Caring for Nature 101, or Alternative Perspectives on Educating Natural Resource Managers and Ecologically Conscious Citizens

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The question is, does the educated citizen know he is only a cog in an ecological mechanism? That if he will work with that mechanism his mental wealth and his material wealth can expand indefinitely? But that if he refuses to work with it, it will ultimately grind him to dust? If education does not teach us these things, then what is education for?

—Aldo Leopold (1949/1966, p. 210, emphasis added)

Half a century later, Leopold’s question remains a crucial one. Toward what end do we educate people? Although this question has been asked by education reformers over the past two centuries, the link between education and the 20th-century ecological crisis is of increasingly critical concern. In this article I examine the contributions of alternative perspectives from environmental philosophy to university teaching practices that might begin to address Leopold’s still relevant query: How do we produce ecologically educated citizens?

The Legacy of Modern Education

As David Orr (1991) has made clear, education in and of itself has not necessarily resulted in better citizens generally, nor in ecologically conscious citizens in particular. Orr wrote:

It is worth noting that [the ecological] crisis is not the work of ignorant people. It is, rather, largely the result of work by people with BAs, BScs, LLBs, MBAs, and PhDs. Elie Wiesel recently made the same point . . . saying that the designers and perpetrators of Auschwitz, Dachau, Buchenwald—the Holocaust—were the heirs of Kant and Goethe. In most respects the Germans were the best educated people on Earth, but their education did not serve as an adequate barrier to barbarity. (1991, p. 99)

It is indeed the well educated, and the well intentioned, in the developed countries, who use three quarters of the world’s natural resources, whose children are a greater ecological burden then the children of a Bangledeshi, whose cars and taste for South American beef contribute to climate change and deforestation—and who often send millions of dollars in donations toward saving the tiger, the whale, the starving children of Bangladesh. In short, it is the relatively well-educated and well-intentioned Canadians, Americans, and Europeans who contribute most to the ecological crisis while fighting most vocally to lessen the crisis. And it is certainly the well educated who make the decisions in the developing countries that lead to increased desertification, loss of species, deforestation, the shift to cash cropping and subsequent malnourishment of local children, and the enormous hydroelectric power projects...
that routinely make homeless thousands. So, to paraphrase Orr, what is wrong with our education?

Wiesel is precise in his critique of the German education that was precursor to the Holocaust:


Now the words values and conscience might ring alarm bells, particularly for those who have had cause to criticize rational-scientific-industrial society's choices of values. Wiesel's comment is particularly relevant for resource managers, because it sums up succinctly the essential nature of the education most resource managers currently receive. Examining the curriculum and the pedagogy in today's forestry, wildlife and fisheries biology, and other natural resource management degrees one finds theories, abstract concepts, an ideology of economic efficiency, and an emphasis on answers substituting for careful thought. The consequences, for both the "resources" and a resource-dependent society, are profound. In fairness, resource management education has, in the last few years, reached a point where the need for change is now recognized (see Gilbert, Blatner, Carroll, Richmond, & Zamora, 1993), but that change is slow to filter through the institutional structures.

For those who have argued for such a change, or who wish to participate in such a change, Wiesel's statement, along with Leopold's earlier question and underlying philosophy, suggest points from which educators of ecological conscience could begin to examine their own environmental teachings. Other points of challenge to