

## **PUBLIC STORIES OF MATHEMATICS EDUCATORS\***

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### **How Did I Get This Way? How Bad Is the Damage? *and* How Do I Fix It?**

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There is an old saying, “Ignorance is bliss.” I never really knew what the elders meant by this statement until the last few years of teaching mathematics to high-SES students at a private school. You see it has been 3 years since I decided to take the red pill (like Neo in *The Matrix*) and this decision has led to numerous days of frustration, confusion, and unfulfilling results. Before doing so, I was in a state of “ignorant bliss.” I stood in front of my students, poked my chest out, and indoctrinated them with knowledge relevant or irrelevant to their lives. In return, they wrote down word-for-word everything I said, never questioned my mathematics, and passed the assessments. Dialogue<sup>1</sup> was not present, numeracy was not present, and mathemacy<sup>2</sup> was nowhere in sight.

Then the decision—the red pill—and I became conflicted and began to reflect differently on my teaching practices. I started to see the discourses that surround my students (and yes the wealthy too have discourses), discourses created by their teachers and their teachers’ practices, and the discourses created by lofty and unsatisfied expectations of their parents. These practices and discourses work

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\* Lou Matthews, in his editorial in *JUME*, 2(1), argued that one of the greatest challenges for mathematics educators has been in defining a *people-centric* mathematics education, claiming that to do so would require that we begin to tell *our* stories in the face of perplexing times in urban education. The “Public Stories of Mathematics Educators” section of *JUME* is a newly created section to provide an intellectual space for K–16 urban mathematics teachers and teacher educators to tell their stories as they reflect on and transform their pedagogical philosophies and practices and, in turn, the *opportunities to learn* for the students they serve.

<sup>1</sup> Stinson (2009) summarizes Freirian dialogue as “a loving, humble, hopeful, trusting, critical, and horizontal relationship between persons, a ‘relation of ‘empathy’ between two ‘poles’ who are engaged in a joint search” (p. 516).

<sup>2</sup> Skovsmose (2005) writes: “Mathemacy must contain mathematical as well as reflective elements. ...As an idealized notion, mathemacy must also include reflections on (mathematical) knowledge in action. ...Mathemacy includes the hope of critical mathematics education that...address[es] the paradox of reason and...develop[s] a critical citizenship” (p. 188).

in concert, indoctrinating my students to receive, to memorize, to repeat. Freire (1970/2000) argues:

Education thus becomes an act of depositing, in which the students are the depositories and the teacher is the depositor. Instead of communicating, the teacher issues communiqués and makes deposits which the students patiently receive, memorize, and repeat. This is the “banking” concept of education. (p. 72)

This banking concept embodied my teaching practices. This embodiment created a sense of panic and frustration upon revelation. How did I get this way? How bad is the damage? *and* How do I fix it? These are the major questions that I sought out to answer in order to begin my quest for liberation and redemption—not only for me but also, and most important, for my students.

### **How Did I Get This Way?**

In October 1997, Secretary of Education Richard Riley released a White Paper that was intended to help students, parents, and educators understand the significance of a solid foundation in mathematics as a key to college and career success. The preparers of the report wrote:

In the United States today, mastering mathematics has become more important than ever. Students with a strong grasp of mathematics have an advantage in academics and in the job market. The 8th grade is a critical point in mathematics education. Achievement at that stage clears the way for students to take rigorous high school mathematics and science courses—keys to college entrance and success in the labor force. Students who take rigorous mathematics and science courses are much more likely to go to college than those who do not. Algebra is the “gateway” to advanced mathematics and science in high school, yet most students do not take it in middle school. (U.S. Department of Education, as cited in Stinson, 2004, p. 11)

I was 16 years of age at the time this report was released, and though I knew nothing of it, I knew of its cause. Mathematics education was a huge question mark at the time and educators and policymakers were searching for answers. Mathematics began to be referred to as a “gatekeeper,” an authoritative quandary. At the time, I knew of this gatekeeper status very well and effectively used its authority to empower myself and gain access to privilege.

