

Teaching the **WHOLE** student

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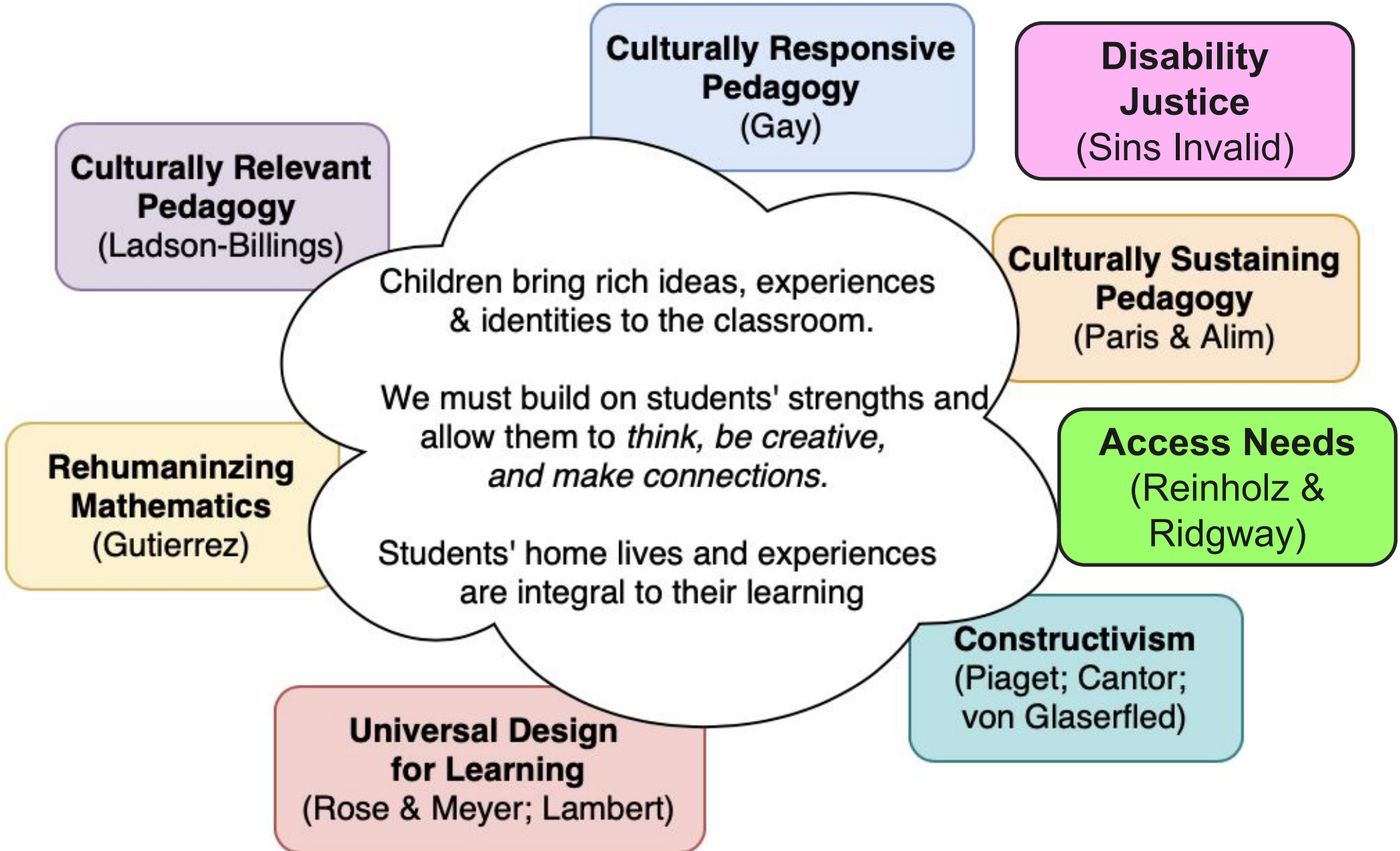
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MAKE WAVES.



