

Tomorrow's Sustainable Universities Conference 15 – 16 July 2010

DAY ONE

Keynote Speaker:
Professor Geoffrey Chase (San Diego State University)

'Large Scale Curriculum Change'

Notes:

Growing concerns about the impact humans are having on our planet, and the implications of those impacts for future generations have led many to argue that higher education has a key role to play helping us move to future characterized by an ability to meet the needs of the present without impeding the ability of future generations to meet their own needs. Over the last twenty years, scholars, activists, and others have noted that through the research they conduct, the engagement they experience with the broader community, and the operations they oversee, colleges and universities can serve as test sites and models for sustainable practices and societies. Where colleges and universities may have the largest impact, however, is with the students they educate. As David Orr has argued, the real challenge we face in embracing a more sustainable future rests with our ability to educate students differently.

Today, there are more than 18 million students in colleges and universities in the United States alone, and if they graduate with the needed skills to help societies develop more sustainably, higher education will have indeed played a key role in leading us in a new direction. Thus, if we seek to create conditions that will ensure a more sustainable future, higher education will have to provide college and university graduates with the skills, background, knowledge, and habits of mind that will prepare them to meet the challenges presented by climate change, loss of biodiversity, a world population of 9 billion in 2050, limited water resources, global health issues, and extreme poverty.

The scale of this challenge, of integrating sustainability into college and university curricula, is significant. First, unlike many issues related to sustainability, curriculum change is not something that can be legislated or achieved through policy decisions. Instead, it is going to depend on the expertise and ability of faculty (1.2 million in the United States) who write course syllabi, sit on curriculum committees, develop student learning outcomes, and create new academic programs to integrate sustainability into their teaching as they see fit.

Second, deciding how to change the curriculum is complicated by the fact that there are multi-curricula within any institution. Sustainability, because of its complexity and richness, can inform any and all of the following:

- Workforce development;
- General education;
- Education within the major or discipline;
- Graduate education;
- Stand alone programs--certificates, minors, majors, graduate degrees--in sustainability; and
- Co-curricular education.

One of the challenges we have had in terms of identifying learning outcomes has been that we have not fully understood the complexity of our own curricula. If our aim is to ensure that all students in a general education program are introduced through a variety of courses to sustainability, we would expect different outcomes than those developed for, say, students graduating with a degree in chemistry, or English, or political science. This may also help clarify, for example, how a topic like climate change gets introduced to students. Presumably, it will be introduced differently, and the learning outcomes will be different, in a course in general education and in a course in a major such as biology, geography, or political science.

Third, sustainability is inherently interdisciplinary and the organization of our institutions around departments and disciplines does not always support the kind of curriculum innovation that is needed. Additionally, particularly at large institutions, the very scale in which faculty find they can lead to silos that hamper efforts to build significant curriculum change across a campus.

Finally, institutions in the United States are extremely diverse and represent everything from small, faith-based institutions to large research-focused, state supported campuses with more than 50,000 students, to private schools (large and small), to proprietary institutions (the University of Phoenix currently serves about 400,000 students) to two-year community colleges that in aggregate represent almost half the 18 million students in the country.

At the same time, we have made some progress. Increasing numbers of sustainability programs have emerged around the country and many faculty who have attended AASHE workshops have gone back to their campuses and have made significant changes. Additionally, many organizations—the United States Green Building Council, the National Wildlife Federation, the National Council on Science and the Environment, the American Association for the Advancement of Science, and others—have made important progress on identifying learning outcomes related to sustainability. The Association for the Advancement of Sustainability in Higher Education (AASHE) in particular has taken a leadership role in developing successful models for faculty development and curriculum change around sustainability. Over the past five years, 330 faculty representing 175 institutions have taken part in train-the-trainer workshops and many of these have initiated curriculum change projects on their own campuses. Additionally, AASHE hosted a Curriculum Summit in San Diego last February (2010) during

which 40 representatives of higher education organizations met to discuss how to extend efforts to prepare graduates adequately to address the challenges they will face throughout their lives and careers.

This presentation will describe these challenges more completely, but it will focus primarily on the successful efforts that have been undertaken, and that are paving the way to the changes we hope to see. Particular attention will be paid to what has been achieved, what has been learned from these efforts over the past fifteen years, and what remains to be done, and the strategies currently being used to meet the scale of the challenges before us.

Specifically, the Ponderosa and Piedmont Projects at Northern Arizona University and Emory University, respectively, will be described to illustrate how multi-year faculty development projects aimed at infusing sustainability in the curriculum have been transformational. In each of these projects, involving twenty faculty a year, profound changes in the curriculum have taken place and students in disciplines across the institution have been affected. The model for these projects, and examples of course changes in fields as diverse as nursing, art history, archaeology, ethno-musicology, Chinese language, and cardio-pulmonary rehabilitation that have come as a result, will be described. The scale of both of these projects is significant and, taken together, represent changes in more than 200 courses.

Additionally, the Curriculum for the Bioregion Project, which developed in part with AASHE support, involving 32 campuses in the Pacific Northwest, will be described to show how multi-campus efforts are emerging to address learning for sustainability.

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