My 'Math Life Story' (Redundant, Right?)

*all names and identifiers have been masked/changed to retain anonymity

INTRODUCTION

Math has brought a bit of tumultuous confusion to my life, which elicits a bizarre feeling since it is *the* subject I decided not long ago to devote myself to teaching. There have been moments in graduate school where I speak words like, *"OH MY GOD, MATH IS INCREDIBLY ILLUMINATING!"* and then others where I am whining to myself, *"I DON'T HAVE ANY IDEA WTF THIS PROFESSOR IS SAYING ABOUT SPANNING AND I AM GOING TO FAIL AT LIFE BECAUSE OF IT!"* But, I recently (as in last Wednesday) came to a sharp self-awareness that if my encounters with math—in teaching it, in solving it, in making sense of it—were always pristine, there is no space to evolve as a student, teacher, learner, human being. This essay prompts me to see what the beginning of that evolution looked like, in the hopes that perhaps in making sense of how I got here, my life and math (redundant, right?) could be a little bit less of *effing tumultuous confusion*.

THE EARLY YEARS

Wondering about learning math in elementary school leaves me with a lack of vivid memories. This blur summons only how wrong counting on my fingers felt, which was almost like the ultimate sin of doing math, because privilege was placed on the children who could do addition quickly and in their heads. They needed no time or visualizations, creating an illusion of what doing flawless mathematics (oxymoron, right?) looks like. I always thought to myself, *WOW*, *how could they ever think so fast?* But after "officially" studying mathematics education for the past five months, I can identify this as prizing memorization, and it was a large component of learning mathematics in my childhood. I *think* these prized classmates were of Asian

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backgrounds, but I don't know if this is a construct tainted by the fact that all of my classmates in the Accelerated and AP Math classes in high school were Asian, and I was always intimidated by *every single one of them.* All of my schooling was always provided to me in English and was set in a majority white environment; I lacked the knowledge then that *we were all* privileged. As I picture intimidating situations in math class, in my mind I see Asian students succeeding (with me behind, lacking a sense of belonging and trying to hide the movements of my very own fingers counting by sitting on them).

GOING AFTER THE PRIZE

Leaving that learning environment, I strove to be more like the prized few into middle school. I got really, really good at memorizing how to carry out operations, and would sit at my dining room table in solitude every day after school, toiling away on my #1-51 homework problems (ODD), not leaving the table until I could execute the senseless series of rules required to do every single problem. I recall tears of messy frustration when my lack of understanding stood in the way of getting a correct answer, attributing the sense of defeat to the state of being dumb. I did not enjoy middle school. My twin sister Vanessa (she's gone through her own evolution) was the social one, and I was the studious one. All I did was study, and math became the context I felt safest in. Its one dimensionality that I wasn't required to make sense of was a dark divergence from the outside world I struggled to make sense within. Math existed in a universe dictated by absolute rules, where you were either really right or really wrong (because what else does "wrong" mean, really?) None of my teachers attempted to connect mathematics to my home/cultural/community experiences nor did my parents introduce me to any activities outside of school that were mathematical in nature, perpetuating the existence of such a separation between math and well, *my life*. This rings familiar to The Atlantic's *A Year of*

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Miseducation, which writes of Carter G. Woodson, author of *The Mis-Education of the Negro*. "If a school is devised purely as an escape route to a different world, he believed, then it will teach students only the information required to exist in that other world. The students will emerge knowing nothing about their environment except why and how to leave it, leaving them incapable of understanding it, much less improving it" (Thompson, 2018). Mathematics work was regurgitation and it was meaningless, but it offered an offbeat solace from the tumultuous confusion that defined my teenagehood.

