We ARE a Force!

Culturally Relevant Teaching (CRT) Part II:
Strategies to Support CRT Practice in Mathematics

Dr. Angela Byrd-Wright, Mathematics Curriculum Leader, Hampton City Schools

Guiding Questions

- **Question #1:** How do we recognize and support equitable learning opportunities for all students that provide positive mathematical identity and agency?

- **Question #2:** How do we leverage our teaching practices and curriculum to attain optimal results?

QUESTION #1:

How do we recognize and support equitable learning opportunities for all students that provide positive student mathematical identity and agency?

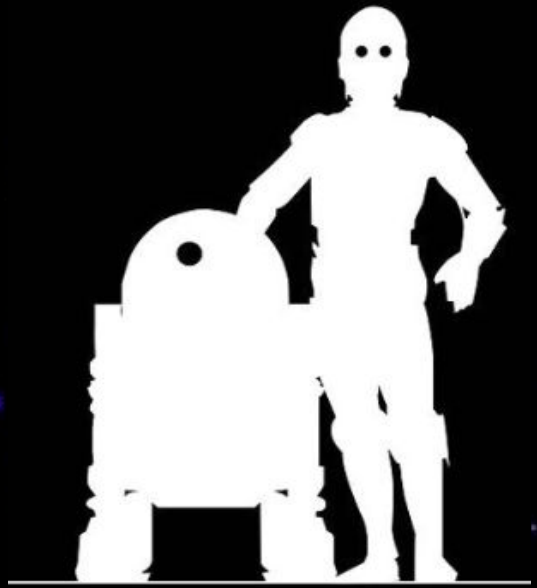
Three areas have serious implications for equitable access to high-quality mathematics teaching and learning:

Mathematical Identity & Mathematical Agency

Mathematical Identity and Mathematical Agency are directly correlated to the beliefs that teachers hold about students and achievement.

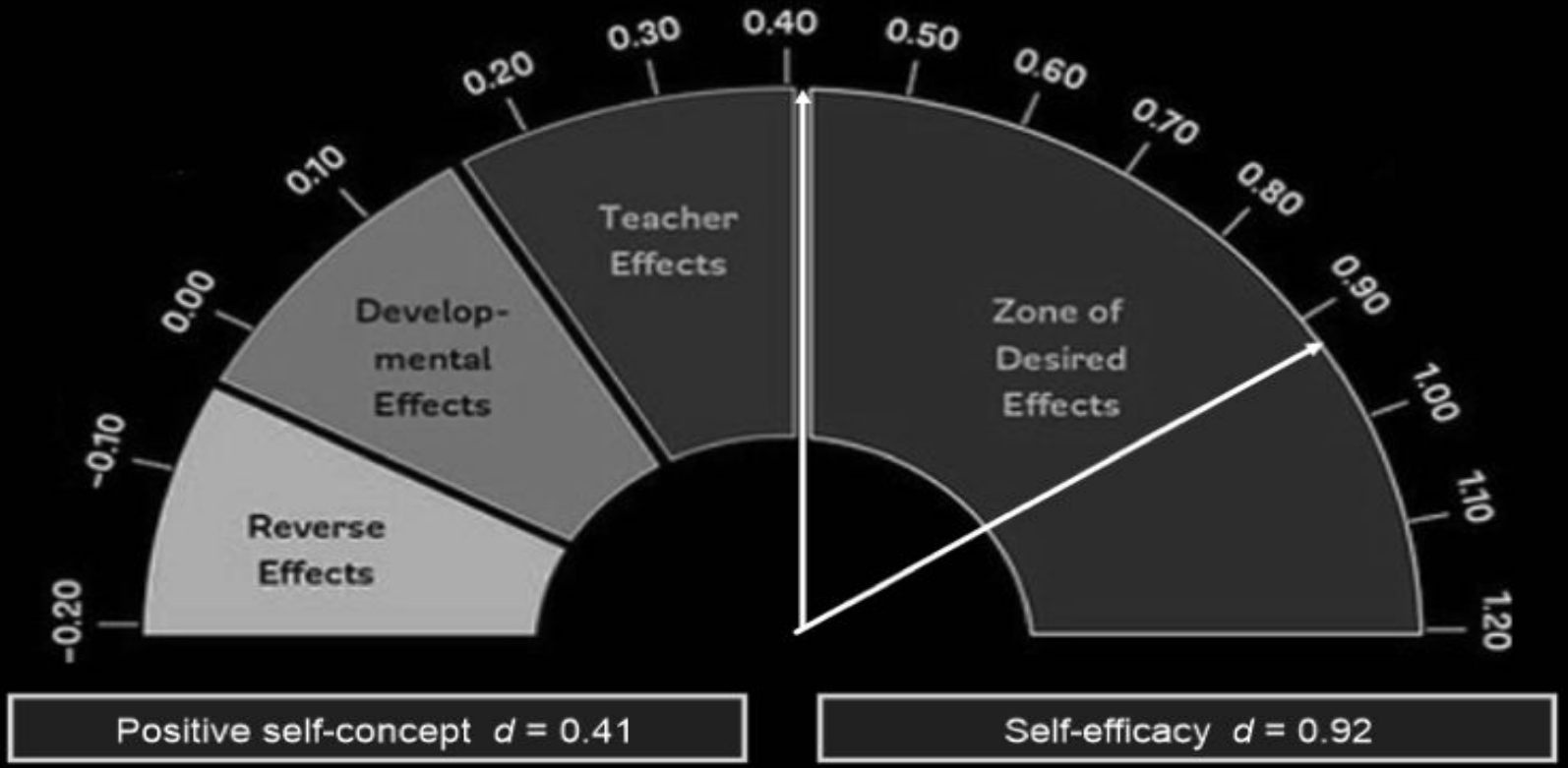
Mathematical identity: Dispositions and deeply held beliefs that individuals develop about their ability to participate and perform effectively in mathematical contexts and to use mathematics to change the conditions of their lives. (Martin, 2012, p. 57-58)

