Student Vignette

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I am not a stranger to the pressures of performing well academically. Sitting at the kitchen counter at age 10, I'd feel tears form in my eyes as my mother scolded my inability to understand algebra. For what seemed like hours, I struggled to grasp the mathematical concepts necessary for success in the future STEM courses she envisioned me taking. I was further discouraged from pursuing STEM-related opportunities and careers as I heard the soft giggles of my peers echo while I failed to answer geometry questions correctly. Enjoying my education became challenging as school fostered an environment centered around competition and awards in place of students and their learning experience. Even in middle school, students began to tie their self-worth to scores on exams and boast about their ability to excel on practice SATs. While I continued to push myself and remained a relatively good student, my accomplishments felt small compared to those around me.

Growing up South Asian in a predominantly South Asian community within the US, I was surrounded by parents who lauded their children's achievements in the STEM fields and their placement into prestigious high schools, universities, and research fairs. I was and continue to be incredibly proud of my peers and their contributions. They are continuing the legacies of hardworking immigrant parents and transforming their futures. However, I also felt out of place. I felt an average student such as myself, who performed worse in STEM classes, was too stupid to continue in a STEM discipline. Too stupid to make my parents and my larger community proud. I dismissed the idea of ever engaging in STEM.

It wasn't until college that I felt included and as if I had the potential to succeed. To fulfill a requirement, I enrolled in Writing Race, Measuring Marginalization, a course on science writing. Although the course was centered on writing, its material combined the natural and social sciences and quantification. Because of my past experiences in STEM education, I was initially hesitant about this course. However, Dr. Kylie Quave, my professor, quickly helped me not only feel comfortable but enthusiastic about the material through her teaching. The course took a student-focused approach. Instead of simply feeding information to students through static slides and lectures, Dr. Quave opened the door to discussion, allowing students to share their personal experiences and perspectives without fearing judgment. Through this method, I (and my peers) felt actively involved in the learning process. It wasn't just us learning from the professor. She was learning from us as well.

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Each class would focus on a new topic, from the dangerous effects of quantitative methods in craniometry to the hypertension hypothesis and the use of ancestry in biomedical research. Productive class discussions accompanied lessons on each topic. Students, including myself, would ask questions and share their thoughts here. Such talks were instrumental in creating a welcoming and positive learning environment, and many of them stuck with me. I recall a classmate describing her current struggles with the US's perception of race. Another explained how she'd experienced the effects of systemic racism firsthand. In previous courses, I hesitated to raise my hand for fear of being perceived as unintelligent or answering questions incorrectly. Not here. Hearing others openly share their points of view and being encouraged by Dr. Quave revitalized me, imbuing me with a sense of curiosity and wonder about the sciences that I thought I would never feel.

In addition to open discussion, the course showed me there was more to STEM than rigid facts and figures or competition in the classroom. I could connect with material in a new way through writing assignments and exercises. We were not simply assigned formulaic research papers and expected to regurgitate material from class. Dr. Quave worked with us one-on-one to help us develop research questions we felt interested in and passionate about while fostering collaboration through multiple peer reviews and group papers. I learned how essential discussion and writing are to student engagement, especially in STEM fields where this approach is less prevalent. Such curriculum and instruction methods significantly contributed to my decision to pursue a degree combining STEM and the social sciences, which I thought was never possible. Writing and discussing so openly with my peers not only made me feel heard but as if others wanted to hear my voice.