“INTEGRATING SUSTAINABILITY INTO HIGHER EDUCATION AT ILLINOIS WESLEYAN UNIVERSITY”

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ABSTRACT: In May 2006, Illinois Wesleyan University hosted a three-day workshop on “Integrating Environmental Sustainability into Education at IWU” for university faculty, staff and administrators who were not normally engaged in environmental work on campus. The workshop was designed to promote sustainability thinking at an institutional level, and strove to show how sustainability thinking could be applied across the curriculum and university operations, and not simply in environmental studies: more than 40 members of the IWU community participated in the workshop, including 22 faculty members representing fifteen academic departments. The keynote address and ensuing discussions put forth the idea that sustainability is about much more than protecting the environment; it is about understanding the linkages between economic wellbeing, social justice, and environmental and human health; it is about applying systems thinking to our everyday campus practices and teaching pedagogies across the curriculum; and it is about “making the invisible visible.” Articulating sustainability thinking around these three themes had powerful results—participants were inspired to take action in ways that simply talking about the immediate environmental impacts of campus actions had not. As part of the workshop, participants were encouraged to identify and develop their own “sustainability project” for inclusion in a course or a campus program for which they were responsible. In total 19 project proposals were submitted.

In this presentation, we briefly summarize the workshop approach, describing workshop events and themes, preparatory work, and post-workshop evaluations and activities. We then present three model projects that faculty and staff developed as a result of this workshop, including two innovative projects which revamped existing classes in mathematical modeling and psychology to incorporate sustainability themes, and a campus project in the admissions office offset carbon emissions from mileage accrued while recruiting students.

Keywords: sustainability, higher education, green tabs

Why Host a Sustainability Workshop?

In May 2006, Illinois Wesleyan University held its first workshop on “Integrating Sustainability into Higher Education at IWU” or as we came to call it “The Sustainability Workshop.” The workshop was designed to promote sustainability thinking at an institutional level and was aimed specifically at University faculty, staff and administrators not involved in the Environmental Studies program or campus greening efforts. The decision to host such a workshop came out of 1) growing concerns on the part of ES faculty about the inability within the present IWU academic model to educate all university students with knowledge of pressing sustainability issues, and 2) frustration on the part of those involved with campus greening efforts with the slow movement toward integrating sustainability thinking into university operations.

Talks with colleagues such as Jim Elgin at Ball State and Rose McKenney at Pacific Lutheran University about their experiences running sustainability-type workshops, as well as the success of the Ponderosa (Arizona State University) and Piedmont (Emory University) Projects on their home campuses, convinced us that hosting a sustainability workshop could help us address these concerns. We concluded that ignorance was a key factor impeding the institutionalization of our campus sustainability efforts. There needed to be a certain level of understanding of the significance of sustainability across all parts of campus and among all constituencies if a sustainability approach was to define campus practices and if all IWU students were to graduate prepared to engage in a world grappling with serious challenges to sustainability.
Pre-Workshop Considerations

Several educational and logistical goals guided how we framed the workshop. Epistemologically, we wanted to heighten commitment to sustainability by developing participants’ 1) ‘sense of place’ within the central Illinois landscape, 2) understanding of the relationships within and between biological, geophysical, and social systems, and 3) awareness of the linkages between local actions and global/regional impacts. Pedagogically, we wanted to engage workshop participants in active learning. And, pragmatically, we wanted to present material in a way which would attract faculty, staff and administrators to voluntarily participate in our workshop after a long academic year. To this end, we wanted the program to be of direct benefit to participant’s own work and to be fun. We reasoned that it was important for participants not to feel lectured to by their peers, but yet to have an opportunity to learn from their peers. And we agreed that bringing in an outside expert to offer a keynote speech and help facilitate the workshop would raise the workshop’s visibility and prestige.

We settled on a two and a half-day workshop format, designed around two days of lectures, break-out discussion sessions, and experiential site visits, and concluding with a morning canoe trip to relax in central Illinois vistas and process the events of the previous few days. The workshop itself would model sustainability practices through choices of meal and refreshment ingredients as well as use of cutlery, paper, and other office products.