Mathematical agency: Students' capacity and willingness to engage mathematically. (Schoenfeld, 2014, p. 407)



Mathematical Identity & Mathematical Agency

The impact of mathematical identity and agency is extremely important. Based on John Hattie's work, Mathematical Identity and Mathematical Agency have a significant effect size.



Knowing this, we have to confront some harsh realities. We must get to the hard truths by breaking the cycle of inequity.

Adults make daily choices, oftentimes unintentionally, that perpetuate inequity and mediocrity in schools (even prior to COVID-19):

- ❑ Allowing students to engage in below grade-level content
- ❑ Allowing teachers to work without the skills and supports needed to give students access to high-quality academic experiences
- ❑ Deciding which students are "more deserving" of reaching their goals
- ❑ Watching passively or silently as a colleague degrades or talks disparagingly about students
- ❑ Expressing verbally (or nonverbally) that you "can't relate" to students or are "afraid" of certain students because of their appearance or how you perceive that they carry themselves
- ❑ Engaging in leniency (or the benefit of the doubt) is given to some students, but not all students
- ❑ Letting our discomfort or ignorance shield us from recognizing our country's racist history and present - thus, becoming a part of the problem

Reflection Questions

These reflection questions are for you and you alone.

- **Narratives:** What are the single narratives that you tell yourself about students, and how does that affect behavior management, grading, and other interactions?
- **Identity:** How does your identity provide or prevent access to necessary resources?
- **Power:** How does your power and privilege show up in your work with students, take up space, or silence others?

> As Virginia transitions from extended school closures into the 2020-2021 school year, school divisions need to shift from planning for providing continuity of learning to planning for continuity in equitable new instruction for ALL students.
>
> - Dr. James F. Lane

Additional Support Resource: Guiding Questions for Educators_Equity

QUESTION #2:

How do we leverage our teaching practices and curriculum to attain optimal results?

