

Chapter 6. Building Equity with Counterspaces

The process of guiding students into becoming members of disciplinary communities is not about stripping from them who and what they are and rebuilding but of merging their new selves into what is already there. As I have strived to illustrate in this book, it is not enough to create access and offer representation to BIPOC and female students in STEM education. Not creating spaces to critique the practices, ideologies, and obstacles of the disciplines risks efforts toward equity and inclusion being perceived as superficial, disingenuous, and/or tokenizing. While providing laboratory coats and bilingual promotional materials goes toward helping students feel seen as members of the STEM community, without also providing space to talk about their experience, without faculty mentors being mindful of inequity, and without the willingness to recognize the ways patriarchy and white supremacy are institutionalized, BIPOC and female STEM students will continue to “leak” from the “pipeline.” One solution is to actively cultivate counterspaces.

PRISM as an institutionalized, undergraduate research program has done an excellent job of creating the structures and activities needed for a foundational counterspace (see Chapter 5), but the individual relationships with faculty mentors, peers, and administrators played an even more critical role in creating a counterspace because it was in these relationships that students were concretely positioned within their fields. This is not to say that all was perfect. As previous chapters showed, students experienced harm and problems persisted. But in those day-to-day, interpersonal exchanges, students learned how they belonged and/or had a future in STEM, and they developed self-concepts that allowed for adaptive responding.

In this final chapter, I suggest practical applications for beginning the work of undoing systemic bias and White Institutional Presence (WIP) within STEM laboratory spaces, with an intentional eye toward creating counterspaces, spaces where students can “consciously name the structural violence of our institutions” and disciplines (Kynard, 2018, p. 523) and collaborate on ways to counteract such forces. While it is impossible to distill down the process of achieving counterspaces into a checklist of steps to take and actions to perform, my aim is to provide recommendations to consider in light of an individual’s own institution into which different elements might be incorporated. These recommendations have the potential to be modified for classroom spaces as well, and they serve as an entry-point toward making structural changes.

Conscious Acknowledgment of Student Orientation and Positioning

In Chapters 1 and 2, I discussed the ways in which individuals orient to the world, with a specific emphasis on disciplinary spaces. Importantly, I discussed the ways in which people's orientations to disciplinary spaces are influenced by multiple factors that impact how they position themselves within a space. As Walton and colleagues (2019) laid out in their work, these positions are influenced by factors such as

- who we are in relation to others (What does it mean to be a Black woman in a white-dominated field like science?),
- how our identities are working at the present time (How is being a Black female scientist different in 2021 than it was in 1980?),
- what it means to be occupying a particular role or space (What does being a good scientist look like for a Latinx woman? How does that change in differing environments?), and
- how our identities in these roles interact with normative expectations of who has historically occupied them (How does being Black or Latinx in science influence performance expectations? What assumptions are applied that are not applied to White individuals in the same space?).

Because these factors differ from individual to individual and can compound where oppressed identities intersect (Crenshaw, 1991), it is critical that faculty mentors and programs make explicit the ways in which these factors will likely influence students' experiences in STEM education. Pretending that they will not is simply a form of institutional gaslighting. Thus, a first step toward creating space for underrepresented individuals in a discipline is to learn about and openly and actively recognize the ways in which minoritized groups have historically been and are currently positioned within the discipline. (The works of Ebony Omotola McGee, 2020, and McGee and William H. Robinson, 2019, for example, offer excellent contemporary explorations into the lived experiences of racism and sexism in STEM; similarly, the works of Jeremiah J. Sims, 2018, and Kelly M. Mack and colleagues, 2019, offer strategies for culturally responsive approaches to STEM education.)

