

The Transfer Student Mentorship Program

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Program Overview

Inspiration

Transfer students to 4-year institutions represent a significant yet underserved portion of students in STEM disciplines. The unique challenges of transferring to a new collegiate institution are well documented; students often struggle to integrate both academically and socially due to a phenomenon known as “transfer shock”.^{1,2} Further, this effect is exacerbated in transfer students who declare a STEM major.³ In the UC Berkeley College of Chemistry (CoC), compared to non-transfer students, transfer students are less likely to find available positions in undergraduate research and less likely to favorably rate the environment of the CoC. Additionally, transfer students at the UC Berkeley College of Chemistry are more likely than freshman admits to be members of underrepresented groups in science as well as be first-generation college students. Inspired by our own knowledge as graduate students as to how essential undergraduate research can be in the track to a PhD and beyond, we were inspired to impart actionable change in our department to help transfer students find undergraduate research positions. We specifically turned to peer mentorship programs and intentional community-building efforts, as they have been shown to increase the retention of transfer students in STEM disciplines at other institutions.⁴

Mentorship

Mentorship is a key foundation in the TSMP. Each mentee is paired with a graduate student mentor, who provides them with personalized mentorship for each student’s unique interests, goals, and background. We expect our mentors to have 3 to 5 one-on-one meetings with their mentee throughout the fall semester, participate in two group seminars, and provide advice on areas including: applying for an undergraduate research position in a lab; what graduate school entails; exploring different fields of chemistry; and deciding what to pursue after graduation and how to get started preparing for these goals. We provided funding for all of our mentors.

Community

Community is an additional foundation in the TSMP. We aim to provide a place for all transfer students in the CoC to meet and thrive. In the TSMP, this takes the form of biweekly to monthly meetings, where we hold a seminar on topics such as finding a research position, finding research funding, and deciding on a career trajectory. We aim to help transfer students meet each other, senior transfer students, and grad students from different fields at these meetings so that they feel a part of the CoC community.

2020 cohort

In 2020, the first year of the program, we had 13 transfer student mentees, 3 transfer student mentors, and 10 graduate student mentors. Due to the COVID-19 pandemic, all meetings took place over zoom. Senior transfer students led the meetings, while graduate students helped design the seminars and program materials.

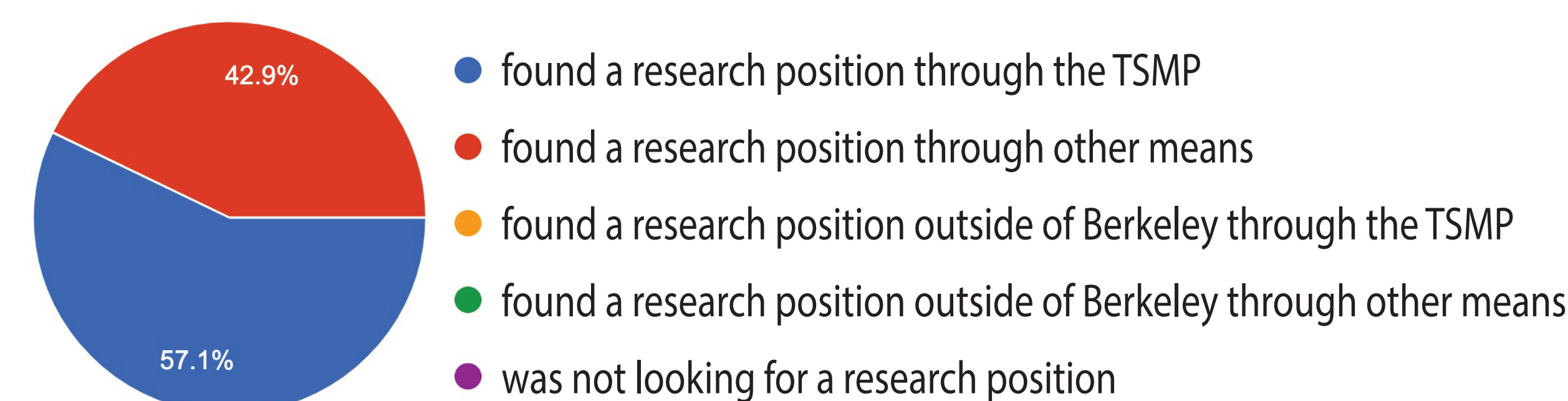
1. Townsend, B. K. “Feeling like a freshman again: The transfer student transition.” *New Dir High Educ*, 2008, 144, 69–77.
2. Scott, T. P.; Thigpin, S. S.; Bentz, A. O. “Transfer Learning Community: Overcoming Transfer Shock and Increasing Retention of Mathematics and Science Majors.” *J. Coll. Stud. Ret.* 2015, 19, 300-316.
D’Amico, M.M., Dika, S.L., Elling, T.W. et al. “Early Integration and Other Outcomes for Community College Transfer Students.” *Res High Educ*, 2014, 55, 370–399.
Scott, T. P.; Thigpin, S. S.; Bentz, A. O. “Transfer Learning Community: Overcoming Transfer Shock and Increasing Retention of Mathematics and Science Majors.” *J Coll Stud Ret*, 2017, 19, 300-316.