With the details of the workshop fleshed out, we approached the Director of the Andrew W. Mellon Center for Faculty and Curriculum Development and the Offices of the President and Provost with the request that they jointly sponsor this workshop. In this way, the workshop was not viewed as something related to the Environmental Studies Program, but to the campus as a whole, and the imprimatur of the President encouraged representatives from across campus—faculty, staff, and administration—to come together.

We publicized the workshop via email and through brochures sent to department chairpersons and members of the cabinet, inviting faculty, administrators and staff to attend to:

1. learn about the concept of sustainability, the current campus sustainability footprint and important sustainability issues facing the local and global communities;
2. discuss how sustainability goals can and should fit into university practices, individual course designs and the broader IWU curriculum;
3. design individual "sustainability projects," which each participant will put into practice over the next year as a contribution to larger campus sustainability efforts; and
4. devise ideas and proposals for future university programs and initiatives related to sustainability.

In addition, since we wanted to make sure that a broad sweep of campus departments attended the workshop, we made a list of individuals to personally invite and went door-to-door, or made direct phone calls, to these individuals explaining how beneficial their participation in the workshop would be to the campus as a whole and what they might personally gain from participation. This latter method of solicitation proved very successful in garnering the broad range of participation we sought.

The Workshop

Interest in participating in the Sustainability Workshop exceeded our expectations. More than 40 members of the IWU community chose to participate (twice the number we had hoped for). This included 22 faculty members (out of a faculty of 170) representing fifteen academic departments and six staff members who participated in the entire conference, as well as various faculty, staff, and administrators (including the president, vice president for finance, and provost) who came to parts of the workshop. Discussion sessions were lively. And in the end twenty workshop participants went on to develop sustainability projects.

The opening keynote address set the tone which contributed to the success of the workshop. Dr. Anthony Cortese, President of Second Nature, provided an overview of sustainability and the role of the university in its promotion. In doing so, he galvanized the group around the idea that sustainability is about much more than protecting the environment: it is about understanding the linkages between economic wellbeing, social justice, and environmental and human health; it is about applying systems thinking to our everyday campus practices and teaching pedagogies
across the curriculum; and it is about “making the invisible visible.” While none of these ideas were of themselves new to Environmental Studies faculty, the discussions that developed among participants in workshop sessions made it clear to us that articulating sustainability thinking in this way had powerful results—results which inspired people to take action in ways that simply talking about the immediate environmental impacts of campus actions had not achieved over many years of efforts.

Over the next two days, we then held three interactive sessions led by IWU Environmental Studies faculty. The order of the three interactive sessions was carefully chosen to provide a progression from local issues to global issues of sustainability. The first interactive session, facilitated by R. Given Harper, provided information on the local ecology of central Illinois and showed how land use changes have affected the ecology of the region over time. The second session, by Stephen Hoffmann, discussed local and global resource use and demonstrated systems thinking by elucidating the linkages between energy and water issues. The final session, led by Abigail Jahiel, placed sustainability into the global context through discussion of shared development patterns and production and consumption linkages between the United States and China. In all presentations, we strove to provide background information and concepts that could be used for discussion of how these issues related to each participant’s individual discipline or university area.

On the afternoon of the first day of the workshop, we brought participants outdoors on a ‘Sustainability Tour’ of our campus, where physical plant and other staff described current practices of the university—including use of paper, energy, food, and other materials, transportation for recruitment, and treatment of grounds and waste—and we discussed the environmental impacts, positive and negative, of current operations.

On the second afternoon, we ventured past the campus into our local community where we visited two facilities that have embraced sustainable practices: the Children’s Discovery Museum in Normal, IL, the first children’s museum in the nation to be LEED certified, and Henry Brockman’s organic farm, a well established Community Supported Agriculture (CSA) enterprise, which models sustainable agricultural practices and provides local food to the community. As noted above, on the morning of the third day, we traveled out to a local lake for a morning of canoeing and bird watching.

