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A new college at Wesleyan University breaks down departmental divisions and helps students to understand and solve complex environmental problems.

Scholars and teachers have long struggled to respond to the growing demand for interdisciplinary approaches to complex social issues. They come to the table with their own disciplinary perspectives (scholars more rigidly than students, perhaps), but they also recognize the limitations of investigating social issues through a single disciplinary lens. They have learned, in short, that it is not sufficient to approach the pressing issues of our time from just one perspective.

What is the best approach for teaching students to tackle complex problems while maintaining the rigor imposed by academic disciplines and recognizing the value of the flexibility offered by interdisciplinary study? More pragmatically, how can professors stay grounded in their home disciplinary base while incorporating and synthesizing diverse perspectives and interconnections?

Colleges and universities across the United States have acknowledged the benefits of interdisciplinary scholarship. Higher education is shifting its emphasis from mastery and expertise in a particular discipline to dialogue, interaction, and process across disciplines. Nonetheless, many in the academy and beyond still wonder how to engage in interdisciplinary study in a productive way.

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We at Wesleyan University have not yet dealt with all of the nuances of framing a dynamic interdisciplinary curriculum that must, given its roots in social concerns, evolve quickly as times change. But we think that our new College of the Environment and its associated think tank offer one template for supporting flexible interdisciplinary education and scholarship.

The college brings students and scholars together to address any number of social issues spanning multiple disciplines, building on existing university departments. A linked major lies at its core: every student majoring in environmental studies must merge this interest with a primary major from another, perhaps more traditional, department. Students explore the depths of particular fields through their primary departments, but they also explore the boundaries of their disciplines through their interdisciplinary experiences in environmental studies. Put another way, the primary major provides the scholarly depth students need to understand the rigorous standards of a discipline while the linked environmental studies major

tank may choose to return to a past issue, or it may not. Whether it does depends on interest and relevance—and so the university never commits for the long run to a current “hot topic,” even though it is open to the possibility that it could return again and again to the same idea.

The think tank promotes interdisciplinary scholarship that harnesses the strengths of faculty and visiting scholars while minimizing university expenditures. Faculty think-tank participants receive teaching relief for one semester of their year of involvement, but they continue to advise undergraduates in their home departments and serve on university committees. Faculty participation in the think tank is not a sabbatical; it is, instead, a yearlong opportunity to engage in a timely research topic, without removing participants from campus and without regard to disciplinary boundaries. After their year of involvement, faculty fellows return to their home departments, enriching their departmental curricular offerings with the new courses developed while in the think tank.

The think tank also enables participants to develop

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provides a broader context for integrating knowledge across disciplines and developing new ways of thinking. We hope that students will embark on innovative studies that suggest novel solutions to (or at least an integrated understanding of) pressing environmental issues.

A FLEXIBLE THINK TANK

A Mellon Foundation-funded think tank in the College of the Environment supports and enhances the linked structure of the environmental studies major, bringing together faculty and students from diverse fields to tackle timely environmental problems that do not fit conveniently into a single discipline. Undergraduates, faculty from a wide range of departments, postdoctoral fellows, and scholars from other institutions work together for one academic year to engage a topic chosen from an evolving suite of emerging issues proposed and approved in advance by groups of potential faculty participants.

The focus in 2010–11 was on stress and vulnerability, the focus in 2011–12 was on water, and this year’s focus is on environmental justice. This revolving structure ensures a continued focus on relevant issues. The think

an understanding of environmental issues outside their disciplinary contexts, and in this regard it serves a dual purpose, extending each member’s own ideas and teaching them to express these ideas in ways that are widely accessible and applicable.

For example, our recent considerations of vulnerability and stress of social, economic, and natural systems—the theme for 2010–11—led us to focus on nonlinearity and risk. Our discussions bounced from climatic tipping points to deep geological time to environmental justice and ethics. The outcome of our work was a new way of associating vulnerability and nonlinear risk. It was understandable for our economist to propose an insurance-based approach to protecting ourselves against climate disruption, but his insights hinged on assumptions about information, behavior, and markets. Our philosopher may not have made those connections working alone, but he naturally suggested that we also think about this problem in terms of blame and responsibility. Subsequent discussion introduced novel insights about both the economic and the philosophical nature of policy design and offered a new explanation of why “it is so hard to sell insurance against climate change.” This experience demonstrated

to us and to our students how to accommodate diverse perspectives in the creation of something new.

