

GIFTS: Working with Local Retirement Communities for Freshman Design Experiences

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Authenticity [1] is a goal for many instructors when developing design experiences for first year engineering students. Some of the perception of authenticity comes through the clients, either real or imagined, with real clients having an understandable advantage in this perception. For this reason, many institutions pull in industry partners looking to solve real world problems. However, for smaller classes of first year students, it can be difficult to draw in industry partners. In such cases, instructors may instead look to service learning opportunities [2], partnering with local community members as clients. In this paper, the author discusses one such partnership and takes a five-year retrospective look at the projects and the process used from the instructor and community partner perspective.

The author teaches a small first year design class typically with 15-25 students. The community partner is a local retirement community, with the Activities Director at this facility serving as the primary contact. Every year, the retirement community staff pull together ideas and work with the instructor to ensure an appropriate scope and level of complexity for several potential projects. The project ideas typically involve residents with specific physical or mental limitations requiring a customized accommodation of some sort. Though some projects may have usefulness beyond one resident, there is always a specific resident assigned to be the client for each project.

In general, the partnership has been a positive experience for both the instructor and retirement community, a “win-win” in the words of the Activities Director. From the perspective of the instructor, the partnership offers real world clients for the design projects. In general, the projects do not require in depth mathematical modeling skills, which the students have not yet developed, but the projects do force students to think about the client limitations and needs, which are very different from their own limitations and needs. From the retirement community perspective, the project offers customized projects where budgets can be tight. Furthermore, the project serves as a positive intergeneration experience for the students and residents. Communication and planning are key in coordinating student and client meetings, but flexibility is also required as illness or the weather can change plans quickly. Additionally, there are many federal regulations surrounding devices in the retirement community, but with some help spotting any potential problems from the staff, this only serves to add to the authenticity of the whole process.

In the end, I encourage instructors looking for authentic design experiences to reach out to local retirement communities, and the Activities Director on the retirement community staff side of things encourages others in her position to jump in or even reach out to local engineering programs to get similar partnerships started.

References:

- [1] J. Strobel, J. Wang, N. R. Weber, and M. Dyehouse, “The role of authenticity in design-based learning environments: The case of engineering education,” *Computers and Education*, vol 64 pp. 143-152 May. 2013.
- [2] E. Tsang *Projects that Matter: Concepts and Models for Service-Learning in Engineering* Sterling, VA: Stylus Publishing, 1999