

CIC Learnings Series, November 2022

On the Durability of BPC Interventions¹

The CIC seeks to increase the representation of women of all races and ethnicities earning computing degrees by helping universities remove institutional barriers to attracting and retaining women. We fund and collaborate with universities to make systemic, sustainable changes to their program delivery, with a particular focus on the introductory course sequence. It is important that project leads/chairs/deans ensure that the changes made during the grant period are “durable”.

As a useful thought exercise as you read this document, consider whether the changes you have made to broaden participation in computing at your university will continue if the project leads, chair, and dean are no longer at your institution and you no longer receive outside philanthropic or grant funding to finance the implemented changes. If so, then the changes are durable; if not, then you have work to do. In this white paper we suggest eight actions for achieving durability.

1. Implement a bi-annual collection of intersectional **data**. Now that you have unlocked access to the intersectional demographic data that is often centrally held in the university, make sure to set up the department administrative calendar to obtain this data and analyze the retention and attraction numbers. Present your progress as part of regular departmental/school/college business. For example, if you have a state of the department meeting in the fall, present the intersectional demographic data of all programs. Create a semester-by-semester mechanism for surveying the students (in class or in focus groups) to ensure that all students have a sense of belonging in your department.
2. **Regularly track the DFW rates** of classes/professors (even after the grant period). This allows you to identify if curricular changes or faculty changes are impacting students from some intersectional identities more than others in negative/positive ways. Write this responsibility into someone’s job description and performance review (e.g., the head of advising, the associate chair, or even the department chair). Depending on the rates, take action via changes in the curriculum and/or course assignments.
3. Ensure you have a robust set of people who can teach in the **intro sequence** including tenured and tenure-track faculty members. Creating a uniform assessment practice over the intro sequence (same assignments/exams for all sections), can help ensure that every semester at least one member of the set of instructors for each class in the intro sequence has experience in teaching this class. In doing so, appoint one person to serve as the course leader/coordinator and ensure uniform quality of the experience for the students.
4. **Create bylaws to codify changes** (if you don’t have bylaws, consider doing so). There are several places that bylaws can be particularly helpful for BPC activities:
 - a. **For all core/required courses, create course charters to ensure consistent curriculum and assessment.** The gold standard is to standardize all forms of student assessment (assignments/exams) to ensure the students have the same experience and learnings. This helps the students AND the faculty upstream. One added benefit is that students can see any TA for the course – not just the TA for their section which enables a better student experience. Put a policy in place for either paying the lead instructor/course coordinator

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more money or to give them a partial/full teaching release based on your assessment of the additional workload. For courses with very large enrollments, consider hiring a permanent staff member to help the lead instructor and to manage all TA activities (e.g., office hours, grading and to monitor Discord/Piazza).

- b. **Ensure that broadening participation in computing (BPC) service is counted/rewarded.** Create a faculty BPC committee which counts for a faculty member's service, whereby each member of the committee has accountability to implement something. Give all leadership (assistant/associate chairs) a concrete BPC goal every year and make it part of their annual review.
 - c. Include BPC activities as part of **hiring, merit review, and tenure and promotion processes**. This is a place where dean buy-in can help. Make this a part of assessment with a reward/penalty structure in place.
 - d. Regularly assess all **student evaluations** to determine who, if anyone, needs to move off of the intro sequence. You can also identify if anyone needs more "mentoring" in order to create a more inclusive environment in the classroom. Make this a part of the administrative calendar (e.g., have a staff member read all of the student course evaluations and bring troublesome student comments to the chair).
5. Make CS0 or CS1 fulfill a **gen-ed requirement**. This requires a one-time set of actions to steward the application through university governance. Regularly track whether this class is leading non-computing majors to the major and assess the intersectional demographics and current major designations of enrolled students. Ensure that advisors in other colleges/departments understand that this class fulfills a gen-ed requirement (e.g., see point 7 below).
 6. For any intervention that requires on-going funding, make sure it is a permanent part of the department's budget. You do not want an intervention to cease because of lack of philanthropic support (e.g., if you were funded for an additional advisor or additional TA support, ensure that the dean picks this up on the regular department/college budget).
 7. Schedule **annual meetings with stakeholders** where job turnover is high (admissions, advisors in other units in addition to in the computing department). In general, create a BPC schedule for the chair's position so that when the chair turns over all is not lost. (e.g., every August the chair should meet with admissions and advisors to ensure consistent messaging).
 8. **Create the software and systems to centralize TA recruiting/hiring, training and evaluation.** Make sure this process is easy to continue if the staff person or faculty member whose responsibility it is to recruit and assign TAs leaves the university.