

WHAT MATTERS - A PKAL PRESENTATION

USING ENVIRONMENTAL ISSUES TO TRANSFORM THE LEARNING ENVIRONMENT

Across the globe from mega cities to small rural villages, few experiences have had as profound an impact on changing individuals and transforming the places where they live, as has education. The Worldwatch Institute's *Vital Signs 2001: The Trends That Are Shaping Our Future* suggests that education is important in global efforts to achieve sustainable development as a tool to improve health, decrease poverty, control population and to create equity. Author Gary Gardner goes on to say, "in an increasingly industrialized world, where people are often disconnected from nature, education is indispensable for understanding the vital need to care for the natural world."

In *Earth Rising: American Environmentalism in the 21st Century*, Philip Shabecoff emphasizes that the "shaping of minds begins first with immediate family, but most profoundly with education, with the schools." Therefore, nothing is more critical to creating a more sustainable world than is education. Until recently, the traditional model of higher education has been limited to bestowing knowledge through our teaching and making new discoveries through our research. However, today, a shift is taking place as the "academy" expands the role of education in the area of sustainability.

The challenges associated with becoming a more sustainable world are not insurmountable, but they are somewhat daunting. I think that all of us practicing in this field feel an urgent need not only to educate our students, but to educate our students to become leaders in a workforce that is making a difference in society and in our culture. As educators, we need to understand more about the pathways that will lead to this change and how we can accelerate the pace. As an ideal microcosm of society, institutions of higher learning can demonstrate how to achieve goals for sustainability that will have an impact on and be transferable to other sectors of society.

Models already exist on many campuses today through teaching, research and practices. More and more colleges and universities are recognizing that they have a responsibility to make this a better world environmentally. Therefore, our role becomes even more important as educators and administrators. Today, I'll share with you some of the things that Middlebury has done to advance education for sustainability and the environment. Be mindful that much of what we have done is transferable, so try to tease out the pieces that relate best to your institutions to help create a vision for the future.

Middlebury College, located in Vermont, has had a long tradition of environmental education and mindfulness dating back to 1965 when it established one of the first environmental studies programs at a liberal arts college. In the mid-1990s, on the threshold of its bicentennial in 2000, the College proposed even greater advancements in the area of the environment.

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Opportunities for Environmental
Sciences"



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In 1994, the President and Trustees designated the environment as one of six "peaks" or areas of excellence based on existing strengths at the College. That fall, President John McCardell stated in his Convocation speech, "At Middlebury we are building an academic plan that emphasizes excellence across the curriculum with special attention to the academic peaks that are the hallmark of our identity. *Environmental Studies and Awareness* is one of these six peaks because of the College's long tradition of being on the forefront of environmental education in both the classroom and on campus."

This presidential declaration was recognition at the highest level that the environment was integral to Middlebury's educational mission, operational goals and responsibility to the greater community. The faculty and administration did not allow this statement to become empty rhetoric. Instead, we have been endeavoring ever since to **integrate** environmental studies and sustainability in higher education through a system-wide approach.

By infusing the system with environmental principles, practices and learning, Middlebury enriches the educational process and has created a community of individuals with a **shared commitment to the environment.**

Two myths

At this point, I'd like to dispel two myths. The first - not everybody in Vermont is an environmentalist. Agreeably, it is a progressively thinking place. Perhaps we can start new initiatives in Vermont, but these things can readily be adapted and adopted in other places. Second - Middlebury was not one of those well endowed eastern small liberal arts colleges and was not highly competitive. It is a school that is becoming these things as it goes through great transformation that has taken place during the last five years as a result of institutional leadership.

However, there has always been a lot of "Yankee ingenuity" in times of very scarce resources. Institutional commitment, good ideas and people (our students, faculty and the staff) in combination make things happen.

The Environmental Studies Program

Today, Middlebury's Environmental Studies Program (ES Program) includes 45 affiliated faculty from 23 academic departments and programs. That represents more than half of the programs and departments on campus. The ES Program is one of the largest majors at the college, graduating about 45-50 majors a year.