At home, my mother indoctrinated my older brother and me with the belief that achieving mathematical success could be our key to success in life, and like many, I took mother’s advice seriously. In the 3rd grade, I used my mathematics privilege to gain less supervision during independent study time. In 5th grade, I used it to become a member of an elite program called TAG (Talented and Gifted). In this program, I was able to leave school and travel to an educational

facility where TAG students would be isolated from all the “others” so that we might continue in peace to do the “school thing.” In 8th grade, I continued to utilize my mathematics privilege and spent most of my school hours in small classes, surrounded by fellow students that abused their mathematics privilege as well. My high school years were no different; mathematics allowed me to again receive benefits such as small classes, effective teachers, and minimal behavioral interruptions. With all this being said, at an early age, I understood the importance of a quality mathematics education. I recognized the power of mathematics to open doors that other disciplines just could not. I was fortunate because mathemacy was present only because my privilege allowed it to be. The gate was open—mathematics had provided the key. My athletic privilege had limitations. My male privilege was hindered often by my skin color. But my mathematics privilege was unlimited and ever so effective.

To this day, I use my mathematics privilege to open doors and mathemacy to read the world. This understanding of the gate-keeping status of mathematics is why I see my role as a mathematics teacher as important as any person’s role in shaping the leaders of tomorrow. But had my consistent state of mathematics privilege made me ignorant to the oppression of others? Had I become an oppressor?

### **How Bad Is the Damage?**

I still remember the first day of teaching mathematics in an intercity, public school in Charlotte, North Carolina. After useless days of in-service training where the administration prepared teachers on how not to fail instead of preparing us on how to succeed, I had little time to plan my first few days, but I managed to do so quickly. I had it all mapped out. I would hit the students quick, hard, and smooth. They would not know what hit them. I was in for a rude awakening, however. They were unprepared, unmotivated, and mathematically malnourished, so it seemed. Did they not know that mathematics was the gatekeeper? The students appeared to be ignorant to the privileges mathematical success brought, and thus felt as if mathematics was just another thing they had to do. That whole year, I pushed and they pulled; I fussed and they fought. It was me versus them. “To simply think *about* the people, as the dominators do, without any self-giving in that thought, to fail to think *with* the people, is a sure way to cease being *revolutionary* leaders” (Freire, 1970/2000, p. 132, italics in original)—I was no revolutionary leader and there was no liberation present.

A year later, I found myself in front of a different group of students. A classroom filled with the sons and daughters of lawyers and policymakers. Their parents knew how to do the “school thing well,” so as children these students had been indoctrinated with the secrets. These students were prepared, enthusiastic, and recognizing of their mathematics privilege. To them, mathematics opened

doors to better opportunities, and thus, they recognized it as a gatekeeper. As a mathematics teacher, I saw early on my role as only a depositor; I held the knowledge and dispensed it evenly and consistently using the same methods I had used before. There was no dialogue present, and mathemacy was still nowhere near.

It was not until I involuntarily bumped into the writings of John Dewey (see, e.g., 1938/1998) and Paulo Freire (see, e.g., 1970/2000) that I began to realize the dehumanizing acts that I had performed. I had become an oppressor. Both Dewey and Freire highlighted areas of my teaching practices that actually aided in the mathematical illiteracy of my students. I was the master of manipulation, and I enjoyed the role. Freire claims, “One of the methods of manipulation is to inoculate individuals with the bourgeois appetite for personal success” (p. 149). Manipulation of their bourgeois appetite was my means of motivating my students and they either responded or withered. Those that responded were motivated primarily by the accolade of a variable representing their success in doing the school thing, but those that withered just moved on to hate mathematics, seeing the world as math-less.

