

Using preK-12 Equity Frameworks to Humanize Mathematics Teaching and Learning at the College Level

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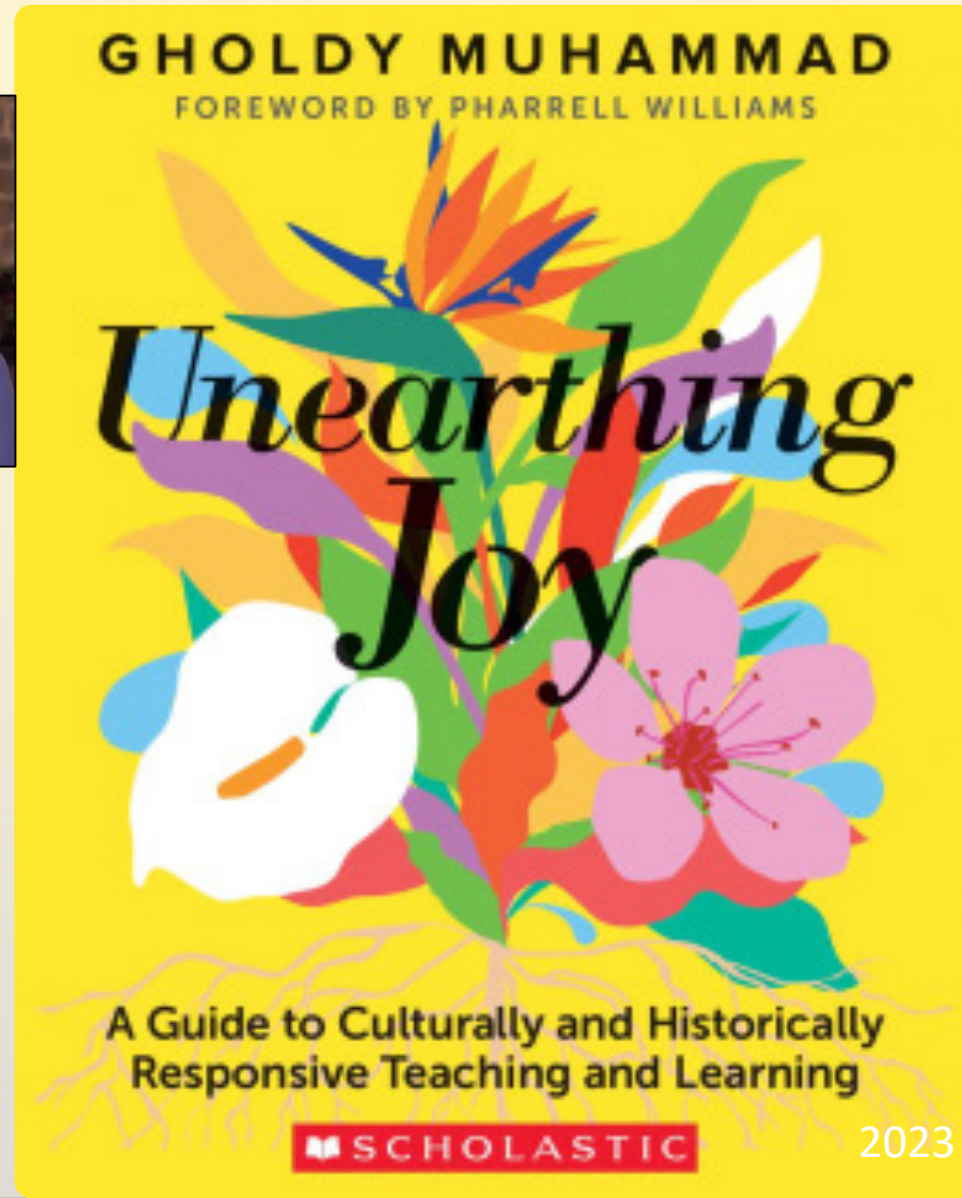
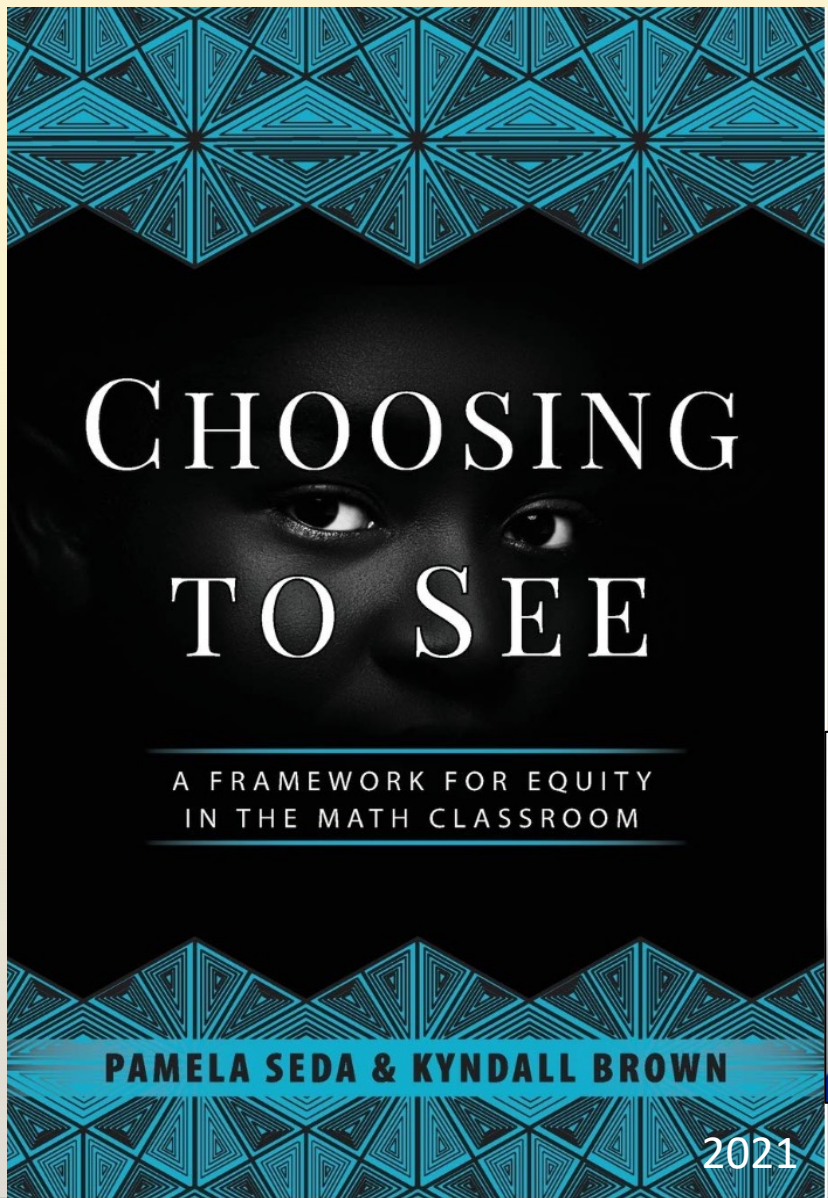
MI-AMTE *Conversations Among Colleagues*, March 16, 2024



