

The CLIMB Program for early PhD students at Northwestern University: Simultaneous improvements in diversity and purposeful design of research training

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The CLIMB (Collaborative Learning and Integrated Mentoring in the Biosciences) program is a professional development sequence that enhances the training of graduate students at Northwestern University. In this program, we work with students in five bioscience PhD programs, focusing on the first two critical years in graduate school. CLIMB started with funding primarily from an IMSD (Initiative to Maximize Student Development) grant from NIGMS, which was recently renewed. Since its inception in 2007, the CLIMB program has evolved and expanded in four critical areas that have contributed to its success.

First, one of the primary objectives of our program was to significantly increase the number of underrepresented minority (URM) graduate students in the five bioscience PhD programs at Northwestern. Toward this objective, our program director provided a workshop to faculty and administrators to help them understand our program goals, and to offer alternative criteria in admissions to predict the success of students from atypical backgrounds. Our collaborative efforts yielded a dramatic increase in the number of URM students entering the PhD programs. During the four years before the program's inception (2003-2006), an average of 10.5 URM students enrolled each year. However, in the first four years of CLIMB (2007-2010), an average of 16.2 URM students enrolled yearly, which is more than a 50 % increase. We will present an analysis of this remarkable increase.

Second, starting two years ago, the CLIMB program was opened to all beginning bioscience PhD students, whereas we had previously limited participation to only IMSD-funded students. This change was made in response to student feedback of their perception of a stigma associated with CLIMB, which is not uncommon in "minority" programs. After opening up our program, 12 and 27 additional students joined CLIMB in the past two years, respectively, on top of the six IMSD-funded students each year. Moreover, our study groups initially organized for IMSD students in a neuroscience core course were opened up this year, and all 35 neuroscience students voluntarily joined the study groups.

Third, our curriculum of workshops has been better aligned with the relevant needs of the students during their development as first and second year students. For example, the first quarter focuses almost exclusively upon their transition into PhD training, where we discuss the decision-making process for selecting research advisors, dealing with grad-level courses, excelling in new research experiences, and learning to communicate with different personality types. In the second year, the curriculum of writing workshops has been greatly improved with the addition of a communication specialist who has provided new tools for teaching scientific writing. The whole sequence of our workshops is posted on our website and will be presented.

Fourth, a vital aspect of CLIMB has been to provide safe environments so students feel free to ask a wide range of questions, and to take risks trying new skills and approaches to learning and communicating. This is particularly true for workshops, where students are not graded for their participation and which do not include faculty from the PhD programs. Because CLIMB is not housed in an academic department, and because our leaders are not faculty or administrators in the PhD programs, there is a valuable distance and independence for CLIMB. Students also feel comfortable confiding in us and soliciting suggestions for difficult situations they encounter in their academic programs.

In summary, CLIMB has evolved over the past four years to be strategically aligned with student needs as they progress in graduate school. We believe this has helped us to significantly expand the participation and impact among the graduate students and programs at Northwestern. Furthermore, this program has served as a field lab to apply and test the theoretical foundations and research being developed by others in our research team, which is described in other presentations.

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