Throughout the workshop we made sure to model sustainability practices. We used local and/or organically grown food for all refreshments and meals, and 100% recycled bleach free paper for programs, readings, and folders. We provided signage at luncheon tables and refreshment displays describing the foods and drinks offered and comparing the environmental footprints of these with the provision of similar conventionally provided products. We minimized font size and margins as much as possible, without forfeiting a professional look on all handouts provided. And we made workshop participants think about their own everyday impacts before they even arrived at the workshop by notifying them that they would need to bring their own mug for refreshments—rather than providing compostable coffee cups or having them take home ceramic conference mugs.

Assessing the Workshop

At the end of the workshop, we distributed an assessment survey, seeking responses to the workshop as a whole and to its individual parts. (For a copy of the assessment tool and a lengthier summary report of the workshop see [http://www.iwu.edu/~shoffman/sustain](http://www.iwu.edu/~shoffman/sustain).) The responses we received were overwhelmingly positive and exceeded our desires. People referred to the workshop as “fascinating,” “very worthwhile” and “an incredibly informative, eye-opening two days.” When asked how they would describe the workshop to a colleague who had not attended (question # 5), they said things like

“A two-day immersion in vital, pressing issues facing our world and in thinking about what we at IWU can do to address them.”

“Extremely rich and “soul-feeding”; inspired me to try to better things in incremental ways without my usual sense that our actions are so small that they are futile in the face of the overwhelming problems already facing global sustainability.”
“This is a workshop for anyone passionate about issues relating to social justice, environmental sustainability, race relations, political trends, economic models, etc. I would highly recommend this to my colleagues.

“The workshop … exceeded my expectations. What was amazing (unexpected) about it is the multidimensional impact it had on me. …[It] caused me to change my perspective on environmental issues…[It] provided ideas and material I could work with when revising my…course. It gave me the opportunity to talk with colleagues in a relaxed setting about issues of common interest. It also increased my sense of place. …”

From these and other comments it was very clear that the ideas we wanted to convey and the goals we had for workshop participants were achieved. Participants understood that “Sustainability is about much more than environmental protection. It’s about economic health and social justice, too.” They agreed that “It’s essential that we work to ‘Make the invisible visible’ if we want to change others’ thinking and behaviors.” Several commented on how the requirement to bring their own coffee mug was such a little request, but it had such a profound effect in getting them thinking. Others found the table tents to have a similar effect. And many found the workshop personally rewarding.

Interestingly, some unexpected things emerged from the workshop, too, that may be equally as important to promoting campus sustainability. Two in particular stand out. Participants came away from the workshop feeling a strong sense of involvement in a community. Several faculty commented on how refreshing the chance to interact with staff was. Their feelings were summed up by the words of one who said “I feel more connected to the University from this workshop than I ever have before. I feel like I want to be a part of this community now.” In addition, workshop participants came away understanding the university’s operations in ways they had never before considered. Several commented on how eye-opening they found the “Sustainability Tour” of the campus. In response to one assessment question, a participant commented “I was shocked that we do so little to track our energy usage. This seems like a key first step in making the invisible visible.” Others had no idea of the environmental impacts of our beautiful mahogany-lined library, or of the fact that you could now request organic meals for catered functions on campus. Few workshop participants knew about the organic CSA in our community, and even those who did had never visited the farm and were overcome by the beauty and bounty of what they saw. The idea of LEED certification was new to workshop participants, who were very impressed by the existence of such a building in our own community and wondered whether the next IWU building project shouldn’t consider following this example.

These reflections on the sense of campus community created by the workshop and the new understanding of our institution’s everyday functioning alongside some local models of sustainability demonstrated a deeper change than simply a change in individual perspective on sustainability. We believe these unplanned effects of the workshop worked to revitalize a sense of university mission in wearied faculty and staff and deepened their commitment to the broader whole that is so necessary if sustainability is to guide university behavior.