What about mathematics brings you joy?

- Write your response on a sticky leaf.
- Say your name, where you are from (your geographical location of origin), your institution, and your mathematical joy.
- Stick your leaf on the tree.





Seda, P. A., & Van Zoest, L. R. (in press). The ICUCARE Equity Framework: A tool for building community to center equity and justice with doctoral students. In E. Thanheiser, & C. Koestler (Eds.), *Building Community to Center Equity and Justice in Mathematics Teacher Education* (AMTE Vol. 6).

Seven Principles of Equity Pedagogy

ICUCARE Framework

Include others as experts

Create classroom environments that extend beyond the teacher as the sole authority to develop competence and confidence in others as experts, including the students themselves.

Be **C**ritically Conscious

Take the time to understand how negative stereotypes impact your students and actively work to erase the effects of those negative stereotypes on the educational outcomes of diverse learners.

Understand your students well

Learn about your students, their families and their communities for the purpose of improving instruction. (Not making assumptions)

Use **C**ulturally relevant curricula

Use instructional materials in ways that help students see themselves as doers of mathematics and help them to overcome the stereotypes and messages regarding who is mathematically smart.

Assess, Activate and build on prior knowledge

Value the prior knowledge that students bring to the classroom, both personal and cultural, and use that knowledge as a resource for creating new knowledge.

Release control

Empower your students to take ownership of their own learning by focusing on sensemaking and allow them to make choices about things that are important to them in the classroom.

Expect more

Hold high expectations for all students and avoid deficit views of diverse learners.

Taken from:

Seda, P. A. (2007). Equity Pedagogy in the Secondary Mathematics Classrooms of Three Preservice Teachers. Unpublished Dissertation, Georgia State University, Atlanta.
http://digitalarchive.gsu.edu/cgi/viewcontent.cgi?article=1022&context=msit_diss

Seven Principles of Equity Pedagogy

ICUCARE Framework

Student Version

Include others as experts

Look beyond the expertise of the teacher to recognize your own competence and that of your classmates.

Be **C**ritically Conscious

Understand how negative stereotypes impact the educational outcomes of students of color and actively work to erase the effects of those negative stereotypes in yourself, your classroom, your school, and your community.

Understand how relationships improve learning

Get to know your teacher and classmates in ways that support the socio-emotional aspect of learning.

Use **C**ulturally relevant resources

Seek out resources that help you see yourself as a doer of mathematics and help you overcome the negative stereotypes and messages about who is mathematically smart.

Assess, Activate and build on prior knowledge

Value the prior knowledge that you bring to the classroom (no one comes as a blank slate) and build on that prior knowledge to help you learn new things.

Retain control

Take ownership of your own learning by focusing on sensemaking and not allowing others to GPS you. (Giving step-by-step directions that make no sense, rather than giving help in ways that allow you to understand the process.)

Expect more

Expect more from yourself and your classmates by rising above the low expectations that others may have set for you.

Taken from:

Seda, P. A. & Brown, K. (2021). *Choosing to see: A framework for equity in the math classroom*. San Diego, CA: Dave Burgess Consulting, Inc. DaveBurgessConsulting.com

An Example from a Middle School Methods Course

Principle	Description	Modeling & Support in Teacher Ed
Understand your students well	Learn about your students, their families and their communities for the purpose of improving instruction. (Not making assumptions)	<ul style="list-style-type: none"> Teacher educators can model this principle by learning about their students as human beings rather than just as future teachers. They can support their students in implementing this principle by engaging their students in activities where they can collaboratively reflect on their own identities and how their identities show up in the classroom. They can also create activities where students have opportunities to build relationships with each other to support learning.

Supports these principles:

Principle	Description
Include others as experts	Create classroom environments that extend beyond the teacher as the sole authority to develop competence and confidence in others as experts, including the students themselves.
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Set of Me Instructions

“Be yourself. Everyone else is taken.” – Oscar Wilde

- Find 3-5 objects that represent you in some way – your interests, hobbies, heritage, etc.
- Take a picture of the objects. Include your name within or on the picture.
- Upload the picture to Elearning by 5 pm on Wednesday, August 30, 2023.

Note: We will be sharing these images in our first class on a PowerPoint Presentation and you will have a chance to talk about them with your peers. Please bring a copy of your picture with you (either on your computer, phone, or paper) to the first class.