Disability Justice

TABLE 1. Ten principles for disability justice, paraphrased from Sins Invalid (2019)

| Principle | Description |
|---|---|
| Intersectionality | Intersectionality focuses on the multitude of identities that disabled people have, including their race, class, gender, sexuality, age, and religious background. To understand the experiences of disabled people, the interplay of these many identities must be considered. |
| Leadership of those most impacted | To dismantle systems of oppression, we should focus on the experiences of people who are most impacted by them, rather than looking to outside experts who have limited lived experiences of being harmed by such systems. |
| Anti-capitalist politics | Capitalism is predicated on competition, workaholism, and productivity. These ideals dehumanize all people and are especially harmful for people with disabled bodyminds who cannot or do not conform to such standards. |
| Cross-movement solidarity | By working in solidarity with other social justice movements, disability justice can help build a united front and address systemic oppression. |
| Recognizing wholeness | Nobody is “just disabled.” Disabled people are whole people with their own histories and life experiences. They have their own internal experiences consisting of thoughts, sensations, emotions, perceptions, and fantasies. |
| Sustainability | Disability justice resists a false sense of urgency, instead moving at the pace of humanity in a way that is sustainable and promotes self and collective care. |
| Commitment to cross-disability solidarity | All disabled people are valid and valuable. Disability justice aims to dismantle hierarchies in the disability community and in the world. |
| Interdependence | Rejecting colonial notions of independence, disability justice dreams of a future when people can interdependently meet their needs in harmony with the planet. |
| Collective access | All people function differently depending on the context and environment. All people have access needs, and meeting them is a collective responsibility. |
| Collective liberation | Collective liberation recognizes the uniqueness of all bodyminds and their intersectional identities. A vision for liberation can leave no body or mind behind. |

Access Needs

- Everyone has access needs – needs that we need met in order to be fully present in a given space.
- What are your access needs?
 - Talk briefly in your groups.
 - Getting to Know You Survey

Access Needs: Centering Students and Disrupting Ableist Norms in STEM

Daniel L. Reinholz^{†*} and Samantha W. Ridgway[‡]

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My name is Ricardo, my pronouns are he/him, and I need to have all course materials in plain text for my text-to-speech software. My name is Emile, my pronouns are she/her, and it is important for me to have regular, short breaks in our meetings. My name is Alex, my pronouns are they/them, and my access needs are currently being met.

