Works Version 3.0 United States License: http://creativecommons.org/licenses/by-nc-nd/3.0/us/ © 2017 TeachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teacebingworks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teacebingworks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teacebingworks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teacebingworks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teacebingworks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teacebingworks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teacebingworks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teacebingworks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teacebingworks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teacebingworks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teacebingworks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teacebingworks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teacebingworks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teacebingworks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teacebingworks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teacebingworks • School of Education • University of Michigan • Ann Arbor, Michigan • Ann Arb



ANIYAH



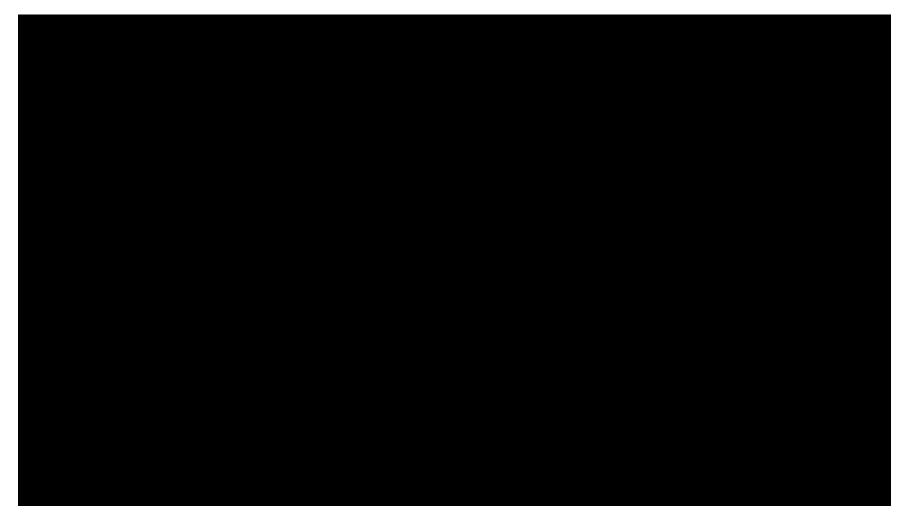
TONI





This work is licensed under the Creative Commons Attribution-Noncommercial-No Derivative Works Version 3.0 United States License: http://creativecommons.org/licenses/by-nc-nd/3.0/us/ © 2017 TeachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann • School • Schoo

ANIYAH AND TONI

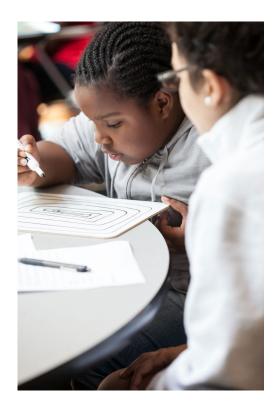




This work is licensed under the Creative Commons Attribution-Noncommercial-No Derivative Works Version 3.0 United States License:



ANIYAH

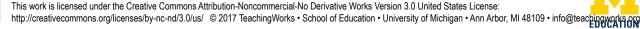


How might others "read" and interpret Aniyah and Toni?

TONI

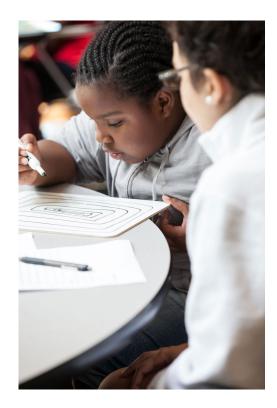








ANIYAH

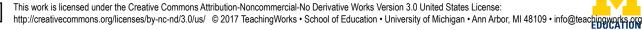


How else could YOU "read" and interpret Aniyah and Toni?

