

Teaching Sustainability: The Case of the Incredible Shrinking Professor

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Teaching sustainability, it seems to me, is different than many of the topics we teach at a university. Unlike biology, say, which creates biologists, or planning which creates planners, there is not profession of ‘sustainer.’ As David Orr notes, achieving sustainability in the postmodern world will require an “active, competent citizenry,” (1992, p. 30), demonstrating “civic virtue, a high degree of ecological literacy, and ecological competence throughout the population” (1992, p. 31). The pedagogic goal is to encourage a world view, one in which students will become citizen activists for sustainability after they graduate, whether in the civic sphere or by bringing sustainability criteria to bear on their work. Because sustainability is very complex, these citizens need to be able to acknowledge the insufficiency of what they will know and not be paralyzed by that. Instead, they will need to turn to others to form groups of inquirers who can research multiple aspects a question, and together have a chance of seeing a broader picture of the complex designs of the world and the opportunities for sustainability. Sustainability will only be achieved through communities of learners and activists, and this is what a curriculum in sustainability must model. Empowerment cannot be only an academic concept described in the class, but must be also experienced by the students within the class. Only by making teaching approaches consistent and coherent with teaching substance on this topic will we create the communities and citizens we need for the future.

I have taught a course entitled *Sustainable Communities* once a year for six years. The course has been taught as a collaboration with a former colleague, Rob Thompson, and as a sole instructor course; taught primarily as a lecture series, and more recently as a regular seminar; taught to undergraduates and graduate students; taught primarily to planning students, and taught to primarily environmental studies students. I have tried out a variety of books, and varied the ratios of lecture to in-class exercises and discussion, over time moving further and further from lecture-based content. The course has sometimes utilized regular research reports for students to further investigate one topic of their own choosing, and sometimes had the whole class work together on a campus greening project. Clearly, I have struggled and experimented with the course over its life. While these variations certainly are not 'efficient' in terms of class preparation time, they do give me a better base from which to write this paper, and have kept the course overall fresh for me each year.

The one thing that has stayed steady over the years is the focus of the class. The goal of my particular course is to give students a chance to investigate ways to integrate sustainability into the structure of the built environment, and introduce ways to undertake community development that are alternatives to market driven economic development. The focus of the course is on actions that can take place at the site, community and regional scale, rather than national or international policies, although one cannot effectively address the local without some discussion of the national and the global. But I am convinced of the value of focusing student discussion on local activities, because these are often implementable, and because it is at the local level that most people are actually involved and where they typically can make the most difference. My goal with this course is to graduate citizens who recognize the applicability and importance of sustainability criteria in a wide range of settings, whether as volunteers or within their employment, and feel empowered to begin to address those. It is developing ways of viewing the world, rather than accumulating quickly forgotten facts and theories, although certainly some of this learning goes on.

Let me make this more concrete by describing the general principles which underlay my particular take on sustainability and which are introduced in the first few weeks of the course. Most students enter the course having been raised on a steady diet

of television nature shows describing human devastation to the tropics, science projects on what goes into landfills, bad news about global warming. As a result I spend little time preaching to the choir about global environmental degradation. What is less obvious to most students is that there cannot be just environmental solutions; that sustainability is a three-legged stool, which also requires improvements to economy and equity to allow fundamental changes in the world. Thus, the three-e approach is central to all inquiries, and even as we talk about solar energy, for instance, we think about how it can be more accessible to those with less resources, how it can be made in ways perhaps less dependent on traditional profit motives and more based in the community, but still improving lives. Throughout the course, as we discuss alternative building techniques, infrastructural technologies, and social structures, we try to find the ‘holy grail’--those that achieve the nexus of the three e’s, policies that improve equity, ecology, and economy all at the same time. This accords well with what Orr (1992, p. 39) calls the epistemology of sustainability, which centers on interrelatedness—the connections between viewer and viewed, indigenous and colonial, air and water, human and nature.

The second key point that must be made early is a contested point. I present the idea that sustainability is not about individual life styles. I personally am not interested in persuading students to recycle; I am interested in getting them to identify what will have to change so that everyone recycles, or better yet, so that businesses make less trash in the first place. The course may incidentally change students’ individual choices, and that is great. When I compost, for instance, it is not for the joy of composting, but out of a desire to live coherently and not be hypocritical; the course tends to keep me honest and keep sustainability in the forefront of my mind. I hope it does the same for the students. But I am personally not sanguine that as a society we will get the majority of people to do things that are less convenient or more expensive on a daily basis over the long haul just because those actions are more ecological or socially beneficial. Instead, doing the right thing needs to become easy and the wrong thing hard; we need to build into our physical structures and delivery mechanisms resource efficiency, social and distributional equity, and prevention of ecological harm. In many ways I see this as prerequisite for changing the underlying values of the average citizen—only by doing the right thing will people learn the value of the right thing. I acknowledge that this creates a political circle.