In this study, Natalia, for example, was deeply aware of the unique situation she was in by attending John Jay College: "It's pretty cool because usually, you would think, like, 'minorities in college,' that's really hard. . . difficult to find. But at John Jay, it's like, 'Not really!'" She allowed herself to just *be* in a space, as she put it, "where everyone is different." At the same time, however, Natalia was not naïve. On more than one occasion she wondered about some of the programs, including PRISM, which focused on increasing diversity in STEM, saying, "Just me being Hispanic, you know, just being a minority—I just have that intuition. Like, 'Oh, is it because I'm Hispanic [that I got this opportunity]?' So, you're thinking twice about it. And it's awful." She felt guilt at being able to apply for summer programs that friends who were not "considered a minority" were ineligible for, wondering, "Am I getting

something just because I'm a minority and they want to show, like, 'Our percentages for minorities are getting higher!'" This critical awareness, interestingly, translated into her dedication to *my* research. At some point in every conversation, Natalia would comment about how excited she was to be part of this project that would "help students like [her]" in the future and help to improve science education for students of color and women. Though she was excited to see how her own growth as a writer would play out, she seemed more excited about the implications for the research. Importantly, the national social climate during this period as well had palpable effects on her advocacy and dedication to science. Natalia saw the results of the 2016 presidential election as "pretty much supporting White *male* supremacy" as well as being anti-science, and though she feared for her safety as a Latina and for her career opportunities as a scientist, her positive attitude carried her through:

I could drown in fear, but that does not help at all. . . . What I've been thinking about is just, like, I've worked so hard or this and someone has to recognize that. And I'm going to keep working hard for this so that—it should happen, at least. And not just for me, because I'm not the only person doing this. There are so many other people trying to get an opportunity to [do] research and [pursue] a career in science.

Being able to talk about these emotions and concerns with peers and her mentor helped Natalia step out of her own mind and experience and realize the larger systems at play that contributed to her feeling the way she did. As Andrés Castro Samayoa (2018) articulated about his research with undergraduates at diverse institution types, "programs that center students' identities as a core component of [their] programming can steward a more holistic understanding of how we are to support those [who] will become the future of our academic profession" (Conclusions section). Consciously acknowledging the positioning of minoritized individuals within a discipline creates space for them to then acknowledge the obstacles that result.

Important in this acknowledgment and transparency are the experiences of BIPOC and female faculty mentors in their *own* journey to become professionals. While many faculty members may feel uncomfortable sharing the experiences they had in the early stages of their academic careers, as these can make one feel very vulnerable, such stories can serve as important orientation points for minoritized students. The use of what Christina V. Cedillo and Phil Bratta (2019) describe as "positionality stories"—the stories people tell "about their own lived experiences" (p. 216)—by both faculty members *and* students can offer students a way to orient themselves within the laboratory or classroom and can offer them possible pathways and futures. Such stories can also help students see that some of their experiences may not be unique to them. Discussions of how her writing was torn apart by faculty advisors, for example, allowed Dr. Bianchi to show Amrita and Natalia that she did not enter her field an expert scientific writer. Her

writing and research skills—which both students viewed as exceptional—were developed over time through trial, error, and revision and were not honed until after she had earned a PhD. Similarly, Dr. Martinez sharing with Ruben her understanding of his conflicting duties (as a student, father, and construction employee) allowed him to see that these different worlds did not necessarily have to be in competition with one another—that strategies exist for balancing and merging them in a healthy way.

Lifting the curtain on what becoming a member of the STEM community actually looks like for minoritized individuals complicates and diversifies the narratives of exceptionalism that students have been exposed to throughout their academic careers. Similarly, creating space for students to share stories of their experiences within a program provides the faculty and administrators an opportunity to understand what is working and areas for improvement.

Explicit Discussions of Rights, Duties, and Expectations

Part of people's understanding of how they are positioned within the hierarchies of a space relates to the rights and duties they see as belonging to them. What are they allowed to do? What is off limits? In this study, Anne, for example, did not feel that she had a right to infringe on her mentor's time or resources, and she saw her duty within the laboratory space (at the start) as that of a helper to others "who knew what they were doing." Natalia, on the other hand, believed that it was her duty as a student researcher to do independent work, and at a high caliber, before bringing it to Dr. Bianchi. The expectations for performance within the laboratory spaces, particularly with regard to what students should know to do and how, varied widely across student researchers and mentors. This applied to both the laboratory work of conducting research as well as the rhetorical aspects of writing.