TONI









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





LEARNING GOAL RELATED TO ELICITING AND INTERPRETING STUDENT THINKING

- 1. Developing practice-based critical consciousness about racial/gender narratives: *Noticing Black girls' strengths*
- 2. Listening carefully and generously to children
- 3. Developing mathematical knowledge for teaching
- 4. Posing attuned questions to probe student thinking and demonstrate interest in and respect for them as thinkers and knowers

1 & 2. Name ways that Aniyah and Toni *might* be "read" and how <u>you</u> see their strengths

- 3. See and name the mathematics that the girls know and are using
- 4. Design and pose specific questions to probe student thinking



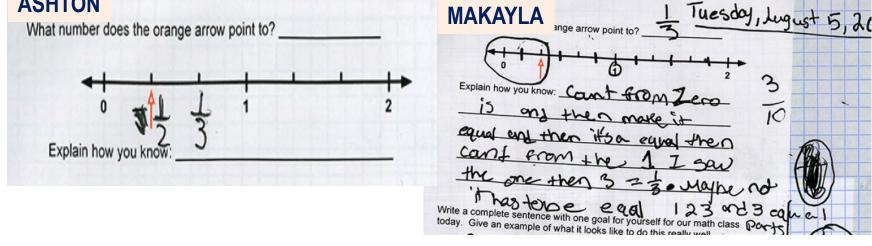


This work is licensed under the Creative Commons Attribution-Noncommercial-No Derivative Works Version 3.0 United States License:

TONI What number does the orange arrow point to?	-
Explain how you know: Because itsin 3 parts	MARIANA The number does the orange arrow point to? 2 Explain how you know: How I Know its Zero is that there was 2 ime between 0 and 1.5

ASHTON

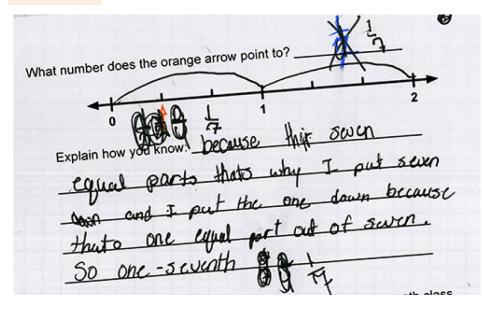
62

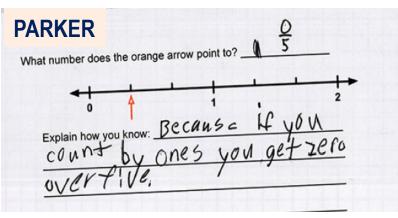


(cc) // 4NK-ND

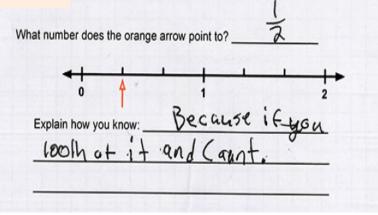
TeachingWorks

ANIYAH





DANTE







This work is licensed under the Creative Commons Attribution-Noncommercial-No Derivative Works Version 3.0 United States License: http://creativecommons.org/licenses/by-nc-nd/3.0/us/ © 2017 TeachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info

DESIGN AND POSE SPECIFIC QUESTIONS TO PROBE STUDENT THINKING

- What did the student write?
- Think: what might the student have meant or been thinking, saying?
- Design and practice asking orally a question to find out what the child was thinking and saying.





MAKAYLA

What number does the orange arrow point to?	1 Tuesday, Lugust 5,20
Explain how you know: Cant from 15 and the make	e_ 10
canf from the 1	Ten Then
the one then 3 = 1	· stappe no (b)
Write a complete sentence with one goal for yourself today. Give an example of what it looks like to do this	123 and 3 can all for our math class Ports



This work is licensed under the Creative Commons Attribution-Noncommercial-No Derivative Works Version 3.0 United States License:

TeachingWorks

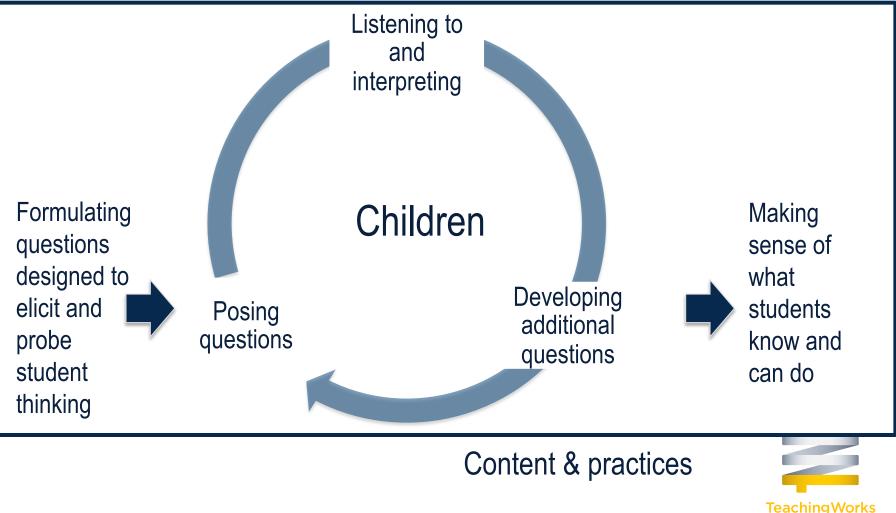
LUNCH!

• We'll begin again at 1:15





ELICITING AND INTERPRETING STUDENT THINKING (EIST)



CC BY-NC-ND

ELICITING AND INTERPRETING STUDENT THINKING

USING A REHEARSAL IN AN ELEMENTARY MATHEMATICS CONTEXT



UNIVERSITY of MICHIGAN

REHEARSAL

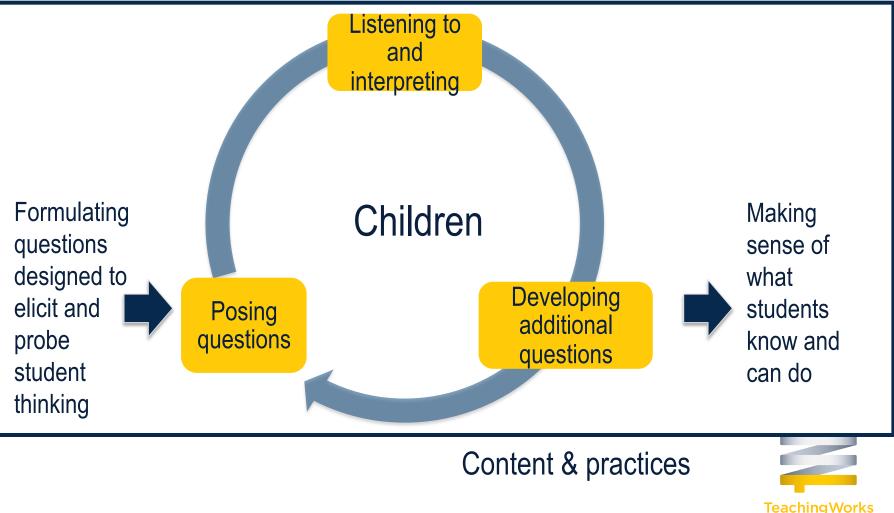
- Occurs in the company of others
- Involves cycles of repetition with expert feedback and coaching
- Reduces the complexity of the work by controlling features of the work

Lampert, M., Franke, M. L., Kazemi, E., Ghousseini, H., Turrou, A.C., Beasley, H., Cunard, A., & Crowe, K. (2013). Keeping it complex using rehearsals to support novice teacher learning of ambitious teaching. *Journal of Teacher Education*, 64(3), 226-243.





ELICITING AND INTERPRETING STUDENT THINKING (EIST)





OVERVIEW: TEACHER EDUCATION ACTIVITY

Teacher candidates:

- 1. Engage with the "student" task
- 2. Prepare for a rehearsal in small groups
- 3. Engage in a rehearsal
 - One teacher candidates rehearses, others represent student thinking
- 4. Debrief the rehearsal with a focus on the teaching practice of eliciting and interpreting student thinking





WHAT IS A NUMBER TALK?

In a number talk, students are provided with an arithmetic problem and asked to solve the problem. Sometimes it is done mentally.

The purpose of a number talk is to:

- develop efficient, flexible, and accurate computation strategies that build on key foundational ideas of mathematics.
- provide opportunities for students to construct mathematical arguments and critique the reasoning of others.

The *rehearsal goal* is not to learn to engage in a number talk with children, but rather to *practice eliciting students' thinking* inside of a number talk.