Set of Me

- **Round 1: *Art of Listening*** (partners; 5 mins)
 - First person talks for 90 seconds about their picture.
 - Second person listens without providing any verbal or evaluative nonverbal feedback (no smiles/frowns, head nodding). Simply carefully listen to what your partner is saying.
 - Second person talks for 30 seconds about what they heard their partner say.
 - First person listens without providing any verbal or evaluative nonverbal feedback (no smiles/frowns, head nodding). Simply carefully listen to what your partner is saying.
 - Repeat with the Roles reversed.
- **Round 2: *Share & Care*** (whole group; 3+ mins per person)
 - Introduce your partner to the group
 - Their name
 - One thing you learned about their picture
 - Open to wonderings about the picture from the group



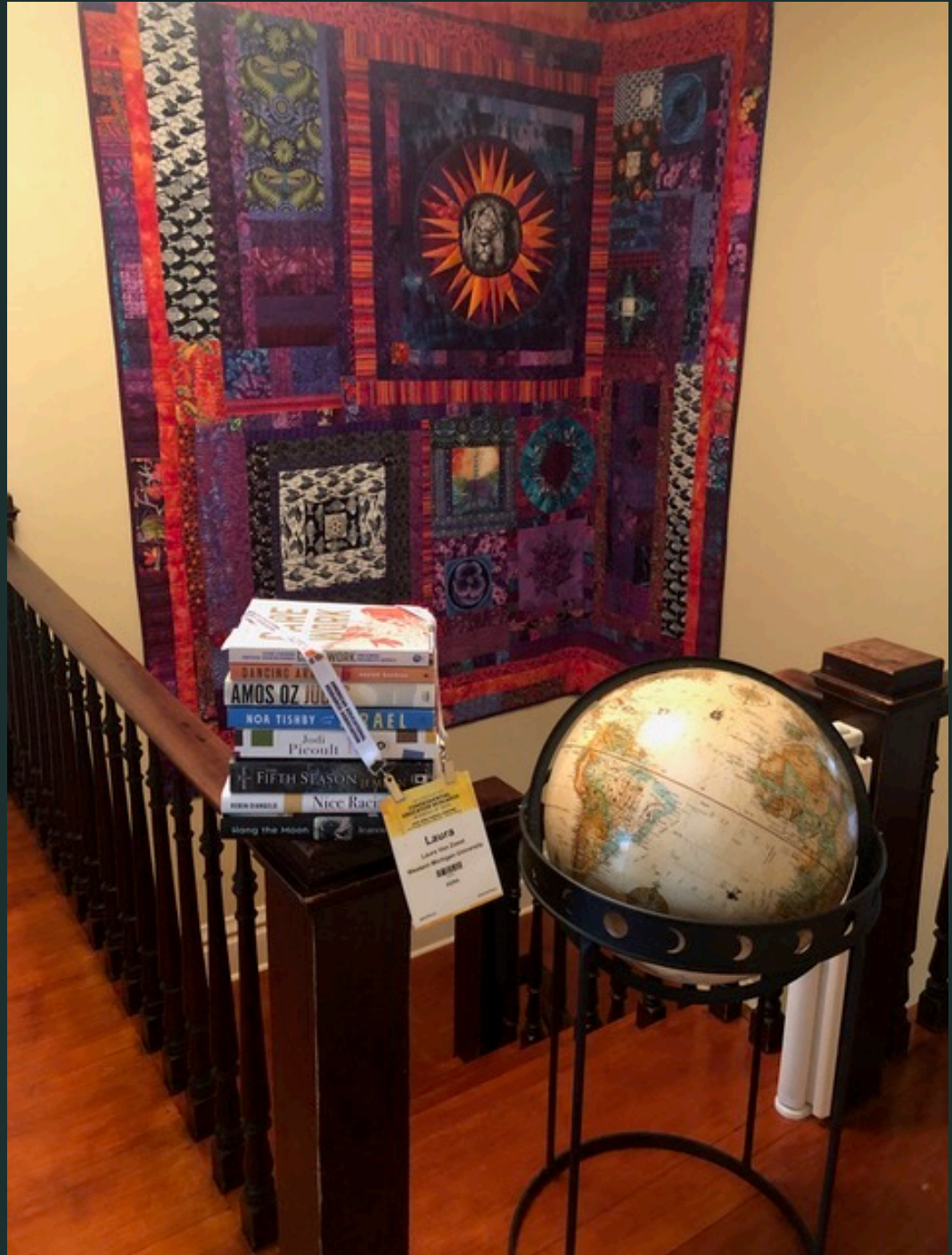
Set of Me

Math 3500/5501

"Just be yourself, there is no
one better."