We believe that our think-tank sessions have influenced the participants' independent scholarship. Simply interacting with a diverse group of scholars triggers a shift in worldview and in a participant's ability to communicate his or her ideas. This change is embodied both in the independent interdisciplinary works that the fellows produce during the year and in the collaborative projects they undertake. Given the breadth of exposure, we hope this experiment affects participants' research and teaching for years to come.

STUDENT COLLABORATION

Few students start college with a grounded understanding of what disciplines are. Rather, in their first years of college, they experiment with departments, methodologies, and new ideas. We hope that students, when it comes time to pick a major, find a method of inquiry that fits their interests. But what often is missing in this decision-making process is an acknowledgment of how disciplines limit the domains of students' thinking and their ability to pose productive questions.

In this light, students in the College of the Environment benefit from witnessing the intellectual limitations of their peers and professors, considering both the commonalities and the limits of discipline-specific languages and participating in interdisciplinary work. Students explore the breadth and depth of the college's linked major in two ways. One is through the completion of a four-course concentration that covers a topic of the student's choosing from multiple perspectives. For example, a student interested in public health might take two biology courses (Issues in the Health Sciences, Global Change and Infectious Diseases), a sociology course (The Health of Communities), and a course in classics (Medicine and Health in Antiquity). The other way is through self-directed research. Some students are directly involved with the think tank itself. All students in the College of the Environment profit from a yearlong senior colloquium that offers the opportunity to discuss their projects with other students at various stages and interact with faculty. Students not only receive criticism and feedback from a variety of perspectives but also learn the value of collaborating across multiple disciplines in environmental problem solving.

NEW COURSE CREATION

Coursework is a common way for students and faculty to engage with new ideas. The College of the Environment facilitates the development of innovative interdisciplinary courses that cover pressing issues. All think-tank faculty develop upper-level courses on the yearly

theme. Students have the opportunity to experience and influence the think tank multiple times by taking several courses on a particular topic or by enrolling in theme-centered courses during different years of study. Perhaps most important, all of the students benefit from seeing how their more discipline-focused majors apply to the more interdisciplinary nature of the associated environmental studies major.

Faculty members in the College of the Environment also jointly offer Research Methods in Environmental Studies, a course for first- or second-year students. The objective is to supplement disciplinary majors by exposing students to a variety of perspectives for thinking about, analyzing, and integrating methods of inquiry related to environmental studies early in their academic careers. Topics range from history to paleontology to economics. Students use the tools they develop to execute independent capstone research projects in the latter years of their academic careers.

Many environmental studies faculty also develop other interdisciplinary courses for the college. One popular mode has been the integration of art and science. For example, students have used dance methods to express the intricacies of tropical ecology in Guyana, linking dance and biology to explore and articulate scientific principles.

BEYOND DISCIPLINARY BOUNDARIES

Most university graduates reinvent themselves several times over their working lifetime. The days of working at the same company or at the same university for an entire career are, for the most part, gone. An interdisciplinary education that stresses both depth of knowledge in one discipline and breadth of understanding through comparative analysis provides students with the tools they need to tackle the real-world issues they face after graduation.

The College of the Environment at Wesleyan was formed with the recognition that we, as members of the academy and also as citizens, need new ways to ask questions and pursue knowledge about environmental decision making and its consequences. The college's framework promotes interdisciplinary scholarship from the outset, but it achieves this goal without sacrificing sources of traditional strength. This structure could be applied to any number of topics, such as health, language, money, or time. Moreover, the linked undergraduate major and annually cycling think tank within this problem-solving-centered college ensures a continual focus on relevant subjects. We hope the college provides a template that other universities might adopt. We think it can produce graduates who are able to integrate ideas and help solve complex issues that know no disciplinary boundary. ■