1. ENGAGE WITH THE "STUDENT" TASK

Teacher candidates work in small groups to:

- anticipate student solutions and methods
- show how each method could be represented on the board in a way that highlights the components of the student's method

Your task:

- anticipate student solutions (you can skip the recording part)
- consider how you might record the following contribution from a student on the board:

I started with 119. I added 100 and I got 219. Then, I added 20 and I got 239. Then I added 10 and I got 249. Then, I had to take away 1. So 248.





2. PREPARE FOR A REHEARSAL IN SMALL GROUPS

Teacher candidates:

- Read the lesson plan
- Engage in trying out the number talk in small groups

Learning foci for the teacher candidates:

- Elicit and probe students' methods for mentally solving the problem
- Make the shared strategies accessible to other students
- Listen carefully to student ideas
- Record student strategies in accurate and accessible





3. ENGAGE IN A REHEARSAL

Learning foci for the teacher candidates:

- Elicit and probe students' methods for mentally solving the problem
- Make the shared strategies accessible to other students
- Listen carefully to student ideas
- Record student strategies in accurate and accessible





4. DEBRIEF THE REHEARSAL

Learning foci for the teacher candidates:

- Elicit and probe students' methods for mentally solving the problem
- Make the shared strategies accessible to other students
- Listen carefully to student ideas
- Record student strategies in accurate and accessible
- **Rehearsing teacher candidate:** What was challenging to do?
- All other teacher candidates:
 - What did you notice about the moves that the teacher used to elicit and interpret student thinking?
 - What went well? Ideas about why?
 - What seemed more challenging to do? How could you manage those challenges?





OVERVIEW: TEACHER EDUCATION ACTIVITY

Teacher candidates:

- 1. Engage with the "student" task
- 2. Prepare for a rehearsal in small groups
- 3. Engage in a rehearsal
- 4. Debrief the rehearsal with a focus on the teaching practice of eliciting and interpreting student thinking





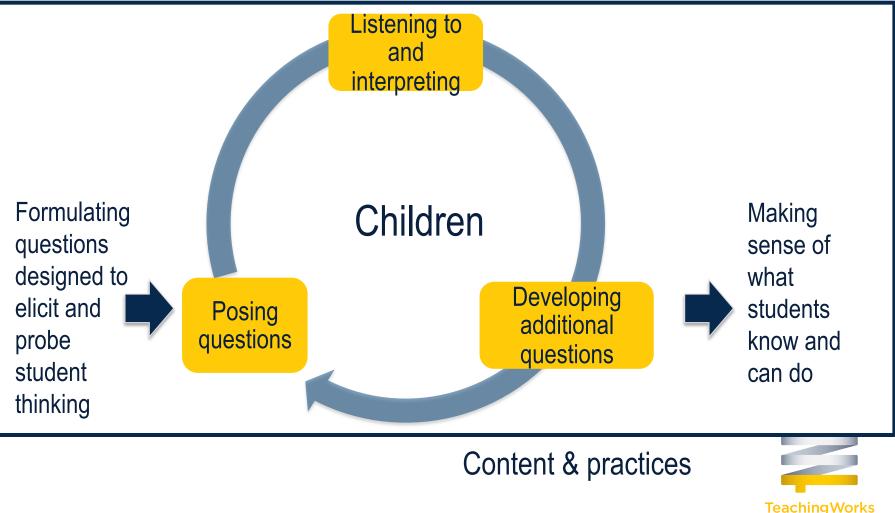
DISCUSSION

- What did you notice about the opportunities to work on the practice of eliciting and interpreting student thinking? Where might a rehearsal be more limited when working on the practice of eliciting and interpreting student thinking?
- Do you already use rehearsal in this way in your course(s)? If so, how is this approach similar to what you do? How is it different?





