

Is the Treatment a CURE?

Next Steps for CURE Assessment

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Extended Abstract

Vision and Change highlights the importance of involving all undergraduate biology students in science research. Course-based Undergraduate Research Experiences (CUREs) can help accomplish this by involving all students enrolled in a lab course in addressing a research question. A handful of assessments of CUREs show that students realize many of the same outcomes from participating in CUREs as from participating in research internships. However, most CURE assessment has been limited to descriptive accounts and student reports of outcomes, such as their gains in science knowledge and skills. These accounts are useful in evaluating the efficacy of this instructional approach, but they have not been able to fully describe what makes CUREs distinct from other lab learning experiences. They also do not capture the variation in timing, focus, intent, and planned activities among CUREs. Knowledge of specific CURE activities and the variation in CURE instruction is essential to determine how and why this instructional strategy works. In October of 2013, an expert panel proposed that CUREs comprise five dimensions (Auchincloss et al., 2014). Specifically, CUREs (1) involve students in scientific processes, (2) provide students the opportunity to make discoveries, (3) involve students in work that has the potential for impact outside the classroom, (4) involve students in collaborative work, (5) and involve students in iterative processes. We have designed a survey aimed at measuring these hypothesized dimensions. Ultimately, we hope this survey will be useful to: (1) determine if a learning experience is a CURE, (2) distinguish CUREs from other lab learning experiences, (3) characterize the extent to which CUREs vary, and (4) connect particular CURE dimensions to student outcomes. We presented preliminary data from a study aimed at determining the validity and reliability of the survey as a measure of the five CURE dimensions and laboratory instruction in general. During the 2014/2015 school year, we will be seeking instructors of both CUREs and traditional lab courses who are willing to complete the survey and to help recruit their students to respond to a student version of the survey.

Literature Cited

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