The Piedmont Project: Fostering Faculty Development Toward Sustainability

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ABSTRACT: Many universities recognize urgent environmental dilemmas and embrace efforts to move campus operations and university culture toward sustainability. However, the broader academic mission across departments and programs is often slower to connect with sustainability efforts. The Piedmont Project at Emory University offers one model of a faculty development program that has fostered an enriching collaborative experience and has created considerable impact across the university.

KEY WORDS: campus, curriculum, environment, faculty development, sustainability

As Stapp et al. (1969) assert, an important challenge for environmental education is to extend beyond awareness of environmental and sustainability problems to include awareness of solutions and motivation to work toward them. This challenge has to overcome the pressures of research and the reward structure and traditions of the academy (Zencey, 1996). Faculty may be concerned about environmental degradation and global dimensions of sustainability (Kempton, Boster, & Hartley, 1999) but may be reluctant to take action or even to engage in public debate because their own disciplinary expertise lies elsewhere. We will explore how the Piedmont Project has not only helped teachers discover new content and paradigms that educate for sustainability, but has also fostered new teaching methods and new forms of community engagement.

Modeled on the Ponderosa Project, which began 11 years ago at Northern Arizona University (Chase & Rowland, 2004), the Piedmont Project is a competitively awarded summer experience that supports a cohort of 20 participants a year. It begins with an intensive 2-day workshop when the faculty work on course materials over the summer, convening with their cohort at the end of the summer and again the following spring. The workshop faculty do not impose any one format of research

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or teaching nor do they expect any one analytical approach, but work instead to bring the breadth of approaches and expertise into dialogue with sustainability challenges. Deeper understanding of issues in Atlanta and in the university establishes a foundation of confidence and clarity that supports those who are interested in taking steps toward action and in inspiring their students to do likewise.

The Piedmont Project is built on six guiding principles derived from the work of John Dewey, the 1977 UNESCO Tbilisi Intergovernmental Conference (United Nations Educational, Scientific, and Cultural Organization [UNESCO], 1978), research in environmental education (Hungerford, Peyton, & Wilke, 1980), and campus environmental education (Cortese, 1992; Orr, 1992, 1994; Schoenfeld, 1971; Stapp, 1969; Thomashow, 1995; Thayer, 2003). Those principles are:

1. Build recognition of the urgent environmental challenges and connected economic and social dimensions, including the opportunities and positive consequences that may flow from addressing these challenges.
2. Bring together a broad range of interdisciplinary expertise.
3. Develop a spirit of interdisciplinary cooperation on the basis of openness to working across traditional disciplines and welcome dialogue around a problem orientation.
4. Help faculty explore the shift in pedagogy from a paradigm of teacher as expert to teacher as facilitator of learning, becoming colearners with students and with each other.
5. Offer opportunities to combine professional research skills with ethical reflection, personal responsibility, and action, raising questions about daily life habits as well as long-term institutional policies.
6. Ground the learning experience of the faculty (and through them, their students) in awareness of place, of the specific bioregion of which the university is a part, to build concrete arenas of understanding and meaningful experiences that support motivation.

About the Piedmont Project

Emory University is a private institution in Atlanta with an undergraduate college, a graduate school of arts and sciences, professional schools in business, medicine, theology, nursing, law, and public health, and a 2-year liberal arts college affiliate. In the late 1990s, grassroots efforts of faculty, staff, students, and administrators began to raise issues about environmental stewardship. They made an effort to provide and increase alternative transportation, recycling, and green buildings. The challenge was to engage the broad base of faculty, whose energies were focused on teaching and research, to use the members' diversity of expertise to advantage. After one faculty member attended the Ponderosa Project, the faculty Green Lunch Group (a monthly gathering to discuss environment-related research and sustainability issues) committed to developing its own program. An in-house teaching and curriculum innovation fund financed the program and the first cohort of 20 faculty met in May, 2001.

High faculty satisfaction in workshop evaluations was important to continued internal funding for the next 4 years, and workshop leaders were well placed to encourage administrative support from diverse sources. Then the Deans' budget committed support for six units for the next 5 years. All through the history of the Piedmont Project, faculty and staff generously volunteered. In the first year, the name "Piedmont Project" was adopted, in honor of Atlanta's geographical place within the southeastern United States.

