Chapter 3
A Worthy Burden:
Reflections on the Journey of a STEM Professor of Color in Higher Education

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ABSTRACT

The author's path toward the STEM professoriate has been dotted by contingencies tied to his intersecting social identities. In this chapter, he shares the journey and the lessons in the hope that it provides the reader a nuanced picture of how STEM pathways may unfold for those from historically underrepresented backgrounds.

INTRODUCTION

The question of race is deeply embedded in the history of American higher education. As a term, 'race' is biological nonsense but, historically, skin complexion was a potent predictor of the ceiling for one's social positioning in the United States (US) (Solorzano, Villalpando & Oseguera, 2005). Some institutions of higher education merely replicated the social order of the day, actively barring people of color from any consideration of matriculation. Over time, however, the higher education system moved toward supporting and then mandating access for all qualified students, regardless of race or religion (Hannah, 1996). Unequal access to the education system meant unequal outcomes when measured in terms of representation within particular careers. For STEM professions, the inequality has been astounding (Algeria & Branch, 2015). In my field, the percentage of professors who identify as minority are well below their percentages in the US population (Nelson & Rogers, 2003). This inequality not only exists at the faculty level. Retention rates for underrepresented minority (URM) students still lag their white

counterparts by orders of magnitude, with many of those leaving STEM (Science, Technology, Engineering, and Math) leaving higher education entirely (Chen, 2013).

There are many worthwhile questions to be asked about the experiences of people of color in STEM, but first, one must consider what it even means to be a person of color (POC) in STEM. The answers would depend on several highly variable social dynamics, most of which are not confined to the walls of higher education institutions. Examined differently, considering the parameters of the POC STEM experience is tantamount to considering what impacts the POC experience in the United States (US) at large. Age, personal history, nation of origin, and/or economic status may mediate or exacerbate the experiences of POC in the US, as well as public perceptions of them both within higher education and in the wider society. They subsequently also impact the coping strategies employed in response to those perceptions. The persistently low percentage of POC in STEM professions suggests, however, that there is something generalizable about skin color that effects who successfully navigates into the STEM professoriate. Understanding the journey of a STEM professor of color, therefore, requires the use of multiple lenses. Broad categorizations of performance trends in disciplines, graduation rates, and hiring practices are useful in identifying the scope of social inequities. Attending to solutions, however, requires digging into the varied experiences of the individual and being open to the unique nuances that ultimately determine the parameters of their experience. Through that micro lens, I am a sample size of one.

A few theoretical frameworks that attempt to explain the lived experiences of POCs in different contexts can be useful toward unpacking this experience. Assimilation theory (Nee & Alba, 2012), for example, is a decades-old framework that explains how immigrants and their descendants find connection to new environments. Ethnicity aside, many of my early experiences dovetail with this unique process of finding meaning. As my journey evolved, my resulting STEM praxis incorporates deep critical pedagogies (Darder & Baltodano, 2003) that both address unequal power structures and give a voice to those typically not shaping social narratives. These frameworks provide a structure that would come to inform how my own narrative developed.

In this chapter, I reflect on my experiences as a STEM professor of color, beginning at the point where my desires for a STEM career began to take a more formal shape at the undergraduate level. Currently, I am a Biology professor whose research focuses on the social context of the learning process from kindergarten to adulthood. I also teach Introductory Biology and a graduate class on STEM course design, all at a large, public research university in the Northeast US. My experiences to date, both positive and negative, varied significantly in time and place and were typically unique to where I was in my career pursuit. A common theme in the early stages, however, was that I usually lacked the language to articulate the social dynamics that informed my experiences regardless of the type of experiences. This articulation would come later, primarily as a function of the fact that I chose to pursue a research career that specifically studies this issue. This essay is partially a product of that articulation.

My journey is partially worth writing about because, as the data from federal reports mentioned above suggest, I am still somewhat of an ethnic anomaly in my field. Therefore, there are elements of my path that students considering STEM careers might learn from and/or be inspired by. It is also my hope that colleagues of color, navigating their own unique pathways, draw inspiration from the ways in which I choose to effect change that addresses representation in the field. All stakeholders in the academy do have something to gain from learning about the human experience, as told through the voice of someone who had to navigate some social hurdles in order to be successful. Telling this story and many other aspects of my practice can be burdensome. Efforts associated with confronting questions of race, culture, and class are often borne by those most invested in the solutions to those questions. In the literature,

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