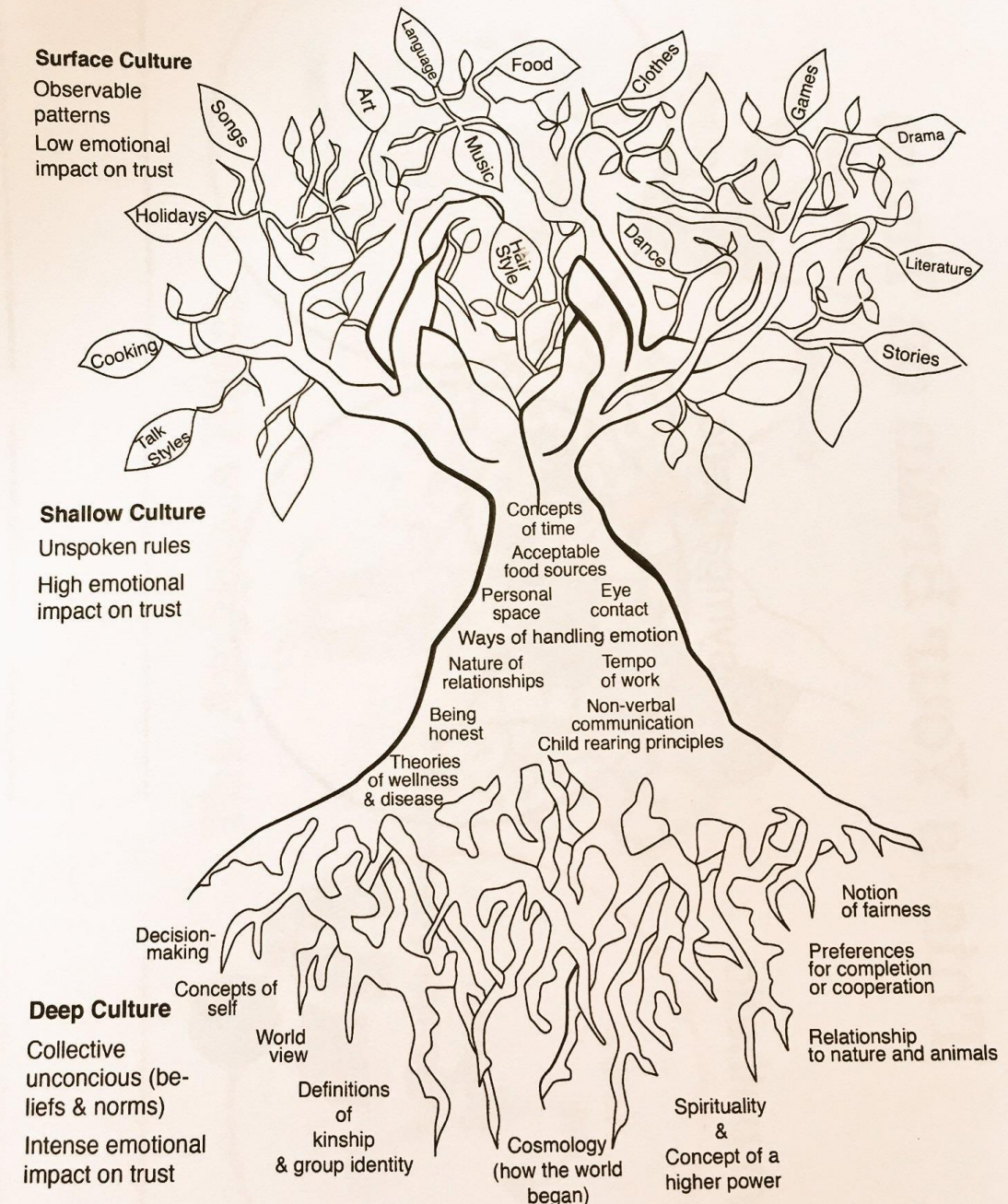
What is Culture?

Culture can be hard to define.

Zaretta Hammond's description of culture attends to three types of culture.

- Surface Culture – observable patterns
- Shallow Culture – unspoken rules
- Deep Culture – Collective unconscious (beliefs & norms)

From “Culturally Responsive Teaching & The Brain”, 2014



Culturally *Relevant* Pedagogy & Culturally *Responsive* Teaching

Two Frameworks

Culturally **Relevant** Pedagogy (or teaching)

- Developed by Gloria Ladson-Billings
- This framework is based on research to understand the pedagogy of successful teachers of Black students.
- It was specifically informed by the need to address the predominance of deficit-oriented understanding of Black students
- It is a “theoretical model that not only addresses student achievement but also helps students to accept and affirm their cultural identity while developing critical perspectives that challenge inequities that schools (and other institutions) perpetuate” (Ladson-Billings, 1995)

Culturally **Responsive** Teaching

- Developed by Geneva Gay
- It synthesizes the research of many scholars
- Broadly defined as “using the cultural knowledge, prior experiences, frames of reference, and performance styles of ethnically diverse students to make learning encounters more relevant to and effective for them” (Gay, 2018)

Culturally *Relevant* Pedagogy

Culturally Relevant Pedagogy centers on three criteria.