— Taylor Swift

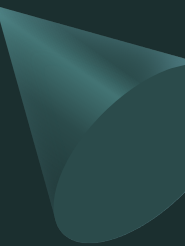


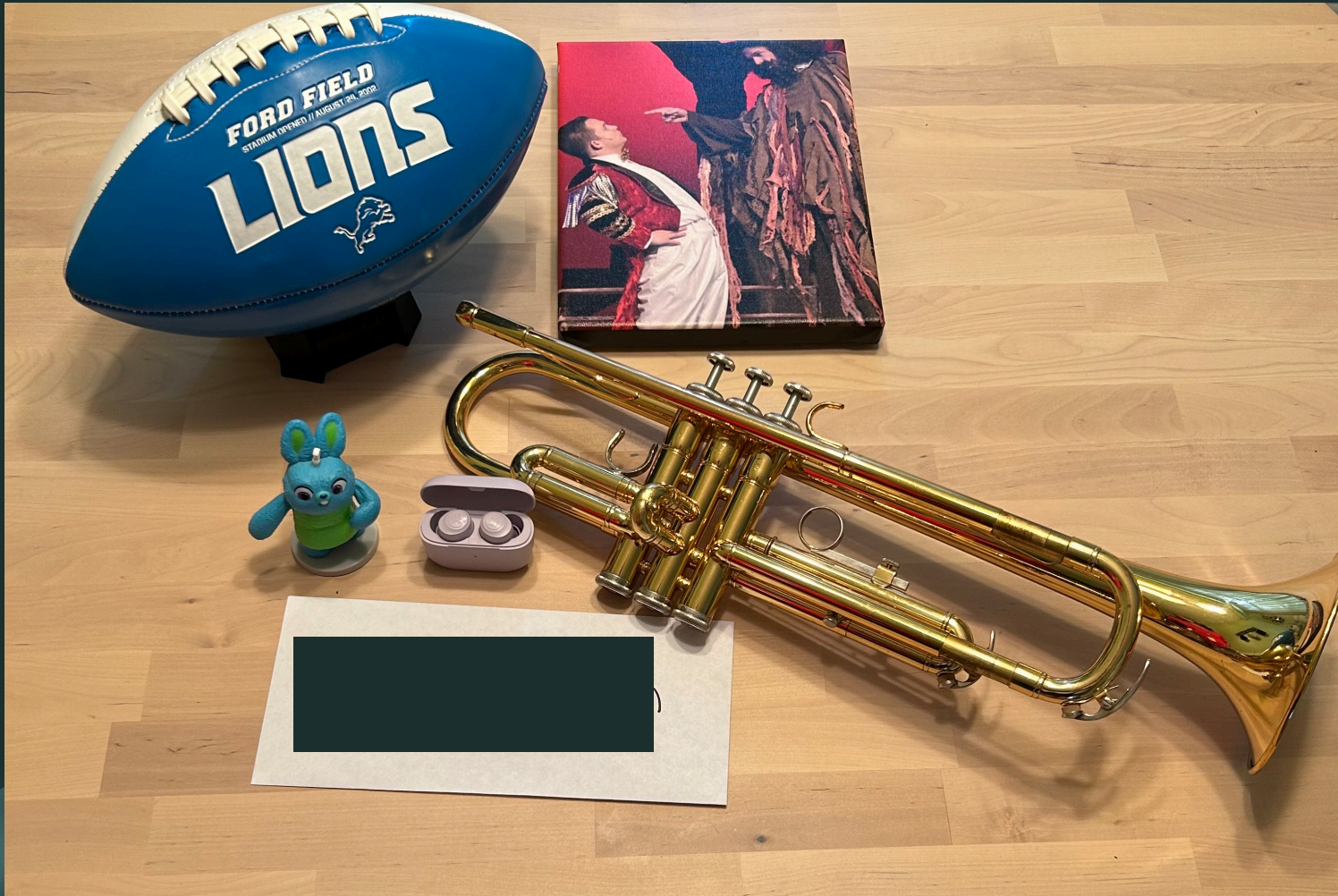












