

Teaching to Transgress:

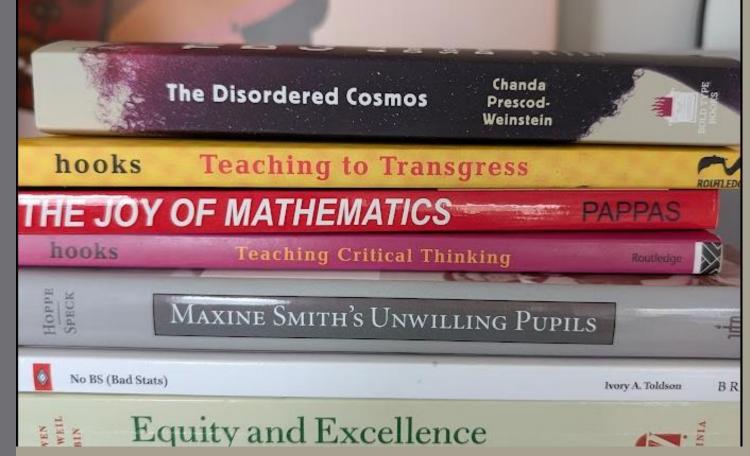
Mathematics as the Practice of Freedom

Brittany L. Mosby, Ed.D.

Gwendolyn Mizell Mosby

Scientist. Educator. Voracious Reader. Inspiration.





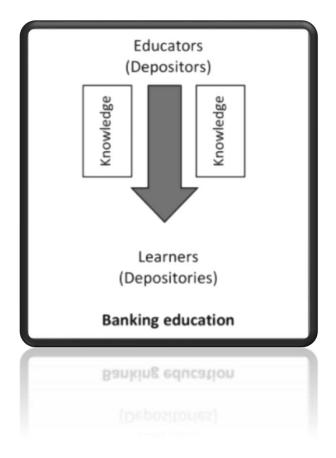


Reading/Reference List

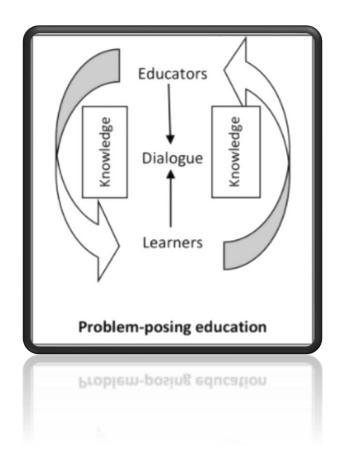
Education either functions as an instrument which is used to facilitate the integration of the younger generation into the logic of the present system and bring about conformity or it becomes the practice of freedom, the means by which men and women deal critically and creatively with reality and discover how to participate in the transformation of their world.

- Paulo Freire, Pedagogy of the Oppressed

Banking Method



Problem-Posing Method



In *Pedagogy of the Oppressed* (1970) Freire asserts there are two, contradictory methods of teaching. One that *dehumanizes and oppresses*, the other *humanizes and liberates* students.

Mathematics as the Practice of Freedom

Mathematics classrooms are uniquely positioned to be a liberating experience for students

Opportunity to unlearn uninspired and outdated banking method techniques

Gatekeeper vs. Gateway to higher education

Breaking the correlation of minoritized students and underperformance in mathematics

The Case for Mathematics

Excerpted from *Pedagogy of the Oppressed (1970)*.

Students, as they are increasingly posed with **problems relating to** themselves in the world and with the world, will feel increasingly challenged and obliged to respond to that challenge.

Because they apprehend the challenges as interrelated to other problems within a total context, not as a theoretical question, the resulting comprehension tends to be increasingly critical and thus constantly less alienated.

"The bus pass problem"

An example of how cultural knowledge affects standardized testing.

It costs \$1.50 each way to ride the bus from your home to work. A weekly pass costs \$16. Which bus pass would be a better buy?

What underlying skill is being assessed here?

How many assumptions are made in the wording of this question that would lead a student to a different (not incorrect) answer?

Mathematics as a **practice of freedom** then, also requires traversing disciplinary silos, and allowing students the **freedom to lean into their unique motivation for learning**.

Latest

The Atlantic

SCIENCE

In Defense of Flat Earthers

Rapper B.o.B's theory may be ridiculous, but he's motivated by the same questing spirit that gave us science.

By Lizzie Wade

Take a look especially at the tweet that started it all: "The cities in the background are approx. 16 miles apart ... where is the curve? please explain this." There's something touchingly genuine about this to me, some deep seated desire to work through confusion and toward truth. This isn't a man who never learned science, or who has some fundamentalist objection to examining empirical evidence about the world. This is a man who has looked at the world around him and decided that mainstream science isn't doing a good job at explaining what he sees. So he's collecting evidence, seeking out literature by well-versed "experts," and working out a better theory on his own.