Mentors being explicit with students about their specific roles within the research environment, the expectations of what they should be able to do upon entering, and the level of mentor involvement on the research work had positive impacts on students' sense of place in the undergraduate research experience. Knowing where they stood in relation to the faculty mentor and other members of the laboratory allowed students to then align those expectations with outside responsibilities. In examining the impact of reading and writing expectations on these student researchers, it became clear that personal, familial, and collegial expectations are all factors that can push students from, or pull them toward, their disciplines.

As I have written elsewhere (Falconer, 2019b; Falconer, in press), Ruben's was a complicated story. As a student juggling the demands of work, family, and school, he was in a constant state of flux that pulled his attention in a multitude of directions. Without a clear understanding of *why* he needed to do the reading and writing labor asked of him, he experienced a conflict with school-work-life balance that disrupted his skill development in scientific discourse. After recognizing how these various factors were affecting Ruben's success, his mentor

adopted the approach of explicitly teaching the rhetorical moves and genres of science in a way that both helped Ruben see the discourse as something to be learned over time (and realize that it was within his grasp) and showed him how practicing the process of critical inquiry in undergraduate research would benefit him in all facets of his life.

Though no less labor-intensive, Chloe's experience involved a different type of personal conflict. Though she recognized the work she needed to do in order to succeed in the reading and writing practices of undergraduate research, and occasionally was self-deprecating about the amount of work that needed to be done, she was able to see with the help of her mentor a clear path forward. As Laura Wilder (2012) found in her study of faculty and students in introductory literature courses, making explicit the rhetorical conventions, genres, and purposes of disciplinary writing can help underprepared students access the rhetorical practices that lead to success within disciplinary contexts. Ruben and Chloe's stories help show how explicitly learning disciplinary rhetorical practices can also alleviate some of the anxiety and paralysis students might experience when encountering disciplinary texts early in their academic and professional careers.

Among the lessons learned from Ruben and Chloe's experiences is that coursework—advanced or introductory—does not always adequately prepare students for the realities of practicing their disciplines. Students are not typically taught in courses how to do discursive work or given tools to navigate new rhetorical contexts, and as a result, they encounter another threshold later in their academic careers—whether in undergraduate research or graduate work. For students who already experience the extra labor of being minoritized in their fields, this can feel defeating. If different disciplinary discourse practices are not made explicit, students can and will internalize their difficulties with them as personal deficits. Similarly, Chloe and Ruben's experiences showed that a heavy emphasis on grammar and mechanics can cause paralysis for students and slow down their willingness to engage with risk-taking when it comes to writing in new genres and discourses. The fear of getting things wrong can disrupt students' sense of competency, and revision requests without explicit direction and context can cause a home-school conflict whereby students perceive revision of their writing as unnecessary labor that interferes with their other commitments. Connected to these lessons is the fact that, as Chloe and Ruben showed, career identity and personal identity play critical roles in whether students will fully engage with new discourses and genres, particularly when there is significant labor involved. Program expectations that do not easily reconcile with the challenges that many BI-POC and female students encounter can disrupt the paths that they see as viable, and unless the reading and writing work requested has a useful application to their immediate or future selves, students questioning their place in the discipline may disengage with learning the discourse. As educators and mentors, there is ample reason to be conscious of these things in our teaching and undergraduate research experiences.

Challenge Existing Patterns of Belief and Assumed Norms

It can be deeply uncomfortable for faculty members and administrators to consciously critique disciplinary norms and assumptions about what the performativity of “scientist” looks like. In addition to the storylines that have been embedded socially over time (e.g., “boys are good at maths,” “girls have better language skills”), it is important to actively question the ways in which disciplines are structured and how those structures are designed to keep certain people out.

