Personal Essay

Brock Spencer – Beloit College

My academic generation grew up with issues of population, resources, and the environment, which strongly influenced my developing interdisciplinary interests. Within my discipline, my physical chemistry course included a detour into entropy as applied to resources and the economic process, while our NSF-funded ChemLinks project produced topical modules that make it possible to build a general chemistry course around themes like global climate change, air pollution, acid rain, energy-efficient lighting, and fats in our diet. As we developed our program of First Year Seminars, mine dealt with food or water on a personal to global scale. My early courses for what eventually became an interdisciplinary Environmental Studies Major included The Challenge of Global Change and Science and Environmental Policy.

Always one to use my courses to educate myself, my more recent work has focused on buildings. We were planning a new science building, knew that we wanted it to be environmentally friendly, but had little idea what that meant in practice. Fortunately, our early planning coincided with the growing prominence of the U.S. Green Building Council and its Leadership in Energy and Environmental Design (LEED) certification process. As the "Project Shepherd" for the new building, I taught a course on Sustainable Buildings in which groups of students became the experts on particular aspects of LEED, made their projections of what points our developing building plans would likely garner (Silver), and compared their estimates with those of the architects (also Silver). The students then went on to apply what they had learned to make suggestions for other campus projects underway, such as new townhouses being constructed. What had been a focus on larger issues and global implications in my earlier courses had now become a much more local and action-oriented engagement for my students.

As we moved into the new Center for the Sciences in the fall of 2008, I team-taught a course, Buildings as Teachers, with the person who was riding herd on the final submission of all the documentation for LEED certification. Groups of students developed materials to interpret the green features of the building to the public, producing displays interpreting the materials used in the building, analyzing the green housekeeping initiative with data from interviews with the housekeepers, making posters on less easily seen aspects such as energy or water conservation, providing an outline for the student guides for admissions tours, and designing and producing a brochure for a self-guided tour of the green features of the building. The course structure was not only more action-oriented, but also had tangible products that are still being used two years later.

This past fall, we learned that the Center for the Sciences had eared LEED Platinum certification, as well as awards for architectural design and for construction.

This past semester I taught a course on Sustainable Research, which again had groups of students working on specific projects with a tangible result. I had hoped to lay the groundwork for on-going campus data collection to support sustainability efforts and was successful in engaging other faculty (e.g. having our students "hire" students from the Finance class to do the cost-benefit analysis on projects, having the instructor for Environmental Psychology meet with

us) and staff (Physical Plant, Housekeeping) who worked directly with many of the students. The students also gained some direct familiarity with local recycling, water, and power facilities to provide a context beyond the campus. Some projects will have on-going impact (e.g. a scheme for energy audits and upgrades for college-owned houses), while others ended up being useful proposals to implement particular one-time projects without any long-term impact.

Coming from student responses to these and other recent courses, we are now facing an interesting question. Students clearly learn from and appreciate the specific, action-oriented, practical projects that they have done. They find the project approach engaging, find the fact that they may have a direct impact on the campus satisfying, and believe that they have learned useful and directly applicable skills. But they wonder whether they have missed seeing the larger picture. They appreciate that they may have made a difference, but recognize that individuals doing the right thing will not necessarily add up to what needs to be done, given the scope of the problems we are confronting. They have a nagging sense that the real impact is likely to come from moving policy and institutions rather than just motivating individuals. It's a useful question, which brings me back to my earlier big-picture courses. How do we accomplish both the particular and the general successfully with the current generation of students?