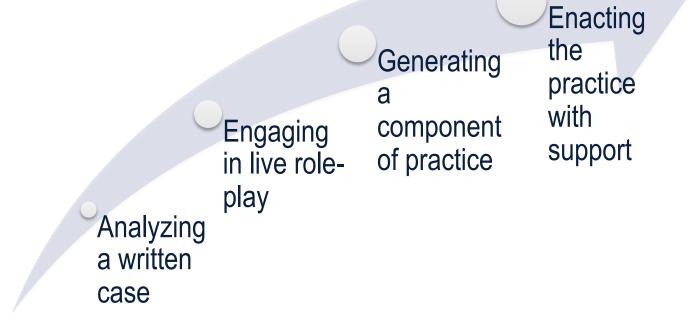
ELICITING AND INTERPRETING STUDENT THINKING (EIST)





EXAMINING APPROXIMATIONS OF PRACTICE

More authentic



Less authentic

TeachingWorks



This work is licensed under the Creative Commons Attribution-Noncommercial-No Derivative Works Version 3.0 United States License: http://creativecommons.org/licenses/by-nc-nd/3.0/us/ © 2017 TeachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingworks.org

TEACHER EDUCATION PEDAGOGIES

- Using Transcripts
- Using Student Work
- Using Video
- Simulated Student Interaction
- Rehearsal and Rehearsal-like Pedagogies (e.g. Peer "Run through," Microteaching)





TRANSCRIPTS

- Serve as a representation of practice
- Can be used to help Teacher Candidates decompose a practice
- Can be used to help Teacher Candidates practice interpreting student thinking and develop understanding of common patterns and novel interpretations
- Can be created in the absence of good video (script)
- Can help teacher candidates focus on exactly what is being said, rather than on other elements of the interaction (facial expressions, student movement etc.)

This work is licensed under the Creative Commons Attribution-Noncommercial-No L

TeachingWorks

Unfinished Business

page 1 of 3

A teacher and student have the following conversation in a one-on-one conference.

Teacher: Okay, so now that we've had a chance to read the whole piece, tell me what you think about Elizabeth Kubler-Ross?

Student: Who?

Teacher: The psychologist...

Student: Oh yeah...sorry. She's the main character.

Teacher: Is she the main character?

Student: Yeah, she talks the most.

Teacher: Okay, so tell me more about her.

Student: She's kinda mean and hard. Most of the story she talks about this family that she knows. The girl in the family is dying of cancer, and her family wants her to live. The psychologist lady...

Teacher: Elizabeth Kubler-Ross.



http://creativecommons.org/licenses/by-nc-nd/3.0/us/ © 2017 TeachingWorks • School of Education • University of Michigan • Ann Arbor, MI 48109 • info@teachingworks.org

USING STUDENT WORK

Homework #7 Wednesday, August 5, 2015

This assignment is due on Thursday, August 6 at the beginning of class. Please write neatly and answer the questions on the homework completely. <u>Please do not get help on</u> these questions.

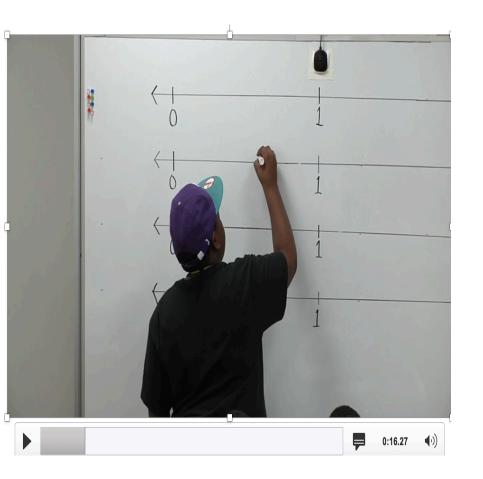
Reviewing Today's Work

These questions are for you to review what we did together.

1 2 Is A less than or more than H? How do you know? 24 beause A 1.8 ON Ilgothe Sialo The possitive is on there like and Side like subtration SO it is 3; 1c.55, Is A less than or more than X? How do you know? the varitive side I'm goingto say Xis less becaure Label what numbers go at A, X, M, and H. Then, explain how you know what M is.



USING VIDEO



Video can be used to help Teacher Candidates

- Identify and unpack techniques and approaches
- Learn to hear and interpret (common or unexpected) student thinking in a specific content domain
- Develop and practice content knowledge for teaching





SIMULATED STUDENT INTERACTION

A simulated student interaction (SSI) is a targeted one-on-one interaction between a teacher candidate and a teacher educator who is enacting a standardized student profile.