CULTURALLY RESPONSIVE TEACHING

HCS OPERATIONAL DEFINITION

Culturally responsive teaching refers to practices and approaches that support "culturally and linguistically diverse students who have been marginalized in schools build their skill and capacity to do rigorous work." (Hammond, 2015). The term has been used more broadly to describe approaches that demonstrate ***awareness of and respect for*** the various social and cultural identities of students, that use students' cultural references as a part of instruction and curriculum to ***empower and support*** deeper engagement and learning; that ***appreciate and honor*** diversity from a historically-grounded and strengths-focused lens; or otherwise ***build supportive and caring relationships across cultural backgrounds*** (Ladson-Billings, 2009).

Culturally Responsive Teaching (or Equity-Based Mathematics)

Students' mathematical identity and agency and equitable practices are fully grounded in culturally responsive teaching.

Culturally responsive mathematics teaching:
Teaching practices that "use the cultural knowledge, prior experiences, frames of reference, and performance styles of ethnically diverse students to make learning encounters more relevant, affirming, and validating for them – it teaches to and through the strengths of these students" (Gay, 2002, p. 106).

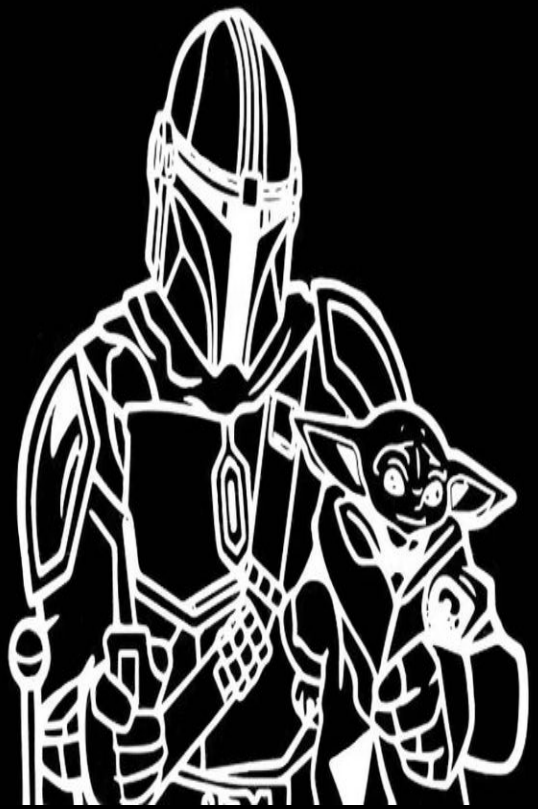
Researchers have identified five equity-based mathematics teaching practices:

1. Go deep with mathematics
2. Leverage multiple mathematical competencies
3. Affirm mathematics learners' identities
4. Challenge spaces of marginality
5. Draw on multiple resources of knowledge

Adapted from *Catalyzing Change – Initiating Critical Conversations (series).* Reston, VA: NCTM, 2018.

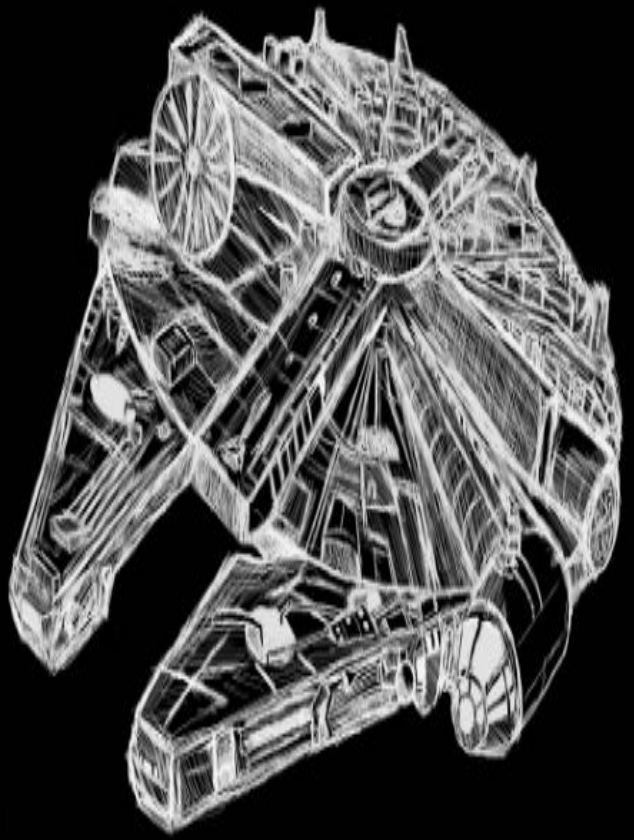
Classroom Practices Supporting Equity-Based Mathematics