1. Students must experience academic success
 - They must develop their ability to problem solve and reason
2. Students must develop and/or maintain cultural competence
 - Support students to affirm and appreciate their culture and develop fluency in other cultures
3. Students must develop a critical consciousness through which they challenge the status quo of the current social order.
 - Identify, analyze, and solve real-world problems – especially those that result in societal inequities

From *Culturally Relevant Pedagogy: Asking a Different Question* by Ladson-Billings, 2021



Culturally *Responsive* Teaching is

Validating

- Students see themselves represented, feel respected and valued

Comprehensive

- Teach the “whole child” (intellectual, social, emotional, political)

Multidimensional

- Includes curriculum content, learning context, classroom climate, S-T relationships, instructional techniques, performance assessments

Empowering

- Develops academic confidence, personal confidence, courage, and the will to act

Transformative

- Connects ideas of academic success and service to society

Emancipatory

- Psychologically and intellectually liberating (humanizing)

From *Culturally Responsive Teaching: Theory, Research and Practice 3rd ed.* by Gay, 2018.

Pause and Reflect

Culturally Relevant Pedagogy

- Students must experience academic success
- Students must develop and/or maintain cultural competence
- Students must develop a critical consciousness through which they challenge the status quo of the current social order.

Culturally Responsive Teaching is:

- Validating
- Comprehensive
- Multidimensional
- Empowering
- Transformative
- Emancipatory

Neither of these are Critical Race Theory!

1. What connections can you make to these ideas and your own ideas about teaching and learning?
2. What connections can you make to effective mathematics teaching and learning?

Culturally Sustaining Pedagogy

This framework builds off Culturally Relevant and Responsive Pedagogy

“Culturally sustaining pedagogy seeks to perpetuate and foster – to sustain – linguistic, literate, and cultural pluralism as part of the democratic project of schooling.

In the face of current policies and practices that have the explicit goal of creating a monoculture and monolingual society, research and practice need equally explicit resistances that embrace cultural pluralism and cultural equality.”

Django Paris, 2012

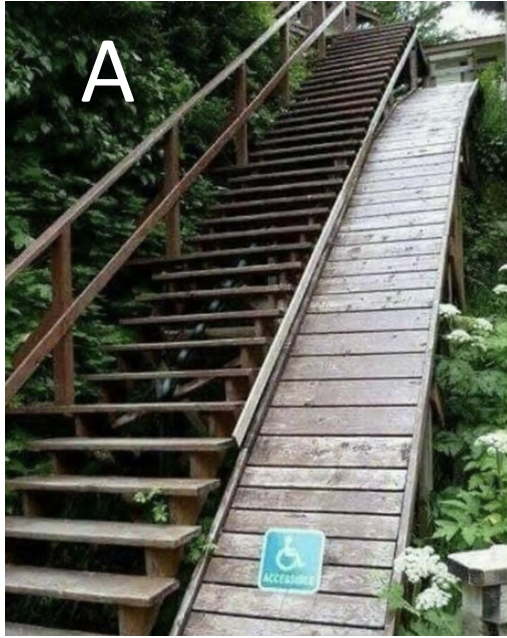
Culturally Sustaining Pedagogy

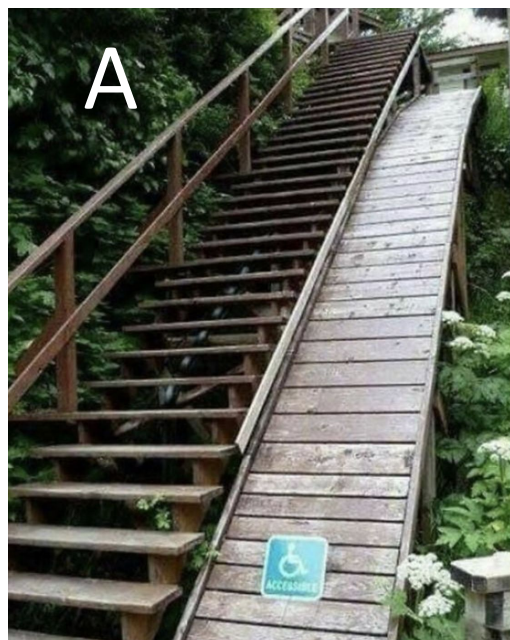


CSP is all about asset-based approaches to students' culture and funds of knowledge.

