

At the root of my teaching philosophy is the fundamental belief that undergraduates learn best through guided exploration and coached problem solving, supplemented with direct instruction of critical content as needed. Tantamount to this approach is the fostering of a learning environment in which students feel unquestioningly welcomed, seen, and valued. I know that my visible identities (white, cisgender, male) can greatly influence how comfortable students are to ask questions and share their thinking in class – just as my role as an instructor does. At the same time, my experiences as a queer person profoundly shape the degree of comfort I think necessary to make a space “welcoming” to everyone. I know from my own experience that while someone can nominally enhance diversity simply being in the room, the *benefits* of their diversity of perspective are realized only when they feel safe enough to stop trying to “pass”.

Fostering a welcoming learning environment requires intense attention to interpersonal dynamics in the classroom. First and foremost are the relationships that students form with their peers. I assign students to groups of 3 or 4 to perform experiments, troubleshoot issues, and interpret results together over the course of the semester. This provides students the opportunity to develop relationships with their lab partners through repeated interactions with the same peers. These interactions are goal-directed, encouraging the students to learn to collaborate and to discover what strengths each member of the group brings to the table. Small-group work also provides a plethora of opportunities for students to practice explaining concepts to one another, developing ownership over the material without a large audience to their successes and challenges. In my interactions with these groups, I see my role as the “coach” of their team: observing these peer-to-peer explanations of difficult material allows me to both gauge content mastery and assess whether everyone feels their voice is being heard in the group.

Thus, it is crucial that students feel that my “hands-off” approach is a reflection of confidence in their abilities, and not of standoffishness or apathy. While moderately struggling with material is productive, I do not want my students to spin their wheels aimlessly when they are truly stuck. I check in with each group frequently, monitoring for the moment that I should step in to explain a key concept before they veer too far off track. I also work hard to ensure that each student feels comfortable to approach me whenever they need help. I always encourage questions (e.g. “great question!”) and normalize confusion as part of the learning process (e.g. “that’s a really common misconception”). This approach is not only conducive to promoting a welcoming environment, but also imparts to the students that they are the stewards of their own education and that seeking out the resources they need is a critical piece of that.

As such, I coach students to improve their ability to seek out those resources. When answering a question, I always begin by asking the student to explain to me what they *do* understand about the topic at hand. This builds up their confidence, but it also teaches them to pinpoint the source of their confusion and how to ask more specific questions. Once they are able to articulate a clearer question, I can calibrate my answer to the level of detail that is appropriate to their understanding of the content. In addition, I make a point of drawing their attention to the resources I would use if I did not know the answer to their question (e.g. a specific page of their lab manual). Once I have explained a concept to a group, I will ask one student to re-explain the concept in their own words to the others. This provides the opportunity for that student to rehearse and internalize the new content, for the other students to collaboratively build a stronger understanding of the material, and for me to assess how well each student understands. We go through this process together iteratively, with me filling in some gaps in the student’s explanation and then another student providing an answer in their own words.

Teaching is a highly individualized endeavor: each student brings their own set of experiences, previous education, and interests that shape how they engage with me and with the learning process. In my classes, I work to create a space where each student feels able to “unmask” as they work closely with their peers to solve problems that require the strengths that each member of the team can contribute. The challenge of serving as a “coach” to each of these diverse teams – teaching them not only the course material, but also how to learn together more effectively and how to seek help productively – is one that I relish.