### **How Do I Fix It?**

“Is it too late to begin?” is the resonating question within my mind and conscience. Freire (1997) notes, “I have...encountered many teachers...who while being oppressed by the political system in which they operate, were in turn oppressors of their students” (p. 311). Here, Freire exemplifies my past (and somewhat my current) role in the oppression of my students. While reflecting and critiquing on my past (and current) role, however, I have begun to understand what I want to become and what changes need to be made. These critiques of my teaching practices and me have taken me on a whirlwind of reflections. Some of these reflections are about the different discourses that have constructed both my students and me, and many are about the new and old ethical trends that affect our teaching, learning, and living experiences. Freire believes, “It has become necessary for teachers, especially critical teachers, to deconstruct the social construction of this fatalism [of the market] so as to unveil the inherent ideology that informs and shapes and maintains an ethic of greed” (p. 313).

So I began to deconstruct, realizing that to become a critical teacher, in the Freirian sense, was a first step. In doing so, I aim to be an agent of change within the mathematics education community; a critical mathematics teacher creating an environment in which mathemacy is encouraged and nourished. I have taking initial steps toward this becoming by initiating the agonizing process of reflection. Not absent of pain, and narrowly close to depression, the process of self-reflection is extensive, ongoing, and crucial to growth. And given that “reflection and action, [are] in such radical interaction that if one is sacrificed—even in part—the

other immediately suffers” (Freire, 1997/2000, p. 87), I am prompted to reflect, critique, and reflect again, in concert with action. In other words, these reflections are public, demanding not only introspections that address personal experience but also interpersonal interactions (Skovsmose, 2005).

The next step in rehabilitating my teaching practices has been to determine what I believe critical mathematics education might “look like” within my classroom. Stinson, Bidwell, and Powell (2009), drawing on the work of Leistyna and Woodrum, claim that the role of a critical pedagogue is to “encourage both teachers and students to develop an understanding of the interconnecting relationship among ideology, power, and culture, rejecting any claim to universal foundations for truth and culture, as well as any claim to objectivity.” This role resonates with my emerging philosophy of teaching and learning. Critical mathematics pedagogues therefore should create lifelong learners who strive to learn and use the full potential of the growing power and privilege of mathemacy. These learners then begin to read and write the world with mathematics (Gutstein, 2006), “understand[ing] relations of power, resource inequities, disparate opportunities and explicit discrimination among different social groups based on race, gender, class, language, and other differences” (E. Gutstein, as cited in Stinson et al., 2009).

As for my *becoming* a critical mathematics pedagogue, it will be ever-changing, controversial, and conflicted. I will continue to work at engaging my students in dialogue and refrain from depositing:

Dialogue is thus an existential necessity. And since dialogue is the encounter in which the united reflection and action of the dialoguers are addressed to the world which is to be transformed and humanized, this dialogue cannot be reduced to the act of one person’s “depositing” ideas in another, nor can it become a simple exchange of ideas to be “consumed” by the discussants. (Freire, 1970/2000, pp. 88–89)

That is to say, I will not only be the teacher but also the student, as I listen to and learn from (and with) my students in mutually humanizing dialogue.

In the past, I have refused “the dialogical character of education as the practice of freedom” (Freire, 1970/2000, p. 93), slighting the possibilities of education as a means for social change (Dewey, 1937/1987). In speaking about educators who adopt such a position, Dewey argues:

But I am surprised when educators adopt this position, for it shows a profound lack of faith in their own calling. It assumes that education as education has nothing or next to nothing to contribute; that formation of understanding and disposition counts for nothing; that only immediate overt action counts and that it can count equally whether or not it has been modified by education. (p. 412)

I was one of those educators—slighting the possibilities of social change via education. I conducted my teaching practices as if the primary goal was to only

spread the gospel of mathematics. But now, I am deconstructing, I am reflecting, I am transforming and becoming an agent of change. My classroom is a think tank, a greenhouse for mathemacy, and though the old is not removed, it is being entrenched in reflection, critique, and action. And for the guilt that I feel about the indoctrination that occurred in my first 8 years of teaching, I soothe it with the thoughts of creating mathematicians that read and *re-write* the world and, in turn, create a society where mathemacy (and justice) is indeed for all.

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