



## **Supplemental Materials**

**for**

### **How to Assess Your CURE: A Practical Guide for Instructors of Course-Based Undergraduate Research Experiences**

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## **Appendix 1: Faculty perceptions of student gains from participation in CUREs.**

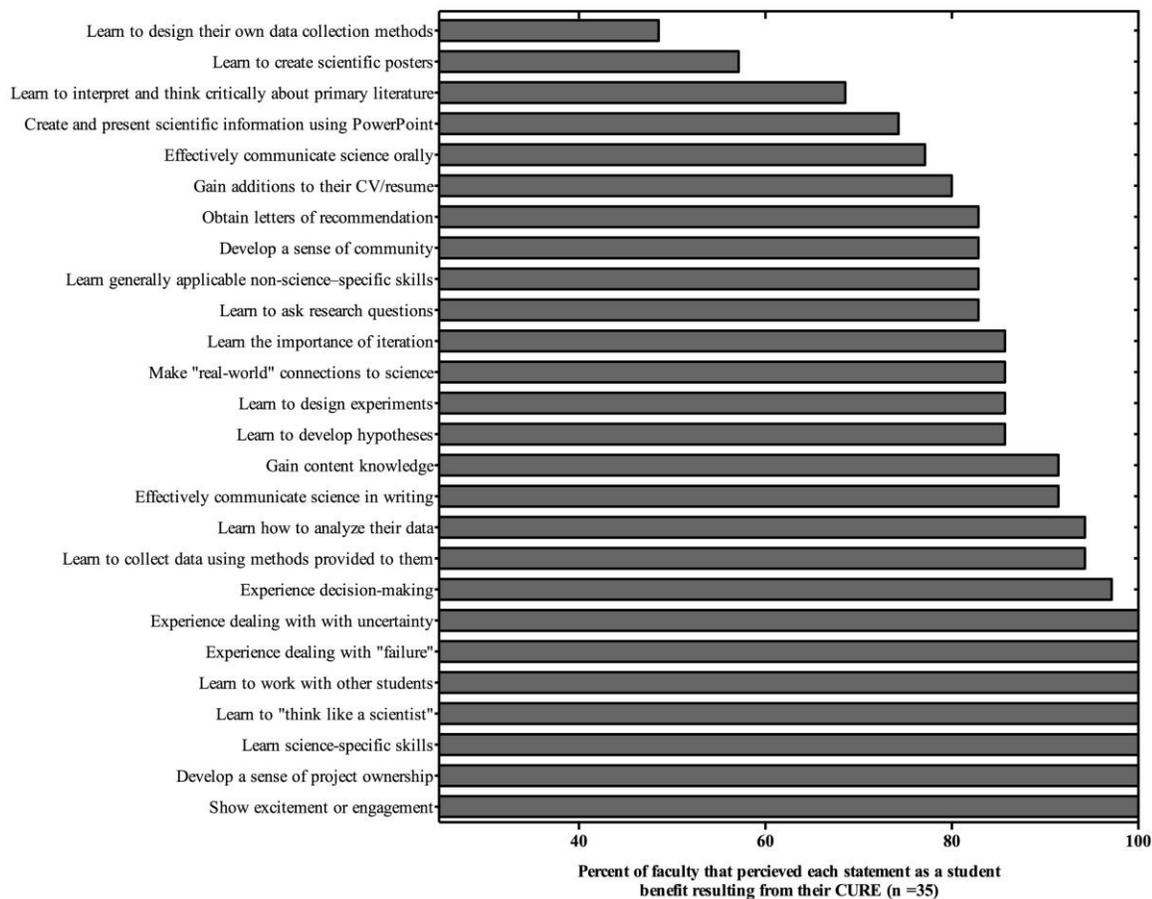
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We conducted follow-up phone surveys with faculty whom we had previously interviewed regarding their perspectives on developing and teaching CUREs. For details and results from the interview study please reference Shortlidge et al. 2016 (1). In the original interviews we asked faculty “What benefits do you think students gain from participating in CUREs?” We used grounded theory to code and bin perceived student benefits into thematic categories (Supplemental Material 3 in (1)). From these qualitative results, we derived a list of items that were cited as perceived student benefits resulting from CUREs (Figure 1).

For the survey cited here in the Perspectives document, we were interested in how many of these perceived gains would be acknowledged by faculty who teach CUREs as gains for their own students. Approximately two months after the initial interviews, we emailed the interview participants to invite them to a brief 5-10 minute follow-up phone survey. We emailed 45 participants, 35 of which (78%) agreed to participate. In the phone survey we read the list of pre-determined potential benefits or gains for students resulting from CUREs (Figure 1), and we asked participants to answer “yes” or “no” regarding whether they perceived that students made those particular gains from participating in the CURE that the faculty member had taught. Some participants expressed difficulty answering in a binary format, but we explained that we wanted them to try to answer regarding their perceptions of at least some of the students. Results are displayed in Supplemental Figure 1, organized by the least reported gain at the top to the perceived gains reported by every participant at the bottom.

It is important to note that these data represent faculty perceptions of student gains – not measured gains. A subset of the participants reported conducting formal assessments on various student gains in their CUREs and others reported using regular in-class assessment methods such as grading rubrics, while all participants reported using informal assessment methods such as observation. Some participants expressed dissatisfaction with either the instruments they used, or discussed generally not knowing how to assess their CUREs. This research was conducted with approval by the Arizona State University Internal Review Board, (Study#00001679).

**Figure 1. Faculty perceptions of student benefits from CUREs.** Each bar represents the percent of faculty that responded “yes” to the yes or no question regarding if they perceived that at least some or most of their students experienced each listed gain from participating in their course-based undergraduate research experience (CURE); N=35.



**Reference:**

**Shortlidge, E. E., Bangera, G., & Brownell, S. E.** (2016). Faculty perspectives on developing and teaching course-based undergraduate research experiences. *BioScience* 66(1): 54-62.