Without widely held values that support sustainability, how can we force sustainability onto the political agenda? Without experience of the values of sustainable policies, how can we get citizens to prefer them? I am glad that I need not resolve these dilemmas to teach the course, or to take action. My job, as I see it, is to assist in widening awareness of the values of sustainability and the existing and (re)emerging technologies that help us in that direction. From there, it is our future leaders, our students, who must develop those alternatives, publicize them, and get them to become standard rather than alternative.

A key point for the course is that this enstructuration approach removes a certain piety from discussions; it is not about 'greener than thou,' and I tell students this right up front. I admit to my own failings, to having bought disposable diapers at Wal-Mart. That always appears to be comforting to the 'less evolved' in the class, whom are, after all, in some ways more important to reach than the already converted, and minimizes moralizing and judgments that I prefer not enter the classroom. Similarly, when we are talking policy, sometimes we judge policy benefits by whether they would convince the Sopranos of television fame, or my mother, as examples of those whom policies have to persuade to do the right thing. This has a way of keeping the course real, although it makes policy design that much harder.

At a certain level, once these principles are clear, my main role in the class is done. The rest of the course becomes interesting iterations of examining policies and designs to implement these key principles (enstructuration and the three-e's). The challenge in the course design then becomes to find our way through the variety of technologies and approaches that could be included under the rubric of sustainable communities. These can and have ranged from power sources to building materials to neighborhood and city design, from household economies to community supported agriculture and community gardens to the consequences of genetically modified crops on organic agriculture to the implications for butterflies and Nigerian farmers of Monsanto's policies. We can discuss organizing for campus change, for civic change, for opposing the World Trade Organization, or for creating community food banks and alternative currencies. We can discuss the connections between corporate manufacturing decisions and municipal solid waste, and William McDonough's efforts to create safe, recyclable

materials, for instance, and the principles of waste reduction. We could talk about how power is generated, and the relative benefits of being on the national grid or off of it. You see the problem—the issues that local sustainability brings up are so broad, so interconnected, so interesting, that it is quite difficult to place boundaries on the topic. It is this very breadth that has structured my pedagogic response—the incredible shrinking professor.

The implementation of sustainability principles in the world covers such a breadth of material that certainly I, as a limited human being, cannot profess expertise over much of it. Yet, I am loathe to tell students that we will discuss only these certain aspects of sustainability because that is all I can say I really know, when there is this whole relevant universe out there that the students are often more interested in than my particular area of city planning. Were there a curriculum on sustainability, the problem might be addressed. But there are few courses where that is the main topic, although certainly in many courses ecological and social innovations come up. Facing the limits of my knowledge has been a humbling, but also lightening, experience. My response has been to structure the course so that students can follow their own interests and learn from each other.

Let us return for a moment to how our university graduates may be implementing sustainability. Will any individual have sufficient knowledge or political power to determine appropriate policies, particularly as citizen activists? No, clearly not. Instead, the way policies change and in particular the way sustainability will get built into existing practices is by citizens working together, researching new topics and learning from each other. Implementing sustainability at the local level will require citizen learning communities, empowered to explore alternatives, learn from each other, and press for implementation of new approaches. Will these citizens have a professor telling them what to do, what to know, what to read? Again, obviously not. Given this, it is unclear to me why we should model that experience in the classroom when it so clearly will not be the conditions of their lives. Classic instructional style may make sense where there is a clear body of knowledge that builds into a relatively coherent whole, but sustainability

studies are not that. So alternative learning models that facilitate development of shared learning appear necessary.¹

Within the course, there are several methods I have used to develop rapport and empowerment among students. First is having students lead particular class readings. I have assigned discussion leadership for general readings and for particular case studies, and find the case studies to clearly and positively contribute to the development of a participatory class culture. Having students lead regular course readings is less clear, as students are often presenting information they are not all that comfortable with, and as a result the presentations are not routinely successful. Not surprisingly, students seem to prefer to lead discussions that focus on why a group did something and its outcomes, rather than a lecture on, say, alternative economies. Even within the case studies, I have found it helpful to clearly identify the key questions I hope each discussion leader will address. An example for this is the book *Ecology of Hope*² that describes various resource-based communities and their efforts to use community organization to regain or retain control over their natural/economic resources. This book was quite popular for its focus on what is actually being done now, and students seemed pleased to present these cases, although it needs to be supplemented with urban material to appeal to a broad spectrum of students and likely future work.