A Year Later

The broader impact of the Sustainability Workshop on the campus as a whole is clear today, over a year after the event itself. Seventeen faculty participants in the workshop are in different stages of developing “sustainability projects.” Already, several courses have been notably revised to include a sustainability dimension and one new course added to the campus curriculum. These curricular changes include: incorporating environmental justice issues into an International Studies course on International Human Rights and into an Hispanic Studies course on Social Justice; adding an environmental education and sustainability component into the core social science curriculum for early education majors; incorporating German-language readings on sustainability efforts taking place in Germany in an upper-level German language course; creating a new Psychology course on Sustaining Self, Society and the Environment; as well as restructuring a Mathematics course on mathematical modeling and a statistics course taught in the Psychology Department to revolve around sustainability as a focal point of the course. (For two faculty participants’ responses to the workshop and descriptions of their Sustainability Projects, see Examples 1 and 2.)
In addition, a couple of administrative offices have initiated Sustainability Projects. Immediately after the workshop, the University Communications Office set to work increasing the visibility of sustainability on campus by going straight to the university’s electronic home page. Now highlighted on the right hand side of the homepage for all who visit the site is the sustainability theme in the Illinois Wesleyan University’s mission statement, along with a “sustainability & citizenship” link which prominently displays in chronological form university news regarding all aspects of sustainability. Meanwhile, the Admissions Office undertook a major effort over the past year to calculate and offset its carbon emissions from its vehicle miles traveled in the student recruiting process, as well as to encourage greater use of paperless applications (For admissions officers’ descriptions of the impact of the Sustainability Workshop on their work and the projects they developed see Example 3 below.)

Beyond these sustainability projects, other changes have developed on our campus which have indirect roots in the sustainability workshop. Last fall, a sustainability reading group, open to all, was established by several participants in the workshop; this group meets periodically over the course of the year to read and discuss sustainability literature. At the request of workshop participants, a sustainability list-serve was also established to continue the workshop dialogue and quickly convey information to interested parties when sustainability-related issues arise on campus.

A broader change in the administration of campus is evident, too, though. In April, responding to a persistent educational campaign and petition-drive by the Sierra Student Coalition, our President signed the Talloires Declaration, which he had declined to sign prior to the Workshop. The Office of Residence life, which had previously included sustainability work as part of residence hall desk workers’ duties, created new student worker positions—Sustainability Coordinators—for each residence hall, whose sole job is sustainability education. And the Cabinet and Board of Trustees, which had been considering complying with green architecture standards in the building of the University’s new Welcome Center, agreed to architectural plans for a LEED certified building. Moreover, though cost-estimates caused the planned geothermal heating and cooling system to be dropped from the project, a request from members of the Sustainability Group to the administration to recalculate and reconsider the economic costs of geothermal was surprisingly met with quick agreement to do so. It now looks like a geothermal unit may heat and cool this building after all. We believe the Sustainability Workshop of last spring has helped to change the general atmosphere on campus so as to begin to integrate a sustainability ethic into the curriculum and functioning of Illinois Wesleyan University. We are hopeful, too, that these changes and future educational efforts will yield further steps toward a truly sustainable university campus that teaches sustainability not only through the curriculum, but through its every action.

**Sustainability Projects**

**Example 1: Modeling for Sustainability: A Mathematical Perspective**

My sustainability project was to redesign, in part, my junior-level mathematical modeling course in order to incorporate sustainability as one of the major components of the course. This mathematical modeling course has always centered around projects based on real-life problems for which students have designed mathematical models. During the first three weeks of the course, students learn about modeling methodology, technical writing, and oral presentation. They also see how real-life ideas and problems are translated into mathematics. This is accomplished by analyzing case studies and developing mathematical models of simple real-life problems. The remainder of the course is devoted to main projects, usually three. Students are divided into groups of three, or occasionally four. Each team develops several mathematical models of increasing complexity, analyzes the results obtained, validates the models by comparison with real-life data, and does substantial research to determine how to extend models to similar but different problems.

During the course of the Sustainability Workshop, I decided to redesign my mathematical modeling course to increase my students’ own awareness of and commitment to sustainability. As I thought about how to share with my students my new awareness and understanding of sustainability issues, it become more and more apparent to me that I could use the workshop itself
as a model for redesigning the course by focusing on the key concepts that were discussed, namely, sense of place, system approach, making the invisible visible, and social justice.