To apply to the project, faculty members describe a new course they want to develop or an old course they want to reshape to contain environmental and sustainability themes. In 1 year, the faculty invited several administrators and they proposed a project within their job purview.

The Piedmont Project consists of four activities:

1. A 2-day workshop at the beginning of the summer is led by the authors and 1 or 2 participants from previous years. The workshop includes presentations by resource people drawn from the faculty and the community on issues of sustainability, environment, and curriculua. In addition, group discussions and guided woods walks complete the workshop.
2. Independent work over the summer to prepare new course materials culminates in a new syllabus and a statement from participants outlining how the workshop affected their plans for their new course and why. (Faculty members are paid a stipend when they turn in these materials.)
3. An end-of-summer field trip to local sustainability relevant sites is combined with a discussion of progress over the summer.
4. A follow-up dinner a year later provides an opportunity to discuss how the new courses went and the impact of the project on professional perspectives, teaching methods, and other issues.

Interest has spread far beyond faculty with expertise in environmental and sustainability issues, and nearly 100 faculty representing all of Emory's colleges and professional schools have participated in the Piedmont Project over the first 5 years. Participants receive a $1000 stipend and breakfast and lunch for 2 days. Other costs include small honoraria for presenters, transportation for the field trip, and the follow-up dinner, for a total of $15,000 to $25,000 per year, depending on the size of faculty stipends. There has been debate about whether the program could be successful with a $500 stipend, and other schools have had good experience with other levels of funding.

Method

To assess the impact of the Piedmont Project, we combined ethnographic and survey methods. We gave each participant a short e-mail feedback survey a few days after the workshop. Response rates for the five cohorts of 20 Piedmont Project faculty per year were 83%, 55%, 95%, 63%, and 87%. Most questions were qualitative with some ratings of individual workshop components. Workshop leaders did not expect the strength of the positive feedback and this led to in-depth interviews carried out with all members of the first two cohorts, 1 year after completion of the program for each group (see Barlett, 2005). Lasting for a half hour to 2 hours, these face-to-face interviews were open-ended, and interviewers reviewed participants' experience in the workshop, asked about changes that resulted, and probed attitudes and behavior relevant to sustainability. We conducted another e-mail survey about the long-term impact of the Piedmont Project in the 4th year to assess the numbers of courses developed, changes in teaching methods, and impact on research and writing. Of 51 faculty in the first three cohorts, 42 people responded to this survey (82%); we excluded administrators and staff from the study. In addition, in this analysis, we used the written reflection statements that faculty submit at the end of the summer with their syllabi. Unfortunately, we do not have data at this time to measure impact on students from the Piedmont Project. These sources, plus the conversations with participants and observations of campus change since 2000, formed the basis of this report (see Barlett & Eisen, 2002).

Project Components

Table 1 summarizes the eight basic pedagogical components of the Piedmont Project that engage faculty in sustainability issues, to change their courses, and to foster an intellectual and action-oriented community.

TABLE 1. Piedmont Project Methods for Faculty Development and Curriculum Innovation

Project method	Specifics
Readings	Introduce global and local problems from diverse perspectives.
Resource people	Broaden knowledge base and breadth of perspectives that can be brought to bear. Link to ethical action and campus change.
Interdisciplinary cohort	Rich diversity of disciplines represented in each group enriches perspectives on the issues. Offers future expert guests to invite to classes.
Setting the tone	Dinner before the workshop and decentering the resource people as experts in favor of peer discussions helps transcend university silos and makes a safer space for learning.
Workshop footprint	Models new behavior by having local foods, or foods that are sustainably produced, and by reducing waste.
Time outdoors	Guided woods walks build knowledge of locale and excitement about experiential learning for students.
Faculty fieldtrips	Cohort selects site that emerges from workshop as a place of strong interest and relevance. Local fieldtrips become new course components.
Creativity in teaching	Alumni share course experiences that build community and demonstrate diversity of past projects, successes, and challenges.