According to the College's Admissions office, the strongest students that are accepted at Middlebury rank environmental studies as one of the five top areas of intended study. This high ranking of environmental studies by prospective students has been the case for at least the past five years. Therefore, the strongest students that

Middlebury is currently accepting indicated that they are coming to this college due to an interest in studying the environment. Let me give you recent examples of two students that reflect this interest.

Student success stories

We only accept a small number of transfer students, so the process is highly competitive. A student attending Princeton visited Middlebury and wanted to transfer for our environmental studies program. And so this Princeton student, Rob Chisholm, was accepted and transferred to Middlebury. He then received a summer fellowship from our Career Services Office to look at the fisheries in Canada.

With that research, and as an environmental studies major, he made a presentation at a professional meeting at Ohio State University entitled "Drawing the Line: Informal Property Rights in a Nova Scotian Lobster Fishery" which won the National Undergraduate Essay in Agriculture, Environment and Developmental Economics. He also received a Thomas J. Watson Fellowship for post-graduate travel and research. Not only was Rob awarded a Watson Fellowship, last year all three Watson recipients from Middlebury College were Environmental Studies majors.



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Another example is an incoming student last year, Amber Trotter, who was quoted in the L.A. Times because she was an incredible track star in California and had been offered a scholarship to Stanford. Instead, she said that she was going to Middlebury College to study the environment, which indeed she is. Then the New York Times picked up the story. That resonated loud and clear to our institution to have these kinds of comments being stated about our students and our environmental program.

Today's students are fantastic, we can hardly keep up with them - they're the best. This year the students are more environmentally active and we heard a little bit about this last night, this kind of advocacy tension that we have to be careful about in the classrooms, but that exists on campus. Our students are much more engaged in not only activism, but in research and projects that are making a difference on campus and elsewhere.

We all agree that this level of student enthusiasm is greater than it has been in many years. This kind of information is really important for your institutions to know, it's important for our administrators to know. It is important to know that we are attracting this level of student to our Environmental Studies Programs and that we are sending graduates out into the world who have great, great opportunities.

Student ingenuity

To characterize this student energy, let me share a few stories. A group of students bought a bus that they converted into a BioFuel Bus. With the help of the College's dining services, it was packed with vegetable oil for fuel and set off across the country to Seattle, and they made it. CNN tracked them the whole way. It received unbelievable press. Reporters called and asked what we had done to inspire these students. We told them that we'd only given them a \$150 grant and then just got out of their way. The students right now are very energized and they are very exciting to teach and work with.

This year we had students win the Morris Udall scholarship, the Newell Science Teaching Fellowship, National Science Foundation Research Fellowship, the National Wildlife Foundation Campus Ecology Fellowship and Watson Fellowships, to name a few. We can't say enough good things about our students.

Alumni

Middlebury College also has about 800 alumni who are employed in the environmental field. We found a different way to acquire a more limited amount of alumni information at Middlebury. I worked with the Alumni office and the Career Services Office to change their occupational codes to include environmental positions and jobs. Now, when Middlebury alumni fill out this information annually, I can easily track it through the College's already existing system. If you want to get greater detail, as we heard in yesterday's examples, use more detailed surveys.

However, if you don't have the time or the resources to undertake that level of inquiry, you might just make sure that the "environment" is in your occupational code list. This is just one simple way that alumni can self-select and inform you of where they are and what they are doing in environmentally related fields.

Many times these alums were not even ES majors, but they might have been students who were in some way influenced by the things that were taking place on campus or who took a few ES courses along the way. Now they turn out to be valuable resources.

Funding

Fiscally, we have twelve operating budgets, endowments and grants that support the Environmental Peak from daily functions such as courses and research to operations and planning. A new initiative is to explore opportunities to incorporate environmental programming in all Middlebury's programs abroad. This number is nine schools in other countries. Through another grant we are creating incentives for the College's foreign students to learn about the environment and share experiences from their own countries. This is an exciting undertaking because it is so important for our students to be knowledgeable global citizens and the environment is inextricable from today's global agenda.



