



LIBERAL ARTS

Developing Transdisciplinary Projects: Addressing Grand Challenges by Partnering Anthropologists and Engineers

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Liberal arts and engineering are often perceived as opposing forces, a misconception that continues in the workforce. Anthropologists, for example, are brought in when development projects fail to try to salvage the project or, more often, to conduct project postmortems. In this experiment, a team participated in a 500-level anthropology class designed to teach engineers and anthropologists with an interest in international development what to do with previously received skills and training. On a superficial level, they were learning how to write a project proposal. On a more complex level, however, they were learning how to think cooperatively and in transdisciplinary ways. Anthropology and engineering students were assigned to gender- and major-balanced groups by the professor, who then assigned weekly deadlines for different components of a development project proposal. Lectures conveyed different ways of modeling information and information needs, while weekly meetings outside of class and collaborative online tools enabled regular communication. Throughout the semester, the researchers' group became a team with the ability to develop ideas that transcended their disciplines' limitations.

The team experienced moderate to high intellectual conflict but low interpersonal conflict. They debated ideas rigorously and typically reached a consensus that

satisfied all parties without creating acrimony. With the anthropologists' influence, a more interesting proposal was created. The team developed a water project that empowers Haitians to build their own filtration systems and disseminate knowledge to their neighbors, rather than treating participants as passive recipients.

The positive experience the researchers had as participant observers can be extended to other areas of campus with both research and education. First, the class could be offered as a seminar or activity for engineering and anthropology professional associations. Second, it would be helpful to enact these projects in real life; for example, introducing more social scientists who already do similar work into groups. Third, proposal authorship is common, but it would be helpful to develop a similar program that entails changing work groups or handing off projects to other groups post-development, which would be more typical of the work environment. Finally, the greatest benefits to introducing social scientists to international development projects lie in introducing social scientists to the processes early. The anthropologists contributed most at the beginning of the project; retroactive changes would have been less effective and more likely to lead to intergroup conflict.

Research mentor Riall Nolan writes, "Disciplines are windows to the world. Combining disciplines gives us a bigger—and better—window. Putting anthropology together with engineering, and using them to improve the design of development projects, proved both exciting and insightful for all of us, as Zoe and Rachel make clear in this summary."

Hayes, Z., & Marshall, R. (2013). Developing transdisciplinary projects: Addressing grand challenges by partnering anthropologists and engineers. *Journal of Purdue Undergraduate Research*, 3, 97-98.
<http://dx.doi.org/10.5703/1288284315174>