Another approach I have used is to align students into reading groups. I assign groups of three or four students who share a general interest, and they are supposed to help each other with writing their papers. I assign dates that drafts are due to the students within the reading group, and days when comments are due back, and only after that does the paper go to me. The response to this varies a great deal by the particular personality of the students, and for some groups has worked very well and for others created just a empty exercise. For motivated groups of graduate students, this approach seemed quite successful, and having them help each other with papers changed the sense of a competitive classroom into a cooperative one. At the end of the semester, I give students

¹ The approach I describe here has clear resonance with learning communities and shares many assumptions and goals with that. However, learning communities are usually understood to be residential or at least to flow through coherent curriculum (Shapiro and Levine, 1999), and my single class does not achieve that. Still, creating residentially based communities of learning based on a shared interest in sustainability could be a very powerful technique, much more so than my one class.

² citation

a chance to rate each other regarding the helpfulness of comments received from team members, so that there is some grade incentive to participate. To encourage students to take this seriously, I allot a small percent of the grade for this.

To facilitate research skills and provide students with experience investigating a topic on which they often know very, very little, I also assign a research paper. The students choose the topic, although often I bring in a list of topics from previous years plus things I have been wondering about. One student in the class thereby becomes the class expert on solar heating for homes, another the expert on community gardens for immigrant neighborhoods, while a third can tell us about community currencies. As discussion progresses, students can contribute from their new area of expertise. A risk is that these topics can feel scattershot and unrelated. To address this I group the presentations into shared themes. This year I plan to try choosing one broad topic, say coastal communities, and then have students select research topics and case studies relevant to that.

The first set of techniques I described develops a sense of community, and the second set develops empowerment to learn through research. A third key principle is that of engagement. For this, the approach I have used is a project to green the campus. Work at the campus level has several advantages. It is the area the students know best, particularly the undergraduates, and are the most invested in. It is also a big, complex institutional environment and gives students a taste of how difficult the real world can be. But, administrations can be responsive to students in ways that are difficult to mirror in some external community of which the students are not members. While I was at Iowa State University, students gathered baseline indicators for what we hoped would provide guidance for projects in subsequent years (I subsequently left that university so that effort did not directly continue). At UMass, students chose instead to undertake specific projects such as researching how to increase recycling in the dorms and how to better include alternative transportation in the campus plan. In all cases I let students discuss what project they want to undertake for the campus greening, vote if consensus is taking too long, and overall they must provide their own direction. This is part of the discipline of empowering students—I would have preferred that last year's students do an indicators project, but there was not support among the class members for that, so I had to live out

my principles and shut up. In retrospect, the indicators project was a much better way to start, and I may step in this year and insist on this as the year's project.

Ideally, each class lays a foundation that the next class can build on, so that over the years there is sufficient follow-up and depth to actuate real campus change. Doing a campus greening project well requires great dedication on the part of the instructor, as many people spread throughout the university system have to be contacted, such as operations and procurement departments, power and water plants, etc., to develop an understanding of how a university operates and what is the current status. But, doing it well has the potential to combine all the various desired characteristics, of community, empowerment, and engagement, and can create long-term change. And of the methods I have used in the class, this one, with its opportunity for actually changing the world, means the most to students. This sort of engaged service work, assuming sufficient support by the university or the department for the instructor to succeed, is central to really optimizing a course based on sustainability principles.

I should say that while this overall pedagogy has been well received by many students, for others it is quite annoying. For example, in a recent evaluation a student identified himself³ as a 'consumer' of classes and suggested that if students could get refunds, he would ask for it, since the professor did not contribute substantially to his knowledge (i.e. accumulation of facts). Indeed, a student looking for what Donald Finkel (2000) calls "The Great Teacher," one who lectures authoritatively and engagingly, will be dissatisfied, and this does constitute a certain percentage of the students that take the class. In the first day of the class, I describe the pedagogy of the course with a goal of dissuading this sort of student from remaining in the course, but nevertheless regrets sometimes occur. Fortunately, for a larger percentage of the students, the pedagogy seems to work, and evaluations have suggested over and over again that students value having had discussion opportunities, and while experiencing occasional frustration when peers do a poor job of leading learning, nevertheless most students support the course design.

The premise of this paper has been simple. The pedagogy of teaching sustainability needs to cohere with the principles of the topic. Students must take control

³ Technically I am not sure it was a he, but the language choices appeared to be gendered male.

of the class, just as in life they will have to take control of their communities and workplaces. This suggests that the role of the instructor is large at the beginning of the course in setting frames of inquiry and readings, identifying appropriate styles of discussion and comments that don't connect to the courses themes, assuring contributions by the shyer members of the class. But, as students master these ideas and skills and the course progresses, the sign of success is how often the professor can keep her or his mouth shut, to borrow Finkel's (2000) phrase. In sustainability studies, the professor should over time shrink from expert to revered member of the inquiring community.

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