Readings and resource people. Engaging our first principle—recognition of urgent challenges in all three dimensions of sustainability—begins with background readings given to all participants prior to the 2-day workshop. The readings introduce definitions of sustainability (and nonsustainability) through distinct disciplinary approaches, using writings by such authors as David Suzuki and David Orr or a poem by PattiAnn Rogers. We integrate points from the readings throughout the workshop.

Participants immerse themselves in basic knowledge through four half-hour presentations during the workshop. Topics covered include the local Piedmont forest ecosystem, environmental justice and equity issues, public health consequences of sprawl (Frumkin, Frank, & Jackson, 2004), and current campus sustainability efforts. The talks develop faculty awareness of the campus and issues related to Atlanta and the surrounding region, thus serving as well our sixth principle, of grounding in place. Faculty members report that familiarity with local Atlanta and campus examples helps them more easily imagine connections to their own courses.

Some resource people (i.e., people with special expertise invited from the faculty and greater community) also discuss ways in which their personal lives embody sustainable practices or their actions on campus or in civic groups have similar goals. Workshop discussion leaders intentionally connect with ethical concerns, but do not impose them.

Interdisciplinary cohort. Each Piedmont project cohort represents as many different departments, programs, and schools as possible, with at least one from every professional school—public health, nursing, theology, medicine, law, and business—and nearly every college department, including

anthropology, biology, environmental studies, Russian and East Asian languages and cultures, Spanish and Portuguese, philosophy, religion, English, art history, the Institute for Liberal Arts, mathematics, history, classics, French and Italian, music, women's studies, physical education and dance, economics, visual arts, neuroscience and behavioral biology, sociology, chemistry, Middle Eastern studies, German, and theater. In addition, a college dean, the vice provost for academic affairs, the associate dean for theology, and three librarians have participated.

Faculty members enter the project with only an idea for a new course or project, but after completing the workshop about half describe dramatic changes in their plans. The workshop provides new resources, readings, ideas for student research, and potential guest speakers for classroom visits. The importance and effectiveness of this aspect of the Piedmont Project is addressed in this statement from a social science team on one of our evaluation surveys:

> The interdisciplinary make-up of our group greatly enhanced our experience and the payoff from these brainstorming sessions. Because we all approach environmental issues from different angles, the presence of our peers from across the university helped highlight areas of inquiry and raise questions about which we would otherwise never think.

Interdisciplinary engagement: Setting the tone. This diversity of intellectual background provides the obvious benefit of many perspectives on course content and methods. It also helps faculty see the necessity of cooperation across the boundaries of the academy. Issues and problems in the environment and sustainability are complex and require interdisciplinarity to develop useful solutions and approaches (Einstein, 1995; Ellis, 1994). Additionally, getting away from the political, social, and academic limitations of one's own department is valuable to foster nontraditional ways of looking at the world. The interdisciplinary groups create the kind of safe space in which such work is most effectively carried out (Barlett, 2005). To foster this interdisciplinary engagement, we begin with a dinner the evening before the workshop, which provides a relaxed opportunity to meet each other.

Our approach de-emphasizes the role of the expert and turns attention to the value of all members of the faculty in the room through small group discussions focusing on the proposed new courses and on curricular development in general. The group activities at several points strengthen networking and critical engagement with the issues and build community. The project helps faculty transcend university barriers and shifts the paradigm toward the colearner model. One participant said, "The hands-on approach (including the ability of presenters to step back as experts whenever possible), which provided plenty of space for individual thoughts and exploration." As we explore in the Impact section, faculty report that they often transfer these pedagogical approaches to their new courses hand-in-hand with the new knowledge base they obtain.

Workshop footprint. To support the connections between the intellectual issues of the workshop and ethical concerns and daily life (fifth principle), over the years, we have decreased the environmental footprint of the workshop. Faculty bring reusable mugs. They phased out plastic lunchboxes in favor of buffets and reusable trays. A recent innovation along these lines was having a caterer provide lunches made from local foods, paying special attention to organic ingredients grown on local family farms. This innovation cost no more than previous lunches and was a taste success. We try to reduce the workshop footprint in a gentle style, affirming that we are colearners with the institution to see how such events can be done differently.