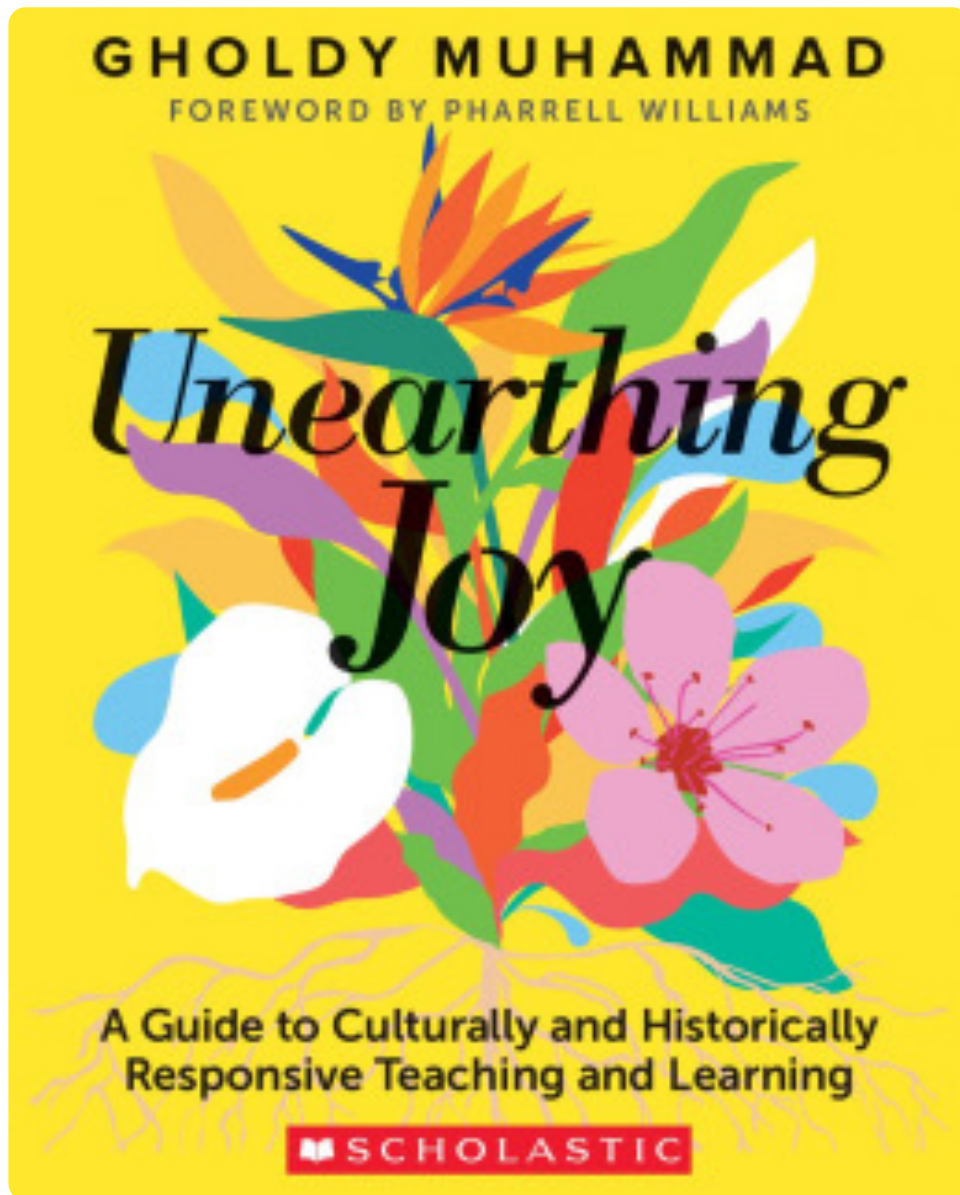
An Example from a Middle School Methods Course