From Mathematics to Freedom

- Affirms students' existing cultural knowledge and mathematical intuition
- Highlights the utility of mathematics as a language to understand problems across multiple fields
- Encourages metacognition and agency in the learning process



How do we start reframing the mathematics course?

Recognizing we are part of a larger system—curriculum requirements, general education distribution, grading schemes, administrator and legislature oversight...

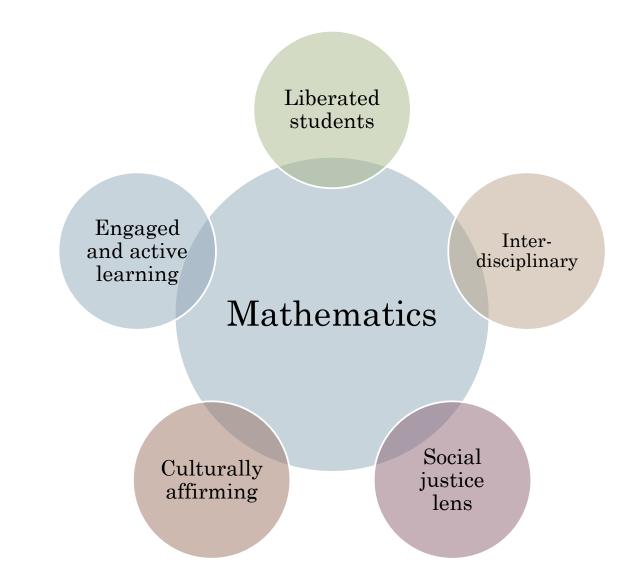
Critical and creative thinking

Agency and empowerment

Transformation

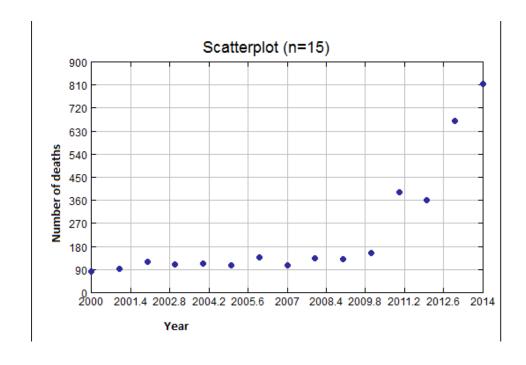
Education as the *Practice of Freedom*

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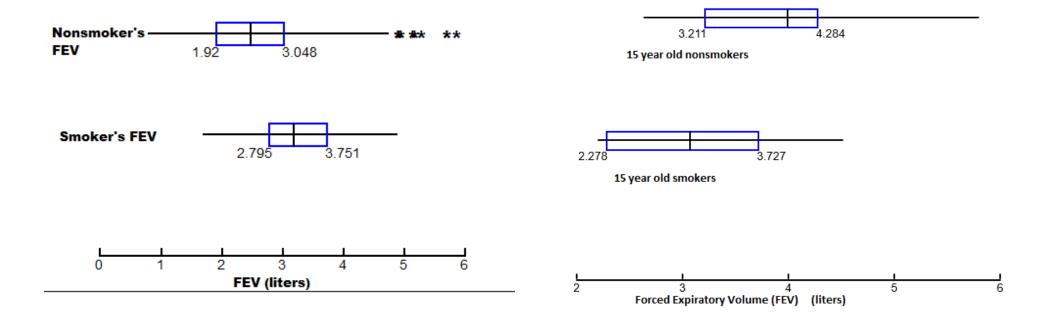


Police Involved Deaths, 2000-2014

Year	Number of police involved deaths	
2000	83	
2001	94	
2002	120	
2003	110	
2004	114	
2005	105	
2006	138	
2007	105	
2008	134	
2009	132	
2010	156	
2011	391	
2012	359	
2013	669	
2014	815	

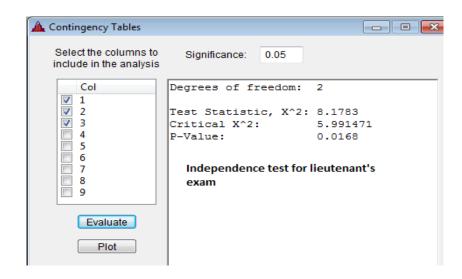


Effects of Youth Smoking



Ricci v. DeStefano US Supreme Court case

	Black	Hispanic	White
Pass	6	3	25
Fail	13	12	18



"To educate as the practice of freedom is a way of teaching that anyone can learn." – bell hooks