What might happen in a math classroom that takes a resource approach to students' culture and funds of knowledge.?

What do you notice and wonder about these ramps?





**Access without
empathy is a design
fail**



UDL is based on . . .

**Learner
variability**

(Rose 2016):

**Kids vary in
how they . . .**

What do you think?

See

Hear

Move

Listen

Speak

Pay attention

Remember facts and
procedures

Remember concepts

Learn concepts

Read

Write

Manage stress

Respond to uncertainty

You read this article
this past week

What resonated for
you?

What connections can
you make to your
future classroom



The Magic Is in the Margins: UDL Math

In this article, I propose a mathematical version of Universal Design for Learning called UDL Math. I describe three classrooms that include students with disabilities in meaningful mathematics and explore how the teachers create access through multiple means of engagement, representation, and strategic action.

Rachel Lambert

In Ms. Lev's inclusive kindergarten class, students gather at the rug, ready to get to work on the indoor sensory path they are designing for their hallway. After a short discussion on measurement tools and how to be a supportive peer when working in groups, pairs of students pick up sets of connecting cubes and set out to measure the space. As they count and measure, Ms. Lev moves among groups, reteaching and clarifying. Before long, a student realizes another group arrived at a different count. Ms. Lev shifts to facilitating a group conversation about accuracy.

Ms. Garcia presents a story problem to her fifth-grade special education students: Eight people are present in a