BEING AN IMPOSTER

It may because I never grasped a deep, solid understanding of mathematics (and I couldn't do new problems that I hadn't had a chance to study, or at a minimum, I didn't *believe* that I could do them) that I never thought of myself as high-achieving in mathematics--now I know this is not my fault (thanks to an enlightening professor). I began sophomore year in the Honors Algebra 2 class (what is that, even?!), and quickly switched out within the first week. I remember thinking, in the midst of Asians, I'm an imposter that doesn't belong here, I am not as smart as those others who do belong, who I believed were born good at math (likely because of their Asian ethnicity), spewing multiplication tables as they were brought home from the hospital. There was an unshakeable anxiety and a fear of failure in the backdrop of Asian success that I just couldn't find the courage to face. I went back to where it was safe--the *regular* Algebra 2 class. I recall my math teacher, Mr. S, shaking his head as he signed my course drop form, telling me something like, "you are making the wrong decision. You should not be leaving this class." I still hold onto feelings of regret for leaving that honors Algebra 2 class, curious how my life trajectory would have emerged differently if I remained among the abundance of Asian students.

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Mr. S was my teacher for Precalculus the following year, and I excelled in his course. He was a mathematics teacher in every aspect of the traditional sense, assigning a massive amount of homework while being notorious for his lack of empathy for students who complained about the workload. I worked hard, spilling all my efforts into hours of memorizing the entire unit circle and SOHCAHTOA at the dining room table. My high mathematical performance must have became known to other students, and one day in June after our Final Exam, Ryan and Chris, Asian classmates who I had known since elementary school, told me of their conversation with Mr. S. "We asked him if you were naturally really smart or if you just worked really hard. Want to know what he said?" I was embarrassed, because at that age, I stumbled over praise even more than I do now. They continued, "Mr. S said that for you, it's both."

Regardless of what Mr. S and other teachers, mentors, and classmates claim, the tumultuous confusion of who I am (smart? Gifted? A math brain, or just a hard worker? Actually, maybe an imposter?) lingers. What these mathematical memories have taught me, though, as I construct my identity as a "focus group leader" who now teaches "Intermediate Algebra" (what is *that*, even?!) and as an educator in training who will teach countless other WTF IS THAT? mathematics classes, we need to do a better job of *believing in others*. Many students have experienced a tumultuous confusion not enormously dissonant from mine, and turned away from the subject because of it. As a result, I strive to teach math as something that I *believe and know* my students can figure out as a process of constructing meaning, as opposed to something to be memorized.

BECOMING A GATEKEEPER (THE GOOD KIND)

The gatekeeping importance of believing in our students and their innate brilliance to do mathematics (I am talking about true mathematics, like M4HISJ, none of that Algebra 2 shit) is

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outright for all teachers. But we also need to do a better job of believing in *ourselves* as educators, especially for a subject like mathematics. When I sit in lecture-style mathematics classes like Linear Algebra or Foundations of Modern Algebra (so much Algebra!), I am now able to recognize this oppositional force as the true imposter, one that innately makes it more difficult to learn math. Authentic math learning is what we need to believe in, as its rawness and realness holds within it an illuminating empowerment, one that I have experienced firsthand in group problem-solving and wonderment that reads and writes the world.

The reality of mathematics learning today gives rise to a struggle in pursuit of that empowerment, and this struggle is what sustains the evolution. It facilitates an awareness and formulation of an understanding of what's at stake to save my students. I can continue to tell them, "yes I am a graduate student of mathematics, I actually am studying for some degree that has 'Master of Mathematics' on it, and I still find math confusing AF, but I am working on how to *not* make that the case for all of us. " I remember at the end of last semester, when I admitted to one of my focus groups, "so I have a confession for you...I don't *really* know Statistics. I kind of bullshitted my way through this whole semester." They passionately disagreed that this could be their reality, I think because their mathematical learning that semester was rare and uncommon. I presented lessons on the death penalty, mental health, and racism--something I did because I found it powerful but never experienced as an undergraduate student myself.

This is the beauty of mathematics--the traditional way of knowing isn't necessary to master in order to unleash mathematical power; in fact, the traditional way of knowing masks its power quite deeply, as it did for all of my early years as a mathematics student. Thompson (2018) quotes Woodson again, "but can you expect teachers to revolutionize the social order for the good of the community?" he asked rhetorically. "Indeed we must expect this very thing. The

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educational system of a country is worthless unless it accomplishes this task." I'm slowing accepting that learning, doing, and teaching math is actually this confusing ongoing experience as it challenges the existing social order of mathematics learning and education on the whole, carrying within it all these possibilities to learn from natural consequences, mistakes, and successes. And as this ongoing experience with mathematics evolves, it becomes a little less tumultuous.