- In this activity, the teacher educator plays the part of the student, enacting a prepared student profile around specific content.
- Teacher candidates have the opportunity to interact with the "student" in a one-on-one setting—while other candidates observe.
- The student profile is developed by the teacher educator to present candidates with common patterns of interaction and dilemmas they might encounter in the field.





REHEARSAL & REHEARSAL-LIKE PEDAGOGIES

Sample Rehearsal-like Pedagogies

- Peer Run Through
- Microteaching





HLPs AND CORRESPONDING PEDAGOGIES

HLP	REHEARSAL	SIMULATED	VIDEO	SW	TRANSCRIPTS
Eliciting and Interpreting students' thinking					
Leading a group discussion					
Explaining and modeling content, practices and strategies					
Implementing norms and routines for classroom discourse					
Diagnosing particular common patterns of student thinking					
Coordinating and adjusting instruction during a lesson					
Specifying and reinforcing productive student behavior					
Implementing organizational routines					
Setting up and managing small group work					
Building respectful relationships with students					
Talking about a student with parents or caregivers					
Checking student understanding during and at the conclusion of lessons					
Interpreting the results of student work					
Providing oral and written feedback to students					
Analyzing instruction for the purpose of improving it					
Learning about students' cultural, religious, family, intellectual and personal experiences					
Setting long- and short-term learning goals for students					
Designing single lessons and sequences of lessons					
Selecting and designing formal assessments of student learning					

TeachingWorks



SYNCHRONY AMONG HIGH-LEVERAGE PRACTICES

- 1. Leading a group discussion **3**, **5**, **10**, **15**
- 2. Explaining and modeling content, practices, and strategies
- 3. Eliciting and interpreting individual students' thinking
- 4. Diagnosing particular common patterns of student thinking and development in a subject-matter domain
- 5. Implementing norms and routines for classroom discourse and work
- 6. Coordinating and adjusting instruction during a lesson
- 7. Specifying and reinforcing productive student behavior
- 8. Implementing organizational routines
- 9. Setting up and managing small group work
- 10. Building respectful relationships with students
- 11. Talking about a student with parents or other caregivers

- 12.Learning about students' cultural, religious, family, intellectual, and personal experiences and resources for use in instruction
- 13.Setting long- and short-term learning goals for students
- 14.Designing single lessons and sequences of lessons
- 15.Checking student understanding during and at the conclusion of lessons
- 16.Selecting and designing formal assessments of student learning
- 17.Interpreting the results of student work, including routine assignments, quizzes, tests, projects, and standardized assessments
- 18. Providing oral and written feedback to students
- 19. Analyzing instruction for the purpose of improving it





LEADING A GROUP DISCUSSION

Discussion Enabling	Discussion Leading				
Selecting a discussion-worthy task, text, and/or discussion prompt Identifying the general instructional goal for the discussion Allowing students time to think or write, on their own or in partners, before beginning the discussion	 Framing Launching the discussion Posing an open-ended question Reviewing norms for class discussion Telling students the goal 	Orchestrating Supporting students to engage • Eliciting and probing student thinking • Orienting students to each other's ideas • Encouraging and allowing all students to participate	 Framing Closing the discussion Concluding and summarizing the main takeaways 		
Recording student contributions					
	Focusing on the in	structional point			





INSTITUTIONAL WORK TIME

- Connecting our next steps to our Program Compact, please brainstorm with your colleagues from your home institution:
 - What appeals to you so far in this work?
 - What do you want to work on?
 - What goals do you want to set?





OUR NEXT MEETING

December 8? Will this date work?





FEEDBACK FROM YOU

tinyurl.com/y7bddrqe





TLE MDPN REPOSITORY





WHAT TO DO BETWEEN NOW AND DECEMBER...

- Please collect Practice-Based resources
 - Activities
 - Assessments
 - Readings
 - Etc.
- Please put these resources in the TLE MdPN Repository especially created for Maryland Program Network
- Please request from us the resources you'd like us to upload to this repository
- Your TW team member will reach out to you in the next 2 weeks to begin in-between convening work.





REIMBURSEMENT FORMS

Please be sure to give your form to Kyana.





THANK YOU!

- Please feel free to contact us at any time
- We are eager to collaborate, share resources, and provide support however is helpful to you!