In their research on compassion for distress, Rachel L. Ruttan and her colleagues (2015) examined the ways in which individuals who have endured emotional distress and *persisted* through that distress responded to others who endured a similar emotional distress but *failed to endure*, those “who [were] unable to overcome or appropriately cope” (p. 611). As they explained, the “hot-cold empathy gap” (or the inability to remember the impact of pain and discomfort while in a calm, unharmed state; Loewenstein, 1996) “suggests that difficulties recalling the impact of past emotional distress may lead people who have endured distress to be less compassionate toward others’ failures to endure” (p. 611). In the context of undergraduate research experiences, this means it is critical for all participants to be willing to revisit discomfort and abandon narratives of grit. Far too often, programs use gatekeeping practices (i.e., threshold level grades for required courses) in order to “weed out” students who are not ready for or are not perceived as belonging in a major. These practices are often used to justify a lack of diversity in STEM spaces because it places the onus of performance on students and not the system. But, as I discussed in Chapter 2, WIP is deeply embedded in both educational and STEM disciplinary spaces, and a lack of acknowledgment about the real, immediate impacts these institutionalized biases have on newcomers to STEM fields means that little change can happen.

As faculty members and administrators working in educational programming meant to bring diversity, equity, and inclusion to disciplinary spaces, we have to remember that justice is a critical—and, likely, the most impactful—practice to take up. Without accountability to those we are attempting to aid, diversity, equity, and inclusion activities become merely performative. Accountability begins with acknowledging the history of the field. It continues with a close examination of the ways in which biases are institutionalized in our policies, practices, and programming. Accountability means that we need to be able to look actively at the ways in which we can reduce obstacles for newcomers, including challenging our own beliefs about our field, pushing against our desires to stick with what we know, being willing to provide the energy needed to make change happen, and confronting our own emotional responses to such change. It is deeply reflective and personal work.

Part of challenging our beliefs also relates directly to the students who are in our educational spaces. It is important to be mindful of meeting students where they are as well as mindful of our own assumptions and preconceived ideas about

who these students are and what they are capable of. No two students are identical, and generalizing based on race/ethnicity, socioeconomic status, or gender is harmful. What seemed critical in this study with regard to how students transitioned through their experiences and developed discursive skill was the strong influence of how student participants positioned themselves (consciously or not) and how they were positioned by others. Preconceived ideas both of what *students* believed themselves capable of and what *others* believed them capable of influenced the power various push- and pull-factors had on their transitions from outsider to insider. Some students, such as Amrita, a woman and a person of color, will possess the power and agency to advocate for themselves in academic and professional contexts, while others, such as Anne, will not recognize that there is power or agency to wield. We must be careful not to view the success of one as evidence that *all* can succeed; positioning students within hierarchies of potential through the recognition of some identities (i.e., gender or ethnicity) may unintentionally mask other identities that influence academic performance (i.e., socioeconomic class and prior schooling influences).

Faculty Self-Reflection on Writing Development

As Bethany Davila (2017), Victor Villanueva (1993), and others have noted, the intentions of an instructor (in this case, faculty mentor) rarely matter when considering harm caused by race- and gender-evasive ideologies. Whether mentors argue for a presumed neutrality of Standard Academic English or recognize the bias inherent in it is irrelevant if their classroom and laboratory spaces reify and privilege oppressive discursive practices. While it is important, for instance, to recognize the linguistic bias that exists in scientific publishing and to prepare students for encountering this bias in their professional careers, it is also important that faculty members do not penalize students for not conforming to this bias along their journeys toward learning how to enact disciplinary discourse in a way that their fields will recognize.

