

November 2015

Baker/Koob Endowment Final report**SUSTAIN SLO undergraduate narrative research: Reenergizing learning
\$4190****Original abstract**

This proposal will allow four undergraduate students to present their research on transformative learning at an American Society for Engineering Education (ASEE) conference in Seattle in June 2015. These four students participated in SUSTAIN SLO, a community-based learning initiative, their freshman year at Cal Poly. SUSTAIN SLO is sponsored by the National Science Foundation to study aspects of change in higher education. As Part of SUSTAIN's research, 23 students who participated in the first generation of the initiative in 2012 were interviewed one year after their experience. During the summer of 2014, the four undergraduate students involved in this proposal partnered with Liz Schlemer, IME professor and co-PI of SUSTAIN, to qualitatively analyze these narratives to explore these two questions: 1) How is SUSTAIN different than the traditional course experience? And 2) How did SUSTAIN affect you? The funds requested in this proposal will cover the cost of plane tickets, hotel rooms, and conference registration fees.

Actual activities

The four students (Jada Golland, Elise Caldelaria, Philip Hathcher and Rachel Pittman) and Liz Schlemer, the faculty, traveled to Seattle for the conference in Seattle in June 2015. The students presented (see attached powerpoint) their paper (see attached paper). The presentation itself went very well. We also enjoyed the conference and exploring Seattle a little bit.

The experience of creating a multi-disciplinary research paper that we could share at an engineering education conference was a very satisfying endeavor. The students learned much about collaborative research, conferences, and presentations. We all worked on this project for more than a year. We analyzed the data, discussed theory, wrote the paper and developed a presentation. This team effort crossed college lines as there were students from CLA, CAFES, and CENG working on the project. We also worked on it in a way that is seldom available to undergrads. We edited it until it was nearly perfect, understanding a "C" quality paper would fly at a conference. We also worked on it beyond the boundaries of the quarter system. Here are some excerpts from the students regarding the experience.

- "I learned about my classmates more than when I knew them personally. I learned that assigning ourselves certain dates is important to keep on top of research deadlines. And I learned how to reassess the situation in a group in a loving way instead of having a punishment for not completing a task on time."
- "I learned how to qualitatively analyze data and be able to draw meaning and see patterns

from stories instead of just numbers. And I learned how to organize a collaborative research paper and the importance of keeping a holistic perspective when working with detail.”

- “In the process of doing this research, I learned that it is important to remember that our results are significant, even if they are not the results we expected to get. I realized that just because I got a lot out of SUSTAIN, other people did not necessary. I was surprised to find that some students had a negative experience in SUSTAIN, and due to my own biases, wanted to leave that collected data out of the the results. I learned the importance of interpreting all of the data, rather than focusing just on the data that I wanted to find.”
- “Through this research I have been able to deconstruct how my education, inside and outside the classroom, has been shaped by my participation in SUSTAIN. I have learned to separate my own emotions and beliefs from those of my peers. And most importantly, I have learned how to conduct qualitative research as an objective tool for understanding the subjective human experience.”

Thanks you again for the opportunity to take the students with me to this conference as a reward for their research activities.

Areas of improvement

Although it was so nice to have this grant for my students, the distribution of funds was very confusing. In fact, we didn't get the funds in time to purchase inexpensive fares. This caused the total cost of the trip to be over the grant amount which had to come out of my own professional development account. I hope next year the funds distribution will be more efficient.