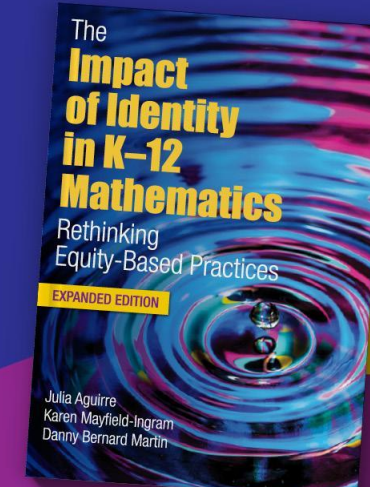
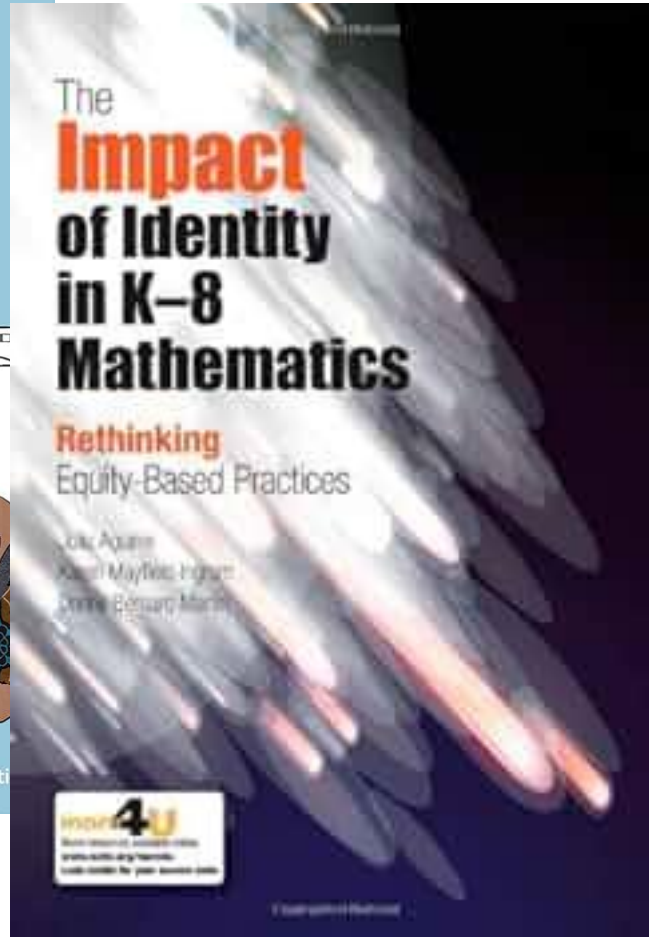
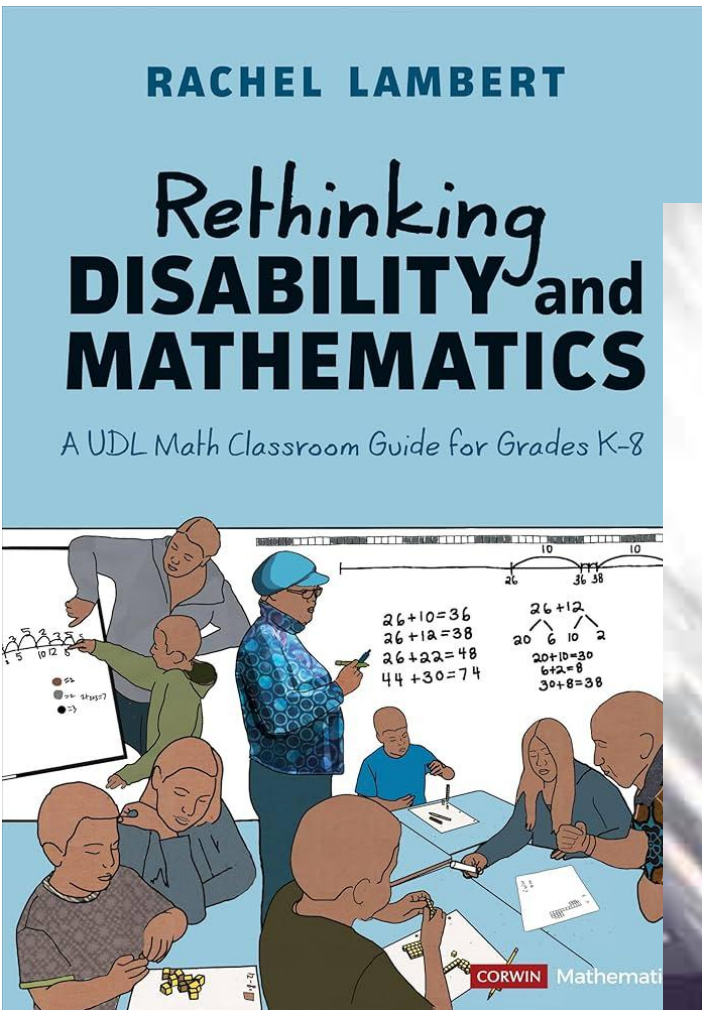
family. They have six large burritos to share and want to share them fairly. How much of a burrito will each member of the family get? She gives students a moment to plan how to work and then lets them choose between working independently, with a partner, or in a small group with her. Each student has access to a variety of supplies, including manipulatives. When they are finished, she pulls them together for a whole-group discussion to share their mathematical strategies. As students share, she names each strategy they use and helps them troubleshoot their solutions.

In a ninth-grade inclusive classroom, the students in Mr. Guzman's class continue their multiday exploration

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Exploring Mathematics Identities and Culture

“Identity [is] the stories that people tell about themselves and what they view as important to them: their understanding of their place in the world and their core beliefs.

Identity grows out of our experiences in multiple contexts—school, home, sports, family, traditions, media, careers, and so forth. Our identities represent negotiations between
who we claim to be and how others identify and label us.”

From The Impact of Identity in K–8 Mathematics Learning and Teaching

How does this relate to you as a math teacher?

How can we create math classrooms that help all students seeing themselves as *doers of mathematics*?

How can our personal experiences in math inform how we teach math to our future students?

How can we work against the ways that math is a gatekeeper? (Excludes people, doesn't give equal opportunities)

- Tracking in MS and HS and inflexible ability grouping
- Over emphasizing standardized testing and test scores