Time outdoors. The opening workshop draws attention in multiple ways to the place in which we live—its built and natural space, wildlife, water systems, its relation to human health, and the cam-

pus place in relation to the city and state. The Piedmont Project workshop is held just off the main campus with easy access to a forest preserve and a creek. Participants are encouraged to spend time outdoors during meals and small-group discussions, and there is a background half-hour lecture on the Piedmont forest ecosystem. After lunch, an ecologist leads a leisurely 1-hr hike and identifies plants and forest features, often with stories.

In these activities, participants come to have a sense of place, sometimes for the first time. This strategy gives faculty restorative exercise (Kaplan & Kaplan, 2005) and demonstrates the power of experiential learning. These walks often encourage teachers to integrate on-campus observations and exercises into their courses. One participant said, "But the most fun was the experiential thing. . . . It was something new. And being in a city with woods; that's really unusual. The experience was operating on many levels."

Faculty field trips. Each cohort generates particular issues of interest, and the workshop leaders then design the end-of-summer field trip to explore those issues in greater depth. Examples are a species diversity exercise in a pond ecosystem, a visit to a neighborhood devastated by sewage overflow and a renovated water treatment plant, and a trip to an innovative business. The field trip introduces local leaders or experts who share their stories and become resources for the faculty's new courses. Field trips help solidify teachers' appreciation for experiential learning and help them imagine trips they might take with their own classes.

Creativity in teaching. Another component of the workshop is a series of short presentations by Piedmont Project alumni who share their own creativity by describing the changes they made in their courses. Presenters demonstrate content or techniques that they use. Recently, an ethnomusicologist performed a native Korean drum dance that celebrates the connection to the natural world in that culture. The opportunity to see a range of innovations from diverse fields not only stimulates new ideas for participants, but also validates that the workshop is about creativity in teaching methods, not just course content. These presentations reinforce the trust in the group, because not all innovations are successes. Faculty at all stages of their careers are invited to present, reinforcing the colearner model.

Impact

To examine the effectiveness of the Piedmont Project, we seek to answer these questions: (a) What curriculum changes were made and where? (b) What effect has the project had on the pedagogical approaches of the faculty, especially regarding connections with place? and (c) Have there been broader and institutional impacts of the project and what are their implications?

Course changes. Over 5 years, more than 100 new or reshaped courses have resulted directly from the Piedmont Project, and these courses reach thousands of college students each year. Courses affected include general education and advanced courses within majors, small seminars, larger introductory courses, and professional school practica. The syllabi for these courses are available on the Worldwide Web (Piedmont Project, 2005). On an even broader scale, a recent Piedmont participant is leading the effort to redesign the entire medical school curriculum to place health within the context of the biosphere.

A particularly ambitious new course that emerged from alumni of the Piedmont Project was a team-taught, writing-intensive course, "Water in Science, Philosophy, and Literature." The idea for this course grew from a Piedmont Project field trip. It was taught for the first time by two Piedmont

faculty, a philosopher and a geologist, to a group of 45 undergraduates representing many different majors. The course integrated many of the content and pedagogical strategies introduced in the Piedmont Project—including field trips to streams and water treatment plants and interweaving science, humanities, and social science topics in the same course. Several Piedmont alumni were guests in the course and the teaching assistant for it became active in other Piedmont activities, completing a productive feedback loop.

Pedagogical innovation. The water course is not the only example of new teaching methods fostered and inspired by the project. At Northern Arizona, the Ponderosa Project developed a strong record of helping participants change not only what they teach but also how they teach, and, among Piedmont Project alumni, three-quarters of the participants reported significant changes in pedagogy—especially in terms of getting students outside more often. In addition, the many aspects of the physical and natural place of Emory and Atlanta are mentioned repeatedly as a driver of change in teaching approach. Engagement with place awakens faculty creativity and increases their satisfaction with the experience. Our method of designing the project echoes the findings of previous researchers (Einstein, 1995; Schoenfeld, 1971) that effective environmental education is experiential, interdisciplinary, problem-based education. One participant said,

> The Piedmont Project workshop has probably been the most meaningful and deeply satisfying experience I have had in the four years I have been at Emory. It not only presented me the time and opportunity to think about how to shape my course . . . but also how to restructure old courses, introducing more hands-on learning activities, as well as re-evaluate my role as an educator.