I thus developed the following modeling criteria to guide the new course design:

- To make sustainability an integral part of the course, at least one of the main projects students worked on had to be on sustainability.
- To introduce a system approach, groups were required to work on different aspects of the same problem.
- To develop a sense of place, the data collected for model development and model validation had to be either local or regional. If students preferred to work on a more global problem, they were required to also consider, as a special case, a local version of the problem.
- To introduce the notion of “social justice,” students had to look at the same problem from a variety of perspectives, e.g., the farm worker, the farm owner, the consumer, the impact on the community, environment, etc.
- To ensure a holistic approach, I designed evaluation criteria to assess efforts made by the groups to include explicit discussions of local versus global factors, social impact, holistic/system approach, and the extent to which the invisible was made visible in the development of the mathematical models.

Given the new sustainability focus of the course, in introducing the course and the modeling methodology, I needed to prompt students to grapple with what was meant by sustainability, and therefore, had to get them to answer questions such as: What does sustainability mean? What does it mean in different contexts, e.g. environmental sustainability? What is the environment? Are humans, as a whole, part of the environment? Are technological infrastructures, as a whole, part of the environment? How do we define a sustainable system? Are there varying degrees of sustainability? If yes, what is a measure of sustainability? Could a system be considered sustainable from one perspective and not from another?

I introduced the revised course a year ago, and was pleased with the response to the sustainability focus. Students approached sustainability issues with a great deal of enthusiasm. The transition to a sustainability focus, however, was not seamless. I found that during the course of the semester, in their efforts to develop successful mathematical models, students would lose track of the sustainability theme and I had to constantly help re-integrate this theme back into the course. In the end, however, the students developed a range of sustainability-related modeling problems to work on, including those dealing with:

- the management of renewable and non-renewable resources, e.g., hunting, fishing, ground water management, land development, genetically-modified crops;
- endangered species, e.g., grey wolf in Northern Minnesota (model also applicable to the Grizzly bear in the Yellowstone, sturgeon in Eastern Europe and Russia, Spotted Owl in Oregon and Washington); and,
- economic well-being and development, e.g. minimum wage, financial aid, foreign aid, illegal immigration and school population.

From these modeling problems, it is clear that the students grasped the multiple dimensions of sustainability.

**Example 2: Weaving Sustainability into Psychology**

Participation in the workshop influenced me personally, practically, and professionally. Personally, I found the relationships and community ethos fostered by the workshop to be meaningful and long lasting. Simply put, connections made at the workshop have made it more rewarding for me to go to work.

Practically, the workshop motivated me to spend significant time moving our department’s microcomputer lab toward green computing practices. This involved researching environmentally sound computing practices, placing visual prompts on computers, obtaining a duplex printer tray, sharing information with faculty and students, and training teaching assistants. The end result is that we are on our way toward setting up a green computing lab and sharing responsibility for running it in a green manner amongst all those who use it.

Professionally, the workshop inspired me to make major modifications in two courses. First, the workshop met my expectations in helping me identify ecotourism resources for a travel course I was planning on “a meaningful life.” Unexpectedly, however, the workshop inspired me to expand
the academic component of the course from a focus on sustaining self to include equal emphasis on ways in which psychological science can inform efforts to sustain society and the environment. In teaching this course (May 2007), I was struck by students’ general concern for environmental issues, high anxiety about environmental threats, and their lack of awareness regarding how psychological science has been or might be applied to environmental concerns. This set of characteristics seemed to result in a remarkably high level of shared eagerness—evident in students’ close reading of assigned texts, extensive journal entries, and intense peer discussions—for learning about the overlap between psychology and environmental studies.

Second, as a result of the workshop, I have also, and perhaps even more significantly, substantially modified my psychology statistics course—a course required of all psychology majors—by weaving a sustainability theme into the course. At the outset of the course, I now introduce information about environmental issues, define sustainability, and emphasize links between environmental issues, human behavior and psychology (defined as “the science of human behavior and mental processes”). Throughout the course, I attempt to contextualize statistical procedures (e.g., correlation) by introducing interesting psychological concepts (e.g., social learning theory) as applied to sustainability-related topics (e.g., understanding environmental attitudes). More specifically, links between statistics, psychology and sustainability are made through concrete problem-based activities in which students gather and analyze class data (e.g., correlating Illinois Wesleyan students’ environmental attitudes with the degree to which their parents modeled love or fear of nature).