Incorporating Change

2020 Surveys

We surveyed both transfer students and mentors at the conclusion of the fall semester on the usefulness of the program and any concerns they had.

What was your biggest concern before starting at UC Berkeley?
“whether or not I would fit in”
“making friends and succeeding academically”
“the adjustment from community college to university given the online circumstances”
What was the most valuable part of the program to you?
“talking to the older graduate students”
“developing a strong connection with my graduate student mentor”
“it let me know that I am not alone when I struggle or fail, especially here at Cal”



Key Takeaways:

Students overwhelmingly appreciated one-on-one mentorship with a graduate student mentor. Most students rated the seminar on research groups as the most valuable topic for them. They appreciated the social aspect of the program and hoped there could be more informal gatherings in addition to the seminars. Mentors appreciated being able to help their mentees and the community the program provided, but hoped the program could become more formalized.

Changes:

With the transition from zoom only to in person, we had the opportunity to reformat the program to better align with what students said they wanted. We kept the main emphasis of the program on one-on-one mentorship, but changed the seminars to graduate-student-led. We introduced informal meeting opportunities by providing dinner for 30 minutes before the beginning of the seminars. Senior transfer students now assist more with program administration, including a lecturer, catering coordinator, communication coordinator, and website designer. We created a program-specific email and website to help formalize the program, and changed from one to two directors to help with program longevity. We also allowed senior transfer students to join the program to attend seminars, but without one-on-one mentorship.

2021 cohort

We saw massive interest in the TSMP in 2021. 34 junior and 9 senior transfer students in the CoC, including many chemical engineers, signed up for the program, and we hired 20 graduate student mentors. We also hired 4 senior transfer student mentors who had participated in the program during the previous year. While we had about 20 transfer students attend our initial meeting, attendance at seminars dropped off over the course of the semester. All but two junior transfer students had one-on-one meetings with their graduate student mentor.

Formal Study and Future Work

Study Design

We designed an IRB-approved, survey-based study to determine whether participation in our program helped transfer students find research positions, and increased the sense of belonging in the CoC for both transfer students and graduate student mentors in our program. Our assessment of sense of belonging included levels of agreement with statements and visual narratives, for which we drew heavily on work done by Dr. Chrissy Stachl and Prof. Anne Baranger to assess graduate students in an R1 STEM department.⁵ An example of one of the visual narratives used, which we also used in our survey, is



to the left. We are surveying graduate and transfer students in the TSMP and a control transfer student group that did not participate in the program both at the beginning and end of the program. While the study is ongoing, we hope it will help us understand how our program affects the search for research positions and sense of belonging in the CoC.

Future work

Our program changed greatly between its first and second years and we anticipate this trend to continue as we a) incorporate more feedback to better serve the transfer student population and b) work on efforts to formalize and integrate the program into the college in a manner that is more conducive to longevity than its current setup.

Current longevity plans are weakened by the fact that the program is entirely graduate student-led, thus leaving it unstable when current directors graduate and transfer the entire program to new directors. Our ideal plan to improve longevity would be either to a) incorporate our program into a formalized class, or b) hire a part-time administrator responsible for booking administrative aspects of the program/serving as a pillar between these transitory states. We have been working with Jade Fostvedt to incorporate the TSMP as a facet of a potential formal class offered to incoming transfer students with much of the same themes as our program.

Acknowledgements

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5. Stachl, C. N.; Baranger, A. M. Sense of Belonging within the Graduate Community of a Research-Focused STEM Department: Quantitative Assessment Using a Visual Narrative and Item Response Theory. *PLOS ONE* 2020, 15, e0233431.