

REU Mentoring Engagement: Contrasting Perceptions of Administrators and Faculty

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ABSTRACT

To examine perceptions of faculty mentors of undergraduate research and their supervisors, this work discusses the results of surveys administered after 3 years of a summer CS-focused REU Site program. One survey was completed by administrators of faculty research mentors—deans and chairs—and the other was completed by faculty mentors. The surveys indicated a disconnect between how the groups assessed undergraduate research mentoring as an indicator of faculty productivity, and overt vs. covert recognition of undergraduate mentoring. Additional topics explored the effectiveness of internal communication of program outcomes and ways to improve it, as well as post-program continued mentoring engagement linking to perceptions of long-term student benefits.

KEYWORDS

REU Site, administrator, faculty, surveys, institutional culture

1 EXTENDED ABSTRACT

We report on administrators' and faculty's responses to surveys completed after three years of an REU Site focused on computer science research with US undergraduate students. The participants (9 administrators including deans and department chairs and 10 faculty mentors) consented to this IRB-approved data collection.

Undergraduate mentoring recognition The surveys reveal a contrast in administrator vs. faculty perception of faculty productivity and undergraduate research mentoring engagement. A majority but not all faculty mentors recognized undergraduate mentoring as a sign of being productive, whereas all administrators affirmed that it was. We link this to a parallel observed contrast in the groups' responses about recognition for undergraduate research engagement. Faculty appeared to not feel recognized enough by their departments or colleges. Jointly, these results suggest a disconnect in institutional culture about the provision of covert vs. overt recognition of undergraduate research engagement. The issue is clearly above the program level since all except one faculty mentor reported that the REU Site organizers recognized them. Open-ended comments on institutional culture suggested that administrators recognized the benefits of this REU Site or REUs generally while some faculty had difficulty assessing institutional impact.

Communicating program outcomes Responses showed the faculty were aware of three outcomes that had been reported in internal university news. Two of these overlapped with outcomes that administrators were also aware of: (1) faculty mentors in the program came from multiple departments (providing cross-disciplinary mentoring), and (2) the program co-organized an interdisciplinary REU symposium focused on graduate study and research. Faculty mentors were more aware that the program engaged additional students in its activities, while their administrators were slightly more aware that internal news outlets were used to communicate the program. Around half of the faculty and the administrators knew about outcomes such as publications and REU alumni continuing to graduate study, while half of the faculty were aware that the Site selected highly diverse cohorts of students and focused on groups underrepresented in computer science.

Nonetheless, results also showed the need to be more assertive in communicating programmatic content and achievements such as that the program sought to prepare students to pursue grant writing for graduate study, engaged students in community outreach, and that the program attracted large applicant pools. Only one third or fewer faculty and administrators were aware about these outcomes. Many administrators were also unaware of the diverse cohorts. To improve communication effectiveness, college-level talks can be a means to disseminate information to both administrators and faculty. In addition, while PhD students may serve as near-peer mentors, talks about undergraduate research delivered to PhD students may prepare them as future undergraduate mentors and promote a mindset that does not undervalue this kind of professional engagement. In open-ended comments, faculty and administrators pointed, for example, to leveraging social media more, and one administrator suggested "[p]rovid[ing] department heads and deans of the faculty involved outcome and activity updates".

Student long-term outcomes Most mentors *strongly agreed* or *agreed* that the REU had positive long-term impact on students and 8 of 10 stayed in touch with their mentees; some for several years. Notably, mentors agreeing on the positive long-term impact on students remained in contact post-program in all cases except one. That the program strategically encouraged student-mentor teams to continue remote collaboration toward research dissemination of a refereed paper appeared to provide incentive to stay in touch. This interaction may have strengthened mentoring bonds broadly.

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