Table 2 provides specific examples of cases of pedagogical innovation focused on place. These changes involve much more than simply getting students outside, although this is a major hurdle for some and a step forward for all. New assignments immerse students in investigative and reflective activities that reinforce their own engagement with the surrounding natural world and the built environment, often pointing toward issues of action and problem-solving.

These comments from faculty reflection statements are typical and capture the essence of the thinking on place-related changes in content and pedagogy emerging from the Piedmont Project:

> Above all, I will never again be able to think of place in more or less purely theoretical terms. As our field trips made unforgettably clear, we cannot only see, but touch, smell, taste, and hear them and it is this materiality of place that I want to integrate into my teaching. . . . The course I am developing as part of my association with the Piedmont Project will include field trips to sites that will function not simply as different venues, changes of scenery: They will be the actual material of our inquiry. (Sociologist)

> The Piedmont Project forced me to think about landscape in its many forms and transformed my ideas of how to present the materials. In particular, my ideas have expanded out of the classical idea of drawing from the pastoral landscape and into ideas that incorporate the complex urban environment in which we live. In addition, I will incorporate other ways to look at the ideas of landscape and their inter-relations with the politics, culture, social structure and environment of our lives. Because of this, the class will become a writing and research class as well as a studio class. (Art Historian)

> I am very excited about the wide range of teaching strategies emphasized by the program directors. Most striking was the idea of getting the students out of the classroom. . . . But I also real-

TABLE 2. Course Connections to Place

Course (subject area)	Place pedagogy introduced
Introduction to Ethics (philosophy)	Added two outdoors field trips integrating ethical implications of the human relationship to the environment, globally and locally.
Exploring Architecture: Emory, Atlanta, and Beyond	Explored university and diverse Atlanta neighborhoods; researched what existed prior to urban, suburban, and campus fabric and relations between natural and built environments.
Jardines y Maravillas (Spanish and Portugese)	Expanded discussions of gardens and parks in culture of 10th–17th century Spain to include similar issues of nature in Hispanic communities of Atlanta.
Chinese	Students developed brochures in different Chinese languages on the trees and environmental issues of the Emory campus.
Law and Business (business)	Developed assignment in which students designed, carried out, and analyzed projects designed to change unsustainable behaviors in the Atlanta or Emory community.
Introduction to Directing (theater studies)	Related the clear-cutting of forests in Chekhov's Russia to the issue of trees in the contemporary Emory and Atlanta environment.
Senior Seminar (women's studies)	Developed two campus walks for experiential learning to support a key tenet of ecofeminism: a greater understanding of human relation to and impact on the natural world.
Media and Culture (anthropology)	Added perspectives on the physical environment, the political, and ideological environment of media (mediascapes), using global warming as a case study. Students conducted research, exploring the media's connection to place.
Romanticism (English)	Students chose a site in nature on or nearby campus, made observations, and wrote (first in prose, then in poetry), learning to be Romantic natural historians and poets.
How to Interpret Behavior You Did Not See (neuroscience and behavioral biology)	Added botanical observations via outdoor, experiential learning on native and nonnative plants and how they affect animal behavior.
Daily Life in Ancient Israel	Students discussed, in each section of the course (agriculture, empire), the connections to environment and what it takes for a culture to be sustainable.
Physical Education	Added readings and discussions on the campus environmental impact of the physical activities in which students engage.
Water: Interdisciplinary Perspectives on a Vital Element (philosophy and environmental studies)	Course involved field trips to observe water treatment facilities and to measure water flow rate in streams. Students kept journals of environmental experiences and carried out independent research projects on water that integrated various disciplines.

ize that students are much more likely to think about the ideas we discuss if they find them outside of the classroom. . . . Philosophy and most certainly philosophies of the environment can be found all over the place, and I want my students to *learn to reflect* on moral questions wherever they occur. (Philosopher)

New scholarly and personal directions. Some faculty members say the kinds of fundamental changes in course content and method inspired by the Piedmont Project connect them to deeper questions about university actions and their own personal responsibility. For example, now students in introductory chemistry labs not only begin a chemical synthesis project with a recyclable aluminum can, but also consider ethical issues of their work: the impacts of their science on society and their responsibilities as scientists to these questions.