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Environmentally responsible initiatives

In the Operations sector of the College:

- ◆ We compost about 75% of the food from dining services, which is about three tons annually.
- ◆ Twenty-five percent of the College's food comes from Vermont farms and producers and that's not easy when you have as short a growing season as ours, but there is a great effort to purchase locally to support Vermont agriculture. We are currently investigating what the barriers are to making this number even higher.
- ◆ Approximately 60% of the College's solid waste material is diverted for reuse and recycling.
- ◆ This past year it was 64%. In 2003, Middlebury received the Vermont Governor's Award for Environmental Excellence for recycling our former science building. Through deconstruction, 97.4% of the building was recycled from the concrete and glass to metal and wood. Students were involved in the tracking of the materials, where they went, their weight and percentage of total. It was important to have students involved in the analysis of this project. The economics turned out to be only slightly more than if the building had been demolished and the remains trucked to already burdened landfills in the region. Recycling it was preferable.
- ◆ Alternative energy vehicles are part of the College fleet. There is great effort dedicated towards energy including conservation, cogeneration, energy efficient building design and renovations, and a thermal comfort (air-conditioning) policy to keep thermostats in check.
- ◆ The president of the College signed a voluntary pledge by the New England Governors and Northeastern Canadian Providence Premiers to reduce carbon emissions by 2012. A Carbon Reduction Initiative Working Group is planning to present a resolution to the trustees in May that will achieve this goal.
- ◆ All recent construction and renovation on campus applies a sustainable design and environmental technology standard developed by the College to guide this work. So far this has included the new science building, two student dormitories and a new library, which will open next year.
- ◆ By using green certified wood as paneling, flooring and furniture in these buildings (over 200,000 board feet), Middlebury became a catalyst for a new industry in Vermont. For this innovative initiative, the College received EPA's Environmental Merit Award. Much of the College's sustainability efforts goes beyond our borders and has a positive influence on the region and the professionals we hire.
- ◆ Fortunately, many students are gaining valuable applied experiences from these efforts as paid interns, and through independent study, thesis research and course projects. One student involved with the green certified wood wrote an article that was published in a regional magazine. In a January Term Course taught by an economist and chemist, the students developed the blueprint for the Carbon Reduction Initiative Working Group, a detailed 40-page report that became the blueprint for the committee working on this effort. A few years ago this was not the case. Faculty were hesitant to involve students in work that they did not see as scholarly. Today, these same faculty are actually presenting their findings on such topics with their students at national conferences. It is interesting to see this shift take place once you make the clear distinction between what aspects of environmental education and campus sustainability have real scholarly components.

In another sector of the College:

- ◆ A member of our Career Services Office won the Northeastern Regional Environmental Career Counselor of the Year award for the bountiful resources that office now provides to ES majors and other students interested in environmental careers and internships.



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There are many, many more things that I could continue describing that Middlebury is doing to expand the Environmental Peak, academically and in operations. I direct you to our webpage for more examples with detailed descriptions and someone to contact. We receive hundreds of inquires each year. The webpage is <http://www.middlebury.edu/offices/enviro>.

Background

However, what is more important for me to share with this audience is how we've gotten to where we are today. An overview of how we have tried to change Middlebury College as a system includes academics, which in turn are linked to administration, operations and all other college activities. Thus, when people ask how the infusion of environmental education and responsibility takes place on a college-wide level, my response is - one step at a time and in every corner and outreaching arm of the College where environmentally related teaching, research and activities occur.

Middlebury's early commitment to the environment clearly laid the foundation for all that followed as well as the tenacity of the ES program directors, a flood of interest from students, ingenuity in facilities management staff and the savvy of some administrators to make it occur. Many good things were already taking place in isolation of each other. Admirable as these were, alone and working independently they cannot lead to the sustained and systemic environmental commitment we were now striving to achieve. What that requires first and foremost is a commitment and endorsement from the highest level, the involvement of a great number of people from all across campus and their combined energy, with administrative support being key to long lasting success.