As we work with our class data, I ask students to deepen their understanding by interpreting results from statistical, psychological, and sustainability perspectives. Some of the activities that appear to be most successful in encouraging students to think on all three levels include the following: Assessing one’s own pro-environmental behaviors relative to class peers (z scores); correlating students’ environmental knowledge, attitudes and behaviors with one another (Pearson r); determining whether the average ecological footprint for the class is significantly above or below that of other groups (t tests), testing whether a self-serving bias is evident in students’ justifications for their own versus others non-sustainable transportation choices (one-way ANOVA), and comparing students’ desires for nature- versus consumer-oriented goods based on whether or not they were randomly assigned to reflect on their values before making their ratings (2 x 2 ANOVA).

Feedback gathered in multiple ways from students in my statistics courses during 2006-2007 revealed mixed reactions to the sustainability theme. On one hand, a highly verbal minority praised the theme and sought me out for extended discussions. On the other hand, a discontented handful expressed boredom or frustration with the theme, especially when they perceived that the “sustainability” examples were not related to psychology. On average, however, anonymous feedback forms completed by students suggest several positive outcomes. For example, students reported that the emphasis on sustainability issues was significantly and substantially greater than in other courses they have taken at the university. In addition, in comparison to other semesters, they reported themselves as being significantly more likely to experience anxiety about environmental threats, to think more about how others and the environment are affected by their own actions, and to engage in more daily pro-environmental actions.

[Note: For resources and instructional ideas at the intersection of psychology and sustainability, readers are referred to the exceptional website developed by Britain Scott and Susan Koger at http://www.teachgreenpsych.com/ .]

**Example 3: Transforming the Office of Emissions**

“The University through its policies, programs and practices is committed to diversity, social justice and environmental sustainability.” This quote, taken from the Illinois Wesleyan University mission statement, serves to remind the campus community of the importance of addressing sustainability and other related issues. Spurred by the ideas generated during the May 2006 Sustainability Workshop and by the institution’s stated mission, the IWU Admissions Office has taken steps to reduce its impact on the environment.

As IWU admission counselors, we travel extensively as part of our recruitment efforts. Every fall and spring, we spend considerable hours and miles on the road in search of the next year’s class. We are responsible for visiting high schools and attending college fairs in our assigned
In talking with Dr. Anthony Cortese over lunch during the first day of the workshop, we brainstormed some ways in which we could introduce sustainable business practices to our office. Tony suggested that we look into purchasing “green tags” to offset the carbon output that resulted from traveling to and from our schools and college fairs. Green tags – also known as green energy certificates and tradable renewable certificates – are investments that guarantee that a set amount of free or clean energy will go into the energy grid on the buyer’s behalf, thereby reducing the emissions of carbon dioxide and other greenhouse gases that result from traditional means of energy production. We were intrigued by the idea – at the time, green tags were not as ubiquitous as they are now in the post-An Inconvenient Truth era – and decided to run the figures and costs in hopes of securing approval from our dean of admissions.

We used the mileage and fuel efficiency figures specific to each counselor’s vehicle usage to calculate office totals for miles driven and gasoline consumed during the 2005-06 school year. When considered as a “fleet,” IWU admissions counselors covered over 60,000 miles and consumed nearly 2,200 gallons of gasoline. We determined that our fleet contributed over 43,000 pounds of carbon dioxide (CO₂), the leading cause of global climate change, to the atmosphere from our recruiting vehicle use alone.

We then researched green tags and ultimately decided to go with those from NativeEnergy, a privately held energy company committed to sustainable economic development projects. Tony Bankston, IWU’s dean of admissions, agreed to purchase the green tags on behalf of the office and encouraged us to present our findings to our colleagues.

The green tags served as a conversation starter for our office: Would the office pay to offset vehicle emissions in the future? What about air travel? And office energy consumption? Are carbon offsets a viable long-term solution to combating global climate change? What are our other environmental costs of doing business?

After discussing these points, our office is considering other ways in which we can reduce our impact on the environment. Recent proposals include transitioning to a “paperless” application, reducing miles traveled by better coordinating travel schedules, and promoting public transportation options for prospective students visiting campus.