PLO# 2: Experimental Investigation (Assessed 2011)

Student learning outcomes assessed:

- Students develop competence with current research methods, tools, and techniques (SLO #5)
- Students conduct their research with enthusiasm and commitment (SLO #1)

Assessment method

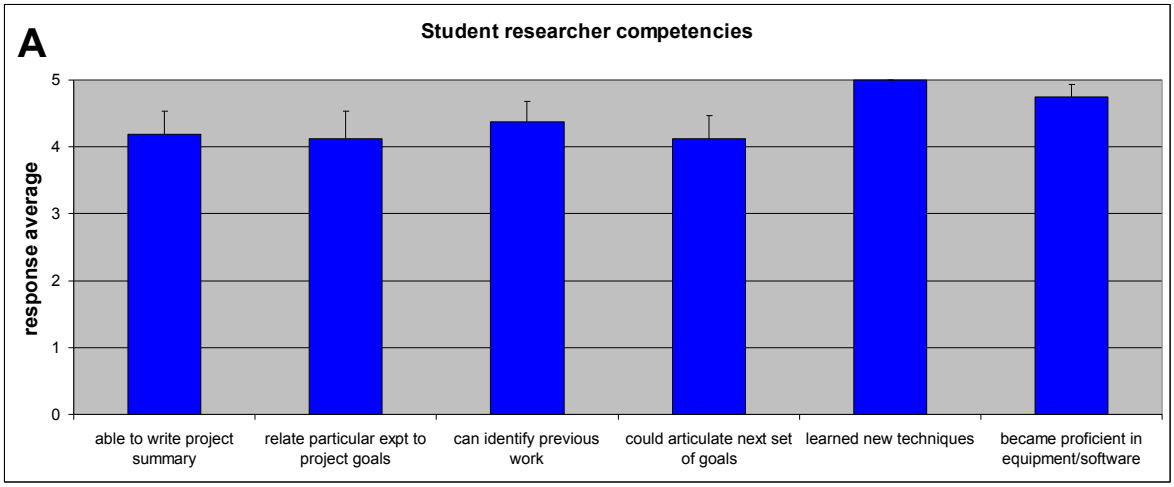
We asked nine Bio 198 and/or summer research students who worked during the summer of 2010 or the 2010-11 academic year to complete a survey evaluating their research experience. The survey was designed to get the students' perspective on their experience such that we could assess both outcomes. For each question, students were asked to respond on a scale of 1 (strongly disagree) to 5 (strongly agree).

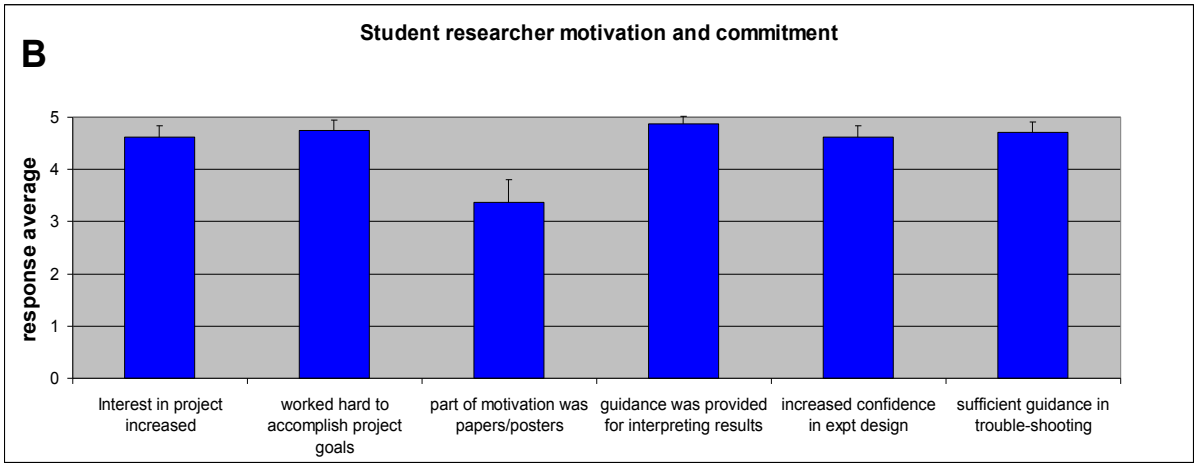
Benchmark

An average value of 4 or above in each category.

Results:

Eight out of nine students completed the survey (five male, three female). Three worked during the 10-week 2010 summer program, and all three continued working during the 2010-11 academic year (both semesters), with one completing a major honors project. The remaining five students worked during the 2010-11 academic year for either one semester (1 student) or both semesters (4 students).





- Overall, we are pleased with students' self-evaluation of their independent research experiences. The students report that their time in the lab is both practically meaningful and intellectually rewarding. We are encouraged to see that students are enthusiastic about, and committed to, their research, and are learning how to be successful in the laboratory with regard to becoming competent in experimental methodologies.
- Students rate their ability to actually do the lab work higher than they rate their ability to engage the theoretical or background components of their work
- Students did not agree that part of their motivation for independent research was that it would result in published papers or research posters

Closing the loop:

We will require that each of our summer research students do two things:

- submit a written report on how the primary literature that serves as the background information for their own project helps to frame the research question.
- construct a poster to be presented at the fall Research Symposium and give a summative lab meeting-type presentation with their research peers and faculty mentor in the audience