Ours is actually a story about a bold administration, multiple pathways and creative individuals. It requires all kinds of people, and their ability to come together to make a difference in the place where they learn, live and work, at Middlebury College, which provides fertile ground for such activities. The College integrated environmental considerations campus-wide through senior level support, a cadre of collaborations, conventional planning processes, innovative programs, and informal networks. In doing so, Middlebury has created a shared vision and institutional core value around the environment.

Institutional culture

Middlebury developed a culture that had an openness to change, which I think was very much on our side. I have been quoted as saying that in higher education - institutional change takes place at a geologic pace. I don't actually believe that anymore. The fact of the matter is that institutions of higher education need to change now more than ever before to remain competitive.

Everett Rodgers at the University of New Mexico talks about change and the different stages of change. Innovators are at the leading edge of society and rarely include colleges or universities, perhaps educational centers or institutes, but not the whole system. However, this innovation then spreads to early adaptors and then to early majority, late majority and lastly to the traditionalists. I now believe that institutions of higher education are early adaptors. We need to take advantage of that fact. I believe that you can provide new ideas accompanied by models that institutions can adapt early.

Perhaps it is unrealistic for all of higher education to become innovators with the high risks attached, but we certainly don't need to be the traditionalists anymore. As a major sector of society, higher education can have an incredible influence on the world, not by resting on its laurels and the status quo, but by being at the forefront as early adaptors.



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Part of the message that I really want to convey is why it's important for institutions of higher education to have a willingness to change and how environmental programs benefit from that willingness. Many are looking for cookie-cutter models, but our institutions are very different at the micro level. It is perhaps better to introduce concepts attached by a few details that you can identify with to carry back to your institutions and talk about where they fit.

Faculty incentives

Do keep in mind that our institutions respect, understand and recognize strategic planning. As the director of a program, it doesn't make any sense to go to your dean or provost and ask for something if it is not attached to strategic planning, an internal assessment, or external review. You really have to prepare yourselves in a way that your institutions and your administrators understand. It is important that these goals are also linked to the reward and incentive process, as you heard yesterday. Good intentions in the world are not going to get people tenured, promoted or elevated within your institutions.

For example, our ES Program has nine joint and contractual appointments - our contractual appointments are in departments that would not have been able to have new positions through retirement, attrition and reduction of numbers of students, if the ES Program and that department had not come together to recommend the position. Therefore, in our junior faculty members' contracts there is a commitment to teach a certain number of courses for the ES Program each year.

The Program communicates with the chairs of the other departments to make sure that there are no conflicts and that during sabbaticals the ES courses are taught by a replacement capable of instructing the courses. The Program takes part in the assessment and the evaluation process. Through the design of this relationship, the traditional departments are pleased to have the ES Program as a partner. The mutual benefits are valued in the relationship.

These junior faculty that we are hiring are rising stars. They arrive with book contracts in hand and serious environmentally related research. They are receiving tenure and they are publishing in the environmental field and elsewhere, for the environment today is the field they were trained in. They have not switched to it from traditional disciplines over time as many of us have done. These are environmental historians, economists, philosophers, literary theorists, etc., now having journals dedicated to these specialties.

Another area where we have thought seriously about the incentives and rewards process is in helping the junior faculty make it to full professor status through mentorship. We have a very active mentoring process - some of the senior ES affiliated faculty are the most highly regarded scholars and educators on campus.

Through mentoring, these professors actually work with the junior faculty to meet the criteria demanded at our institution for promotion. In a similar effort, we identified a course that junior faculty frequently teach that is very challenging. It is a senior capstone seminar that is a project course. Those of you who have taught project courses know how difficult they can be and that the student evaluations can be brutal. Regrettably, two years later these same individuals think it was the best thing they ever had, but those evaluations are already carved in stone on one's record. Through an Andrew W. Mellon grant, we added a position that the College hopes to continue after the grant ends. A teaching assistant now works with this course and has made a world of difference in the quality of instruction and final outcomes.