Principle	Description	Modeling & Support in Teacher Ed
Understand your students well	Learn about your students, their families and their communities for the purpose of improving instruction. (Not making assumptions)	<ul style="list-style-type: none">• Teacher educators can model this principle by learning about their students as human beings rather than just as future teachers.• They can support their students in implementing this principle by engaging their students in activities where they can collaboratively reflect on their own identities and how their identities show up in the classroom. They can also create activities where students have opportunities to build relationships with each other to support learning.

Supports these principles:

Principle	Description
Include others as experts	Create classroom environments that extend beyond the teacher as the sole authority to develop competence and confidence in others as experts, including the students themselves.
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5 Pursuits in Education (p. 17)

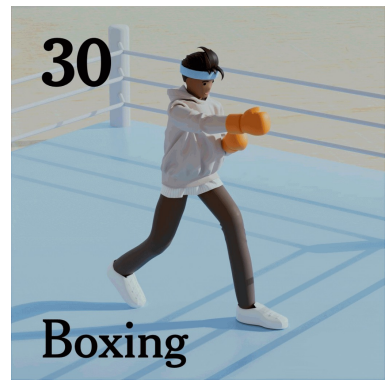
1. **Identity Development:** Helping students to make sense of who they are and to learn about diverse cultural lives and identities of others.
2. **Skills Development:** Helping students to develop proficiencies across the content areas and state learning standards.
3. **Intellectual Development:** Helping students to gain new knowledge that connects to the context of the world where they can apply the skills and standards.
4. **Criticality Development:** Helping students to name, understand, question, and disrupt oppression (hurt, pain, and harm) in the world and within the self, and to work to make the world a better place.
5. **Joy Development:** Helping students to uplift beauty, aesthetics, truth, ease, wonder, wellness, solutions to the problems of the world, and personal fulfillment.

From this semester's research course syllabus:

We will be guided by the 5 Pursuits in Education from *Unearthing Joy: A Guide to Culturally and Historically Responsive Teaching and Learning* (Muhammad, 2023, p. 17), adapted for our course:

- 1. *Identity Development:*** Making sense of who we are and learning about diverse cultural lives and identities of others.
- 2. *Skills Development:*** Developing proficiencies in reading, analyzing, and doing research.
- 3. *Intellectual Development:*** Gaining new knowledge that connects to the context of the world where we can apply our skills.
- 4. *Criticality Development:*** Naming, understanding, questioning, and disrupting oppression (hurt, pain, and harm) in the world and within the self, and working to make the world a better place.
- 5. *Joy Development:*** Uplifting beauty, aesthetics, truth, ease, wonder, wellness, solutions to the problems of the world, and personal fulfillment.

Movement Break ~ *Move like a Pro*



30 seconds for each activity (3 minutes total)