This is not to suggest that it is more fair or even appropriate for faculty members to allow students to write disciplinary-specific texts for disciplinary spaces in whatever vernacular they wish but rather to suggest that faculty members should assist in their students' understanding of discourse community, code-switching, and code-meshing (Gumperz, 1982; Young et al., 2018). STEM spaces continue to be exclusionary, particularly in communicative realms like publishing, and if educators do not prepare students for the expectations of the fields they are entering, it sets those students up for failure. As part of their self-reflection, it is important for faculty members to remember their own literacy development as scholarly, scientific writers. In addition to reflecting on the literacy sponsors in their academic journeys, it is helpful for them to reflect on the different phases of discursive development they went through and to recognize that their students are currently going through the same, or similar, phases.

At the initial stage of entering a discourse community, students begin by experimenting, or “trying on” the discourse, attempting to write and speak in a way that approximates the writing and speaking practices of the community they are attempting to join. This engagement is influenced first and foremost by access to the discourse (e.g., through a course or internship that requires attempting to converse or write in the discourse). It is also influenced by culture and ideology (e.g., whether students see the discourse as a possibility for themselves and how far from their native discourse(s) this new one lies). In many ways, this process describes the stage of writing development highlighted in Lee Ann Carroll’s *Rehearsing New Roles* (2002), in which students write and speak without the context or discourse knowledge required to compose rhetorically effective documents (p. 53). During this stage, there is a dissociation—a gap between how learners use language naturally and how the community they are attempting to enter uses language. This gap varies from individual to individual depending on how closely aligned their home discourse is to that of the new one (e.g., Standard American [Academic] English).

With experimentation, however, comes familiarization, and students begin to understand the rhetorical and discourse conventions of the community (e.g., what language and tone is acceptable, what genres are used in which contexts). This stage also involves beginning to learn the hierarchies of the rhetorical space in which they are circulating: Who is allowed to speak and in what manner? Roxanne Mountford (2001) explains that “rhetorical space is an extraordinarily important aspect of rhetorical performance,” even more so in revered spaces (such as a laboratory), “where each object and participant are set in place according to the [practices] performed in that space” (p. 61–62). Within rhetorical spaces, individuals are expected to perform roles appropriate to their status in the hierarchy (e.g., a novice scientist does not make assertions about which methods are best). How quickly students learn these conventions is determined by the teaching methods of the mentor, the students’ prior experiences with writing both within and outside of the community, their understandings of threshold concepts in writing, as well as their education levels and cultures. It is in this temporal space where explicit teaching can be particularly effective, because it is at this point that students begin to internalize the perceived discourse conventions and confront social associations *with* it. As Carroll (2002) notes, “knowing what to do [is] not the same as knowing how to do it” (p. 114). It is also not the same as knowing that you are *allowed* to do it. Such rights are deeply entwined with individuals’ perceived status in the disciplinary community, their content knowledge, and their beliefs regarding language as a marker of identity generally.

If students understand an approximation of the rhetorical and discourse conventions of the community, with practice they develop facility with the discourse and continue to experiment and receive reinforcement or correction from experts/insiders. For undergraduates, this is a high bar to meet. For students with prior knowledge and exposure, like Natalia, it is possible to enter into a disciplinary experience with a sense of facility with disciplinary discourse. For others, however, expecting such

an engagement from an undergraduate student at the start is unrealistic and unfair. As students' knowledge base solidifies, their development is then influenced by their affiliation with the community, their sense of belonging, as well as their commitment to and engagement with the discourse itself. Rather than attempting to "sound like" a member of the community, the student is *becoming* one and is beginning to adopt it as their own—taking responsibility for and ownership of it.

Adoption of the discourse is not assimilation. Rather, it is the taking up of an identity and the negotiation of that identity in relation to other identities. For example, a student might identify as a scientist *and* a woman of color *and* a first-generation college student. This identification includes external positioning and requires negotiating how much of the new identity to adopt, which discourse conventions will become part of the student's way of being, thinking, and communicating. At this stage, students have already encountered and begun to explore new ways of thinking and "alternative paths for a future. . . They are," as Anne J. Herrington and Marcia Curtis (2000) described, "looking for sponsoring frameworks" (p. 125). Students are seeking structured approaches "through which they can pursue their interests. . . [and] are reflecting on their families and pasts, sorting through and trying to shape how that past fits with their present and future" (Herrington and Curtis, 2000, p. 125).

