

Community Engagement Fellows Project Report **Andy Klein AY2015-16**

I consider myself lucky to be part of an exciting new engineering program at Western, and I am hopeful that one day service learning and community engaged learning will become a regular part of the curriculum. Currently, due in part to the fact that engineering is a new program in the process of seeking accreditation, and due in part due to limited faculty resources, the electrical engineering curriculum admits only one path to graduation, and there are no electives. Since the departmental climate is currently not favorable for introducing new (arguably non-traditional) courses, or adding more content into existing courses which would require removing content deemed critical to accreditation, the community engaged learning opportunities that I am able to offer students are all in the form of “directed research” projects.

As such, I decided to focus my project on nurturing and expanding my existing networks, with the aim of being able to regularly advise a number of meaningful community engaged learning projects under the guise of “directed research”. I regularly refer to the *Ways to Engage* handout that Travis distributed during the first CE Fellows meetings, and the one item in particular that resonated with me was the importance of establishing a long-term, sustained relationship with community partners. In particular, I sought to expand my relationship with KVWV, a relatively new, non-profit, low-power community radio station being built in Bellingham. Make.Shift, the local DIY art and music venue downtown, is the umbrella organization that was granted a low power FM license to begin broadcasting at 94.9 MHz on the FM dial under the call-sign KVWV. Because I teach courses in radio design and implementation, the activities (and needs) of this community organization are very much in line with my teaching.

One of the short-term concerns of Bellingham Community Radio, as they are called, was installing and testing recently purchased radio transmitter gear at their transmitter site, which is located just a few blocks from campus. Over the past months, I advised a student project assisting with installation and test of transmitter gear. In addition, the project involved creating and leading a crowd-sourced project to test the broadcast radius, which required testing reception in various locations throughout Whatcom County. Overall the project was a success, and the student report is available here – <http://aspect.engr.wvu.edu/reports/wellmanKVWV.pdf>. Past student reports for projects conducted with KVWV have served as important references for the organization, and I am hopeful that the same will be true of this report.

In addition to advising this project and continuing my interaction with the station, my larger goal was to nurture my relationship with the general manager of the station to explore ways of making a longer-term commitment to one another so that we may continue to regularly interact in the future.

In the mean time, a rather large rift emerged between the KVWV station volunteers (including the station manager) and the umbrella organization (Make.Shift) for various reasons that are unimportant to the present report. But, this was certainly a lesson in how circumstances beyond one's control within community organizations can have a drastic effect on projects. In any case, the energetic station manager – my primary contact – was let go, the transmission equipment was locked away, and the two groups were barely on speaking terms for a period.

I immediately thought that my CE Fellows project – and my hopes of establishing a long-term interaction with KVWV – were now gone, or at least back to square one. But, as the air cooled, and as the two organizations realized the necessity of working together, I was invited to serve on the Board of Directors at Make.Shift, as the KVWV liaison. While it is quite unfortunate that KVWV and Make.Shift have gone through these struggles, the chance to interact with them as a member of the board is a massive silver lining that I could have never predicted at the start of the project. For me, this whole experience emphasized the importance of having multiple contacts within community organizations... and of being able to tolerate chaos in the path to cultivating a sustained relationship.

Another informal part of my project, I suppose, has been to take small steps toward finding a way to include community engaged learning as a regular part of the engineering curriculum. The reasons for this are many. For example, community engaged learning projects clearly do much toward meeting the requirements for accreditation, and in particular would help the engineering program better meet required student learning outcomes such as "the ability to function on multidisciplinary teams" and "understanding the impact of engineering solutions in a global and societal context." In addition, engineering programs with a clear societal benefit have been shown to increase the number of underrepresented minorities (particularly women) that enter the major. Since our electrical engineering program is comprised of just 3.5% women over the most recent 4 classes of students – less than one third of the already low national average – a curriculum incorporating community engaged learning would seem to be a possible avenue for improving the diversity of the students in the major. To increase awareness and plant seeds, I talk casually about community engaged learning with my colleagues little by little, and serve as an advocate for its many benefits. I have been fortunate to be part of a conversation on campus about the possibility of bringing EPICS-style projects (service learning projects with an engineering component started at Purdue) to campus, and I expect that this conversation will continue. I hope that, as our engineering program evolves and matures, community engaged learning will be recognized as an important part of a curriculum that trains engineers to address the global challenges of tomorrow.