- **Reflecting.** Equity-based teaching requires a substantial amount of reflection, which involves not just reflecting on your pedagogy and your classroom norms, but also considering how you identify yourself and how others identify you (Crockett, 2008; Gutiérrez, 2013b; Walshaw, 2010).
- **Noticing.** Noticing generally refers to paying attention to students' mathematical thinking (Jacobs, Lamb, & Philipp, 2010), yet it is a crucial skill for equity-based teaching; noticing helps teachers pay attention to how students position and identify themselves and each other (Wager, 2014).

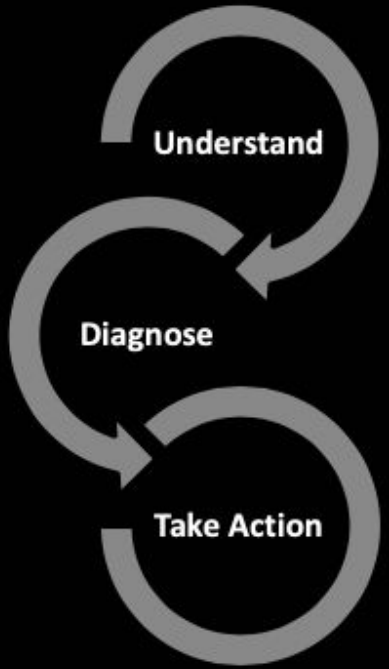


Classroom Practices Supporting Equity-Based Mathematics

- **Engaging in Community.** Community engagement is powerful, in all aspects of teaching. While there are many ways to engage in your multiple communities, we highlight two specific communities here: your classroom and your teaching community.
- **Affirmation.** Equity-based mathematics teaching requires more than implementing new curriculum or using specific practices because it involves taking a stand for what is right. It requires mathematics teachers to reflect on their own identity, positions, and beliefs in regards to racist and sorting-based mechanisms.



Planning Practices Supporting Equity-Based Mathematics



Use your curriculum to study targeted standards for upcoming instruction. Identify Power Standards that should receive priority when planning for instruction.

Determine student understanding of concepts based on pre-assessments, formative assessments, and checks for understanding. Consider if gaps exist for the whole class or a small group of students.

Based on the results of the assessments and checks for understanding, clearly identify foundational skills gaps and plan for instruction.

Putting it all together:
CLT/Individualized Process Planning Guide Template_HCS Mathematics
Example CLT/ Individualized Process Planning Guide Template

Curriculum Practices Supporting Equity-Based Mathematics

Re-imagine curriculum pacing guides and units to ***purposefully*** fold in prerequisite skills while moving forward with new content.

Create learning experiences that are grounded in high quality and excellence for all students.

See example HCS Geometry Curriculum Unit.

Lessons should value language and culture.

Lessons should engage students in critical thinking and self-reflection.

Lessons should have students to think globally about mathematics understandings and connections to themselves.

See example G.11a-d virtual lesson.

SUMMARY

We ARE a Force!

- ...when we embody a focus on differentiated instruction, building conceptual understanding, and problem-solving as a process. *We know that all students can learn mathematics and deserve the opportunity to do so.*
- ...when we collectively plan for instruction, are purposeful in our curriculum, and are intentional about our assessments.
- ...when we have structures in place and implement them with fidelity.
- ...when we stand for what is right, even in times of discomfort.
- ...when we shine our light to inspire others and to challenge others to do the same.