When that negotiation and reconciliation has been accomplished and ownership claimed, individuals are in a place to critique and manipulate the discourse to suit their own practical and ideological needs. Here, we can see instances of "writing against the grain" of the community, but in such a way as to still be acceptable. All discourse communities, to paraphrase John Swales (1990), have mechanisms of communication and participation, with specific lexis and genres, which are in service to maintaining the community's broadly agreed-upon set of goals (pp. 24–27). These communities rely on a certain "threshold level of members with a suitable degree of relevant content and discursual expertise," (p. 27) thus there is a significant amount of individual agency at this stage, as individuals are *part* of the community that sets the norms. It is critical for faculty members to remember that *they* are members of that community, but their students are not. Through their own writing and review work, research faculty members have the power to question and critique the language and research practices of their respective fields. They can choose to push back against linguistic bias and other forms of discrimination to help disrupt institutionalized practices that create barriers. As the culture of those in power diversifies, so do the expectations. But their students are not in a position to hold such power and must be guided in meeting the demands of their fields in their current states.

Recognition and Planning Around Systemic Inequity

The final recommendation I offer is for faculty and administrators to engage in strategic planning to consciously address inequity. Building counterspaces requires significant critical reflection on the part of faculty and program admin-

istrators. It also requires an understanding of the practices and changes that are possible within the constructs of academic and disciplinary settings. Certainly it is not feasible to attempt all things at once because lasting change takes time, money, and energy to counter the very real forces that cause inertia and reinforce the status quo. Strategically, then, it becomes important to put time and energy into the changes most likely to be achievable while also attempting to address multiple points of friction students are likely to encounter along their academic journeys. In addition to the considerations mentioned above, program designers can consider the following in their programmatic efforts:

Representation

As much as possible, students should encounter individuals in positions of authority who look and sound like them. In undergraduate research settings, this means having faculty mentors who come from a wide variety of backgrounds and who represent different gender and linguistic identities. However, representation should also be evident in the curriculum. Recommendations to diversify and decolonize syllabi are widely available (e.g., Fuentes et al., 2021; Ruiz & Baca, 2017), but what is important to note, here, is that this work should be authentic and not performative. Faculty members should ensure that, without tokenizing or minimizing, they are drawing attention to BIPOC and female scientists who have made important contributions to the state of knowledge. Their inclusion should fit seamlessly within the curriculum. Epistemological and methodological diversity can be woven into discussions of the ways in which research is conducted (considering Indigenous, Arabic, and other cultural influences as appropriate). Discussions can also be held about who is helped and who is harmed by the choices researchers make.

Linguistic Awareness

Since publication is the currency of STEM disciplines, active discussions around the publication process is important if students are being prepared for careers in research. These discussions must include explicit instruction on how to write scientific genres, including actively teaching the linguistic features and genres students are most likely to read and write as part of their communicative work. In addition to mentored writing, however, linguistic bias should also be discussed so as to prepare students for potential challenges they may encounter. Importantly, faculty should choose writing assessment practices that are fair, equitable, and appropriate for students at different levels of their academic career (see Inoue, 2019; Poe et al., 2018)

Recognize Competing Demands

Faculty members are well-versed in the challenges of managing competing demands for time, energy, and resources. It is critical to remember that students

also have competing demands that impact their performance in classrooms and laboratories. Some of these demands may be related to caring duties, such as for family members or children. Some of these may be economic, such as the need to work in order to pay for school or contribute to the home. As much as possible, programs should account for the ways in which students may be pulled in multiple directions. Whenever possible, offering funding (as PRISM does) to offset the time students spend in the laboratory can help address economic impacts. Similarly, the use of open educational resources and providing access to scholarly research when it would otherwise be behind a paywall are inclusive approaches that can reduce economic demands. Providing frameworks for managing work-family-education balance can also be beneficial. Modeling what an appropriate amount of time in a laboratory is, for example, and setting clear boundaries for time at home can help students see that it is okay to not respond to texts or emails about research during dedicated family time.

