Equity in computing is more than just broadening participation. Despite decades of efforts in broadening participation of students of gender minority, racial/ethnic minority, and other marginalized groups, these students continue to face stereotype threats in the field of computing, and are found to have lower sense of belonging [9], lower computing self-efficacy [1], lower self-assessment [7], and higher levels of impostor phenomenon [2]. As a professor, my goal is to foster an equitable learning environment for all students throughout their experience in the computing curriculum.

Transparency in teaching for equity, diversity, and inclusion

I believe I can foster equity by practicing instructional transparency [16] in my classrooms. Research has shown that higher perceived instructional transparency correlates positively with computing students' self-efficacy and sense of belonging, yet marginalized groups have lower perceived instructional transparency than their non-marginalized peers [10], implying that improving instructional transparency could bring benefits to equity in computing classrooms.

In my discrete mathematics course, I included the design rationales behind all my policies in my syllabus, often emphasizing the rationales first before elaborating the policies. I used a partially flipped-learning model to make the class experience *equitable* to students with various levels of prior math background [11], which was not only stated in the largest font in the syllabus but also discussed thoroughly in a series of videos students watched before the first class meeting.

I am also a determined user of *equitable grading practices* [6] . These practices require rigorously defining all pathways to success upfront for transparency. In addition, equitable grading practices reduce test anxiety, which has been shown to disproportionately impact women in computing [5], and also offer flexibility to life situations and other commitments external to the course, which disproportionately affect students from marginalized groups [6].

Cultural and identity responsiveness for equity, diversity, and inclusion

Being an international student myself, I am sensitive to cultural references educators constantly use in their teaching to help convey computing concepts. These references, from *Star Wars* to the US congressional elections, often implicitly assume all students share a common cultural background (i.e., prior knowledge of the references), which often results in additional extraneous cognitive load for students who do not share the same background. In the discrete mathematics course I taught, I consciously avoided using cultural references, and instead opted to deliver my material in less cultural-dependent contexts such as students' campus life (e.g., layout of the main library on campus) or even the course's own context.[1]

I am also mindful of classical computing concepts that are grounded in identity-exclusive ideologies. For decades, the concept of bipartite graph matching has been delivered in the "stable marriage" context, which heavily uses gender dichotomy language. I instead delivered the concept using identity-neutral contexts such as residents and hospitals, and explicitly addressed why I thought the classical approach was problematic in class. Similarly, in one of the reading guides I provided my students for them to self-familiarize the course concepts, I called out gender dichotomy language in the assigned textbook chapter.

While the above efforts mainly focus on *doing no harm*, I plan to fully engage in other stages of the cultural responsive-sustaining education framework [4] in my future teaching design, potentially through curating cultural and identity-authentic open-ended assignments that let students contextualize computing technical contexts into their own life experiences.

Computing education research for equity, diversity, and inclusion

My research on computing students' academic help-seeking puts an emphasis on *individual* students' help-seeking approaches and behavior [12], and how they are related to students' identity (e.g., gender, race/ethnicity, year/age [14, 15]), learning characteristics (e.g., prior experience [13]), and their affective states in learning computing [15]. By investigating how different groups of students report different approach and exhibit different behavior, my works have revealed insights specific to women and nonbinary students [14, 15], Hispanic/Latine students [15], first-year undergraduate students [14], students with less prior computing experiences [13], and students with less self-confidence [15]. At a high level, these results collectively show that **students in marginalized**

[1] See problems 3 and 4 of the document in the hyperlink.

groups comparatively lack access to help resources external to the course (or the capability to effectively utilize them), and as a result rely on course-related help resources, not only for obtaining technical help but often also **for affective needs in their learning.** These insights inform how educators can better design their course-related help ecosystem and provide training to their course staff to support these students, especially in large-scale instructional contexts. Inspired by the insights, I am currently developing an intervention that teaches first-year undergraduate students metacognitive help-seeking approaches, with the goal set on mitigating the above gap in students' awareness of help resources as well as help-seeking efficacy.

Beyond the topic of academic help-seeking, I have conducted research on deploying and evaluating how a lightweight social-psychological intervention [3] can increase marginalized students' sense of belonging and self-efficacy in an introductory programming course [8]. These interventions, meant to directly address the existing gaps on these psychoconstructs, are only scarcely adopted in introductory computing contexts. My future goal is to adapt and deploy them in upper-level computing courses to continue supporting marginalized students along their learning experience. My ongoing research on fairness in group formation and optional groupwork also concerns transparent policy design for equitable learning outcomes.

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