Obviously another incentive includes money. This is often the case at research institutions, but also is attractive at small colleges. The environment can attract major funding. My suggestion is to go out and look for it. We heard yesterday about federal agency grants that are interdisciplinary and are a perfect fit for environmental research. This kind of funding attracts all kinds of faculty, both junior and senior, who might not have been involved in your ES program previously. Similarly, we received a Department of Education (DoE) grant that was based around languages, international work and the environment. It attracted people we never thought would be involved in developing new courses. I worked closely with Middlebury's College Advancement Office during a capital campaign and thereafter to demonstrate just how much funding the environmental programs can attract.



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I recall meeting with 18 perspective donors over a period of 24 months to help raise several millions of dollars for the College that did not solely go to environmental programs. By doing so, the administration could see that we were not a silo, that we understood the institution's mission and that we were working towards the greater good of the entire institution. At the same time people began to recognize that if I ratchet up the environmental programs at my institution, it ratchets up the institution as a whole.

Some environmental programs can become very narrow, which is dangerous in academia. One benefit of being interdisciplinary is that we attract diverse faculty, many who have been senior administrators and can guide your program out of this tendency to become isolated and narrow. They come from areas that help to broaden your thinking. Reaching more outward as took place with the DoE grant, for example, was for the greater good of the College as a whole.

Telling your story

Someone at my table yesterday questioned whether there was a public relations pitch aspect to this work. The answer is yes. If there is a simpler way to say it: tell your story and tell it really well; tell it with data and tell it with passion. Assist the institution where they need to be assisted in knowing what impressive work is taking place within your programs.

Know what your institution cares about, what its culture is. If it's attracting incoming students, engaging alumni, hiring the best faculty, research grants, creating endowments, local public relations, make sure you articulate what your program is doing to contribute to these objectives. Our institutions have different values and slightly different cultures, so I'm leaving it to you to define what focus to take with your own institution.

Community support

I will mention a few other items that involved a community as a whole and then conclude. The Environmental Council is a group that reports to the president, creates policy and makes sure that the campus is moving towards a more sustainable way of operating. Students, faculty and staff are appointed from the College's staff council, faculty council and from student government. It is not, therefore, a random group of self-identified individuals. Each is appointed from respected and recognized college committees.

The ES steering committee which I serve on and the Environmental Peak committee, which I chair, are ones that build leadership and attract people from a broader college community who are planning for the future. There are many ways to cast a broader net and involve more people at your institution. Last year we worked with over 38 academic and administrative departments on campus to achieve college-wide environmental goals.

Another group of faculty and staff meet at lunchtime for a book discussion around sustainability. Through these groups, a crossing over is taking place and breaking down of the barriers between people that never talked together, never worked together, never crossed each other's paths on campus. Suddenly, you have a staff member of Facilities Management contacting someone he or she knew in the Physics Department saying, "I can assist with the installation of the tower to monitor wind at the ski area, so you have students interested in conducting the research for a thesis to see if there is potential to generate wind power at this site." Now collaborations that never were possible exist because of such dialogues. These relationships are accompanied by a sense of trust, common goals and the breaking down of institutional barriers. Collaboration is essential.

I initiated a small environmental grant program, small amounts of money available to people who have good ideas. One requirement was that each proposal has to have a collaborative component with some combination of faculty, students or staff involvement. It is important to realize that we are not operating these small little ships in a vast sea, but instead are part of an entire fleet.



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Conclusion

In conclusion, I will reiterate that Middlebury College has attempted to integrate the environment throughout the college community and beyond. In doing so, the College and others have benefited both internally and externally. Middlebury College has chosen a path that contains many transferable parts for other institutions of higher education. In consort, we can take the important and impressive work that is being done at each of our colleges and universities to a greater scale.

Project Kaleidoscope is very much about effecting change in higher education. My final message, therefore, is for you to carry a goal to implement at your own institution from this conference. I trust that some of the examples I have shared about Middlebury College's vision and journey have provided you with some inspiration. ■