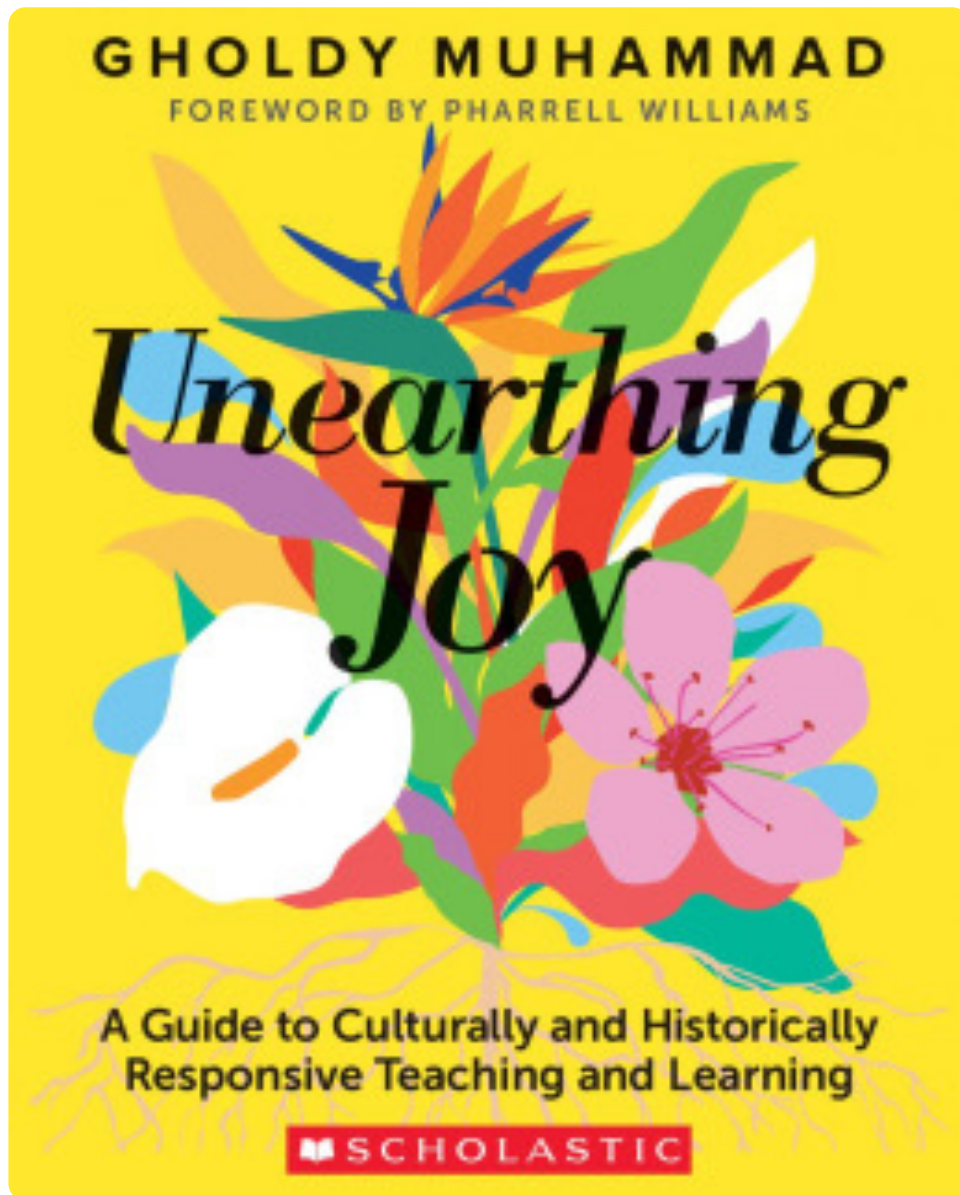
- **Boxing.** Throw some jabs, pretend you're hitting a heavy bag, or alternate between fast and slow punches.
- **Ballet.** Raise your arms above your head to form a circle. Stretch each leg forward and point your toes. Stand on tiptoe and come back down. Do a pirouette or a leap.
- **Tennis.** Try a backhand and forehand swing. Bounce on your heels and return a volley. Throw a "ball" into the air and crush a serve.
- **Basketball.** Dribble the "ball," take a shot or jump into the air and block an imaginary opponent.
- **Running.** Jog in place, pumping and swinging your arms, or throw your hands in the air and sail through the finish line (victory dance optional).
- **Yoga.** Assume any pose or posture that makes you feel grounded, such as standing in "mountain" pose with your hands on your heart.

Credit to **Kelly McGonigal** as reported by **Jancee Dunn** in the New York Times *Well* Newsletter, Jan 2, 2024.

Some Other Ideas

- Open Mic Night
- Fun snacks
- Prioritizing everyone's wellbeing
- Focusing on purpose





5 Pursuits in Education (p. 17)

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Go forth and humanize your mathematics teaching!

tinyurl.com/MI-AMTE24VanZoest

- Seda & Van Zoest paper
- Slides from today
- ICUCARE Frameworks

