

Title: Enhanced tutor development workshops to forge an inclusive introductory CS experience.

A Black student shared that she had a hard time seeing herself as a CS major because society tells her that Black women do not belong in tech. In the CS department -- with no faculty of color -- our diverse student leaders play a prominent and important role.

Student feedback from in-class surveys and department-wide focus groups indicate that people of color (POC) feel less welcome in the CS department. For example, POC do not feel comfortable asking a question in introductory CS lectures (whereas White and Asian students feel comfortable doing so). POC also report microaggressions from both faculty and students in our department. Such microaggressions can have a negative impact on college students' self-esteem¹. We will initially focus on our introductory courses, because if a POC has a negative experience in the introductory courses, it is unlikely that they will continue. In CS111 last semester, CS111 tutors collectively offered 37 weekly office hours for the approximately 90 enrolled students. Those 37 hours, however, were not managed in an ideal manner. Students complained (via in-class surveys and SEQs) that wait times were frustratingly long and that they would sometimes wait hours and not receive help. Our student leaders lack crowd-management skills and drop-in hours are often stressful, consequently, assistance is not provided in the most equitable way.

Our goal is two fold, we aim to develop a set of workshops to train our CS student leaders to: 1) create an inclusive and welcoming environment for all students; and 2) enhance our students' skills rather than simply give hints or suggestions toward the solution, thereby building student self-reliance and confidence.

We hope that the impact of sustained student-leader workshops throughout the semester will yield peer interactions that make all students feel welcome and included. Peer tutoring is highlighted as a mechanism that successfully supports inclusive excellence². Specifically, we would like POC to feel as comfortable as their White and Asian counterparts in the CS community. Our program will also benefit our tutors, as research indicates that peer tutors report greater understanding of the material, as well as improved self-confidence and sense of accomplishment of helping a fellow student³. Studies indicate that peer tutoring also builds community³, something we are striving to do in our department.

Currently, Wellesley tutors are trained largely using the “tell” method in the sense that directors instruct tutors what they need to know. In contrast, we propose to implement best practices in tutor training, namely, the use of experiential learning, role play, shadowing and self-reflection⁴ in order to build an inclusive excellence mindset amongst our tutors.

Our long-term plan is that student leaders with multiple semesters of experience and training can then train and mentor new tutors, establishing a peer mentor training pipeline. Eventually, students will earn course credit for attending tutor training.

- What is the project’s timeline?

Fall 2019 semester: In addition to a 2-hour start-of-semester CS-specific tutor training session, pilot one or two workshops during the semester (develop set of themes for the workshops around IE).

Spring 2020: We would like to include CS230 tutors as well as CS111 tutors in our planned tutor skills session (these are the first two required classes for the CS major). Both CS111 and CS230 have Supplemental Instruction (SI) leaders attached to them, as they are courses where students often need extra support.

- Who will lead the project, and more generally, who will be involved?

Ada Lerner and Sohie Lee will lead the project. Both Sohie and Ada are Change Agents (from Jan 2019) and have worked extensively with CS department student leaders. More generally, the CS111 team will be involved (Fall 2019: Ada, Sohie, Ben Wood and Peter Mawhorter) and the 111 tutor team (n=10 tutors).

During Spring 2020, Ada is teaching CS230 and Sohie is teaching CS111. We will combine our tutor teams for skills workshops, and we anticipate fruitful interactions amongst the tutors of sequential courses.

- For projects involving a teaching or assessment innovation in a program, department, division, or some combination of these: When do you plan to implement the program (e.g., Spring 2020)? Will this program target a specific group of students (and if so, which groups)? What is the expected number of students per semester or per year that will be impacted by this program? Our introductory course for majors seems the most natural place to start. In Fall 2019, this will impact about 100 CS111 students and the supporting staff of 10 tutors. We are hoping to shift the culture of the CS department so that all students feel as though they are welcome and part of the CS community.

For Spring 2020, including both CS111 and CS230 widens our influence to affect the additional 50 students who are enrolled in CS230.

4. How will I assess the project?

CS students complete reflections about their experiences in the course, typically in the middle and end of the semester. Although we can also examine student performance, we are most interested in the perceived comfort level of students of color as well as their perception of tutor accessibility during the semester.

5. How will I sustain the activities after the funding runs out?

In the Fall 2019 semester, after an initial CS department tutor training session, we will pilot one or two IE workshops scattered throughout the semester.

In the Spring semester, we will refine the IE workshops for the 111 tutors, and will tap a few experienced tutors to act as mentors in the workshops. The idea is that by the following Fall 2020, these student mentors can facilitate IE tutor workshops (assisted by faculty) throughout the following year. We want to start a sustainable model of peer-led tutor training, specifically for CS tutors. We envision a model with CS student leaders eventually taking a semester-long course for course credit (rather than getting paid) in order to become a department student leader. In our long-term model, we rotate through CS faculty each week, so that a variety of topics are covered by the collective department.

- Please include a brief description of your tentative plans. You need not have cemented your plans at the time you submit your proposal. However, proposals with a well-thought-out plan for sustaining the activities will be more compelling.

We will sustain the Inclusive Excellence student leader training by transitioning to a half-credit course rather than paying the students stipends, and experienced student mentors will facilitate workshops for the tutors (with faculty assistance) in the long-term sustainable model.

Reference

1. Nadal, K. L., Wong, Y., Griffin, K. E., Davidoff, K., & Sriken, J. (2014). The adverse impact of racial microaggressions on college students' self-esteem. *Journal of college student development*, 55(5), 461-474.
2. Bond, R., & Castagnera, E. (2006). Peer supports and inclusive education: An underutilized resource. *Theory into Practice*, 45(3), 224-229.
3. Shook, J. L., & Keup, J. R. (2012). The benefits of peer leader programs: An overview from the literature. *New Directions for Higher Education*, 2012(157), 5-16.
4. Troillett, Rhonda, and Kristen A. McIntyre. "[Best Practices in Communication Center Training and Training Assessment](#)." *Communication Centers and Oral Communication Programs in Higher Education: Advantages, Challenges, and New Directions*. edited by Eunkong L. Yook and Wendy Atkins-Sayre, Lexington Books, 2012, pp. 224-36.