Mentor-Student Pairing

In UREs, programs should think carefully and consciously about how students are paired with mentors. As discussed in Chapter 5, these pairings have important implications for students entering a disciplinary community as researchers. Short surveys around student interests, for example, are excellent, but these should be accompanied by questions about times when students learned well and times when they did not in order to understand the pedagogical approaches that are most likely to benefit them. Pairing students with mentors based solely on identity markers or areas of research interest has the potential to be problematic if other elements are not taken into consideration. Additionally, it should not be left to students to seek out and acquire their own mentors, as that creates a space for rejection, misalignment, and potential harm.

Conscious Construction of Counterspaces

While all of the elements discussed in this chapter can contribute to the construction of counterspaces, it is important to create physical spaces that allow individuals from communities marginalized in STEM disciplines to form affinity groups and “reflect on the uniqueness of their identity” within those disciplines (Flores, 1996, p. 146). As Lisa A. Flores (1996) noted, such spaces allow for the “rejection of dominant definitions and the affirmation of self identity” (p. 146), which can aid with coping and resistance to microaggressions and oppressions experienced within the respective educational spaces. To reduce microaggressions, programs should think actively about how to normalize the diverse identities and ways of creating knowledge that exist within STEM disciplines, highlighting the mechanisms through which various identities influence how people view the world and what they value.

Conclusion

As Ibram X. Kendi (2019) has explained, being antiracist is not about simply *not* being racist. It is about actively working in the moment to redress racism as it arises. In this book, I have worked to let the student participants' experiences and voices provide the insight needed to unpack what systematized racism and sexism looks like in practice. The invisibility of these forces means that they are powerful. However, actively engaging with them, critiquing our assumptions of what is "normal," and challenging practices that are exclusionary is one way of taking steps toward an antiracist (and antisexist, anticlassist, etc.) approach to disciplinary instruction.

This work is not about casting blame on any particular group of people. Rather, it is about lifting the curtain on the ways inequality is masked, often with good intentions. In my work with STEM faculty over the years, only once did I encounter an individual who espoused explicitly racist or sexist beliefs. All others were open about wanting to make their educational spaces more equitable while maintaining the rigor of their disciplines. Unfortunately, the good intentions of these faculty members sometimes led to practices that caused more harm than good.

Like other accommodation work, the aim for inclusion and accountability in STEM education is not to create more work for instructors. It is about reducing the obstacles, the points of friction, underrepresented students experience along their academic journeys in STEM education that overrepresented (White male) students do *not* experience. Like good design, addressing the issues that affect some will more often than not benefit all. As noted multiple times throughout, this work is only a continuation of the work of others who have come before me—and there is still so much to be learned. Deeper investigations are long overdue, for instance, into the resistance that exists in STEM disciplines toward making effective changes. Understanding how efforts like PRISM's transfer outside of UREs, such as to graduate programs and industry, is also in need. What happens to students once they leave these programs? How do STEM disciplines and workplaces, broadly, respond to their identities and perspectives?

Since this research was conducted, PRISM has gone on to make further modifications to its program that align with John Jay College's overall commitment to antiracist teaching and justice. Of the students who participated in this study, Anne, Madalyn, Amrita, and Natalia have all gone on to graduate programs in STEM. Ruben sought laboratory work but instead took on a foreman's role in construction that provided a stable income for his family. He is still considering a master's degree in the future. Chloe, also, took a break from school and spent time working to help her family. As of this writing, she has not yet attempted to pursue a PhD.