Evidence from personal interviews and e-mail surveys shows that, for some Piedmont participants, the project has affected their research directions. When queried several years after their participation, about half of participants reported that they published something or gave a professional presentation as a spin-off from the changes in their courses. Other faculty members reported changes in how they led their lives in general. Greater efforts to reduce their home life footprint or to engage in local governmental opportunities to work on environmental issues or against sprawl were typical of this group. In these ways, the Piedmont Project has fostered deeper citizen engagement with the sustainability challenges of our time.

These types of comments, illustrating a broader impact of the Piedmont Project on faculty, are common:

> I realized something that will probably affect my teaching much more profoundly than any change in content . . . namely that how we interact with one another as human beings is an ecological issue. Moreover, it is an issue that the planners of and participants in the Piedmont Project were mindful of in ways that were not programmatically articulated, but simply enacted. It is this quality of interaction in which we attend to the immediate and very real needs and possibilities of those people and things with whom and which we come into contact that I was ultimately most astonished and moved by in this group. It is what I will most cherish about the experience and what I most hope to incorporate into my own future interactions with students in learning environments. (Comparative Literature)

> I found I was able to use this notion [of Ecology] to rethink the way I had long presented the topic of Romanticism to my students, with a new emphasis on its sustainability as a world view or cognitive environment in the midst of the natural environment. In other words, I found myself taking ecology and sustainability both literally and figuratively as I revisited a course I had taught, off and on, for the last 30 years. As it turned out, I have probably spent more time and energy reconstructing this familiar course over the last 6 weeks than I have on any course I've taught. (English)

Ripples in the Institutional Waters

Figure 1 provides a schematic view of how the Piedmont Project contributes to a sustainable university commitment. One way to think visually of the Piedmont Project is as a stone hitting the water. If the Piedmont Project course changes are one circle, other emanating circles of courses and events have grown from ideas and networking that occurred through the project.

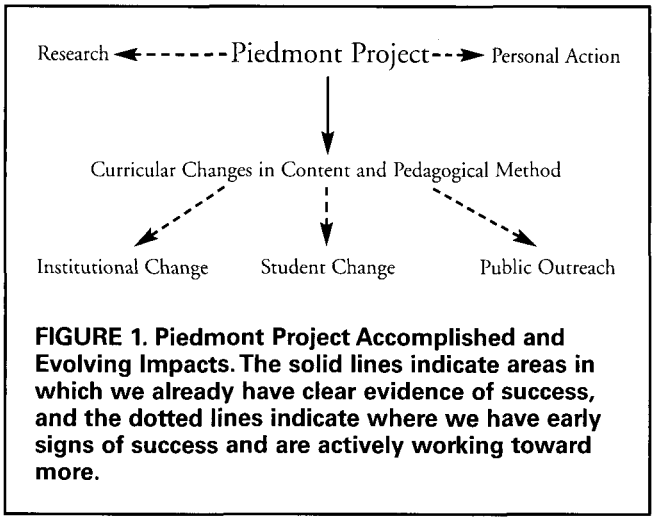

FIGURE 1. Piedmont Project Accomplished and Evolving Impacts. The solid lines indicate areas in which we already have clear evidence of success, and the dotted lines indicate where we have early signs of success and are actively working toward more.

Impacts on student residential communities. Piedmont faculty have also initiated or enhanced activities in environmental education within student and faculty residential communities. Bridging Academics, Service, and Ethics (BASE) is an Emory residence hall program in which one faculty member and his family lived with 28 upperclassmen and engaged in the integration of academics, residential life, and the greater community. One year, BASE was involved in a number of environmentally based service projects and hosted a seminar course taught by the faculty-in-residence on genetically modified organisms.

Symposia. The genetically modified organisms (GMO) course was also linked to a campus-wide symposium on GMOs featuring environmentalist David Suzuki. In addition to visiting the class, he gave a public lecture and led a public symposium with other experts on the many facets of GMOs. The following year, a 2-day public symposium on water was another ripple from the original Piedmont Project interest in water issues. It featured panels on Atlanta water issues, water and spirituality, water and politics, water and disease, and teaching about water, and included many Piedmont participants. Undergraduate and graduate students, faculty, facilities management and other staff, and members of the broader community attended. The symposium provided a neutral forum to discuss controversial local, national, and international environmental issues and catalyzed action steps. For example, Emory was challenged to capture and reuse its water by a panelist from the Sierra Club. A community businessman who sells the technology for such capture and campus facilities management staff were in the audience, and these parties began a dialogue about Emory's challenges regarding stormwater runoff.

Bringing graduate students into the project. One direct result of the Piedmont Project is its expansion into graduate student development. This has occurred in two ways. Piedmont Project leaders and past participants facilitate a 1-hr workshop annually for all second year graduate students as part of their general teaching assistant preparation. More substantively, the Graduate School of Arts and Sciences provided funds the last 3 years to support a customized version of the faculty workshop for 10–20 graduate students per year. Graduate students often go on to offer their Piedmont course in the subsequent year—usually at Emory, but sometimes in new jobs at other universities. At times, graduate students pull the regular Emory faculty with whom they teach into the dialogue about sus-

tainability, environmental issues, and teaching methods, thereby expanding the program's impact. Early indications are that this experience is a useful job credential and encourages future faculty to engage sustainability issues early in their academic careers.

University strategic plan. Under new leadership, Emory has recently undergone an extensive campus-wide planning process, and it is a sign of the impact of the Piedmont Project and many other efforts on campus and beyond, that sustainability has officially been named as a foundational commitment of the university. The new committee outlining the issues to be addressed and their relation to the strategic plan is cochaired by a Piedmont Project leader and a university vice president.

Finally, another sign of the project's success is that the undergraduate college and many professional schools have now made a financial commitment to support it.

Challenges and Shortcomings

The Piedmont Project workshops bring together very diverse groups of scholars, and one challenge is to find a good level of information that engages both those who are sophisticated in sustainability issues and those who are novices. The workshop resource people combine information at a range of levels, together with concrete examples. It is a challenge to explore teaching methods with beginning faculty, long-time teachers, those interested in teaching philosophy, and those who rarely think about method. The specific small group discussions developed for the original Ponderosa Project work well, and most participants find an avenue of engagement. Selections of readings have been the hardest because no one article is interesting or valuable to the whole group.

For various reasons, such as additional departmental teaching or administrative assignments, five faculty members have not been able to offer their courses, and not all administrators were successful in completing their project as planned. In one case, however, a planned syllabus was finally used after a 3-year wait. A few faculty have offered a course once and dropped it, but most offer them regularly. It is true that perhaps some courses would have been developed without the program, but the community built across the campus has had great value. Piedmont Project alumni frequently call for refresher workshops or new field trips, to permit continued conversations across the university boundaries. Though not all faculty who participated value a closer intellectual community, most do and rate it as one of the most important parts of the Piedmont Project. The biggest shortcoming of the project is an inability to find a good assessment tool to measure impact on students.

Conclusion

The eight components of the Piedmont Project embody for faculty the principles of environmental education for students articulated in the 1977 UNESCO Tbilisi Intergovernmental Conference Declaration (UNESCO, 1978) in that:

1. Faculty take primary responsibility for their learning agenda, for new course content and pedagogical decisions—and this carries over into other teaching.
2. Current Atlanta sustainability challenges are linked to root causes in presentations made by several resource people.
3. Complexity of issues is explored and critical thinking from multiple disciplines is brought to bear in small- and large-group discussions.
4. These and other diverse ways of learning are modeled through multiple approaches.
5. Participatory, interdisciplinary approaches to problem-solving are fostered.

The project goes beyond the Tbilisi approach, however, in the commitment to grounding the project in place. Faculty become more literate in the bioregion of the Piedmont and the immediate environs of the campus, and their enthusiasm for learning more about place is translated into many student projects and continued interest in project activities.

Faculty—the learners—drive the Piedmont project. Their curiosity and intellectual excitement is piqued through the activities of the workshop and through continued experiences in field trips. At their own pace, led by their own personal and intellectual agenda, their own values and professional opportunities, Piedmont Project participants move from new knowledge to deeper levels of engagement. Participants are always refining the methods used in this program, but it has shown itself to be a useful tool in helping faculty members take up the challenge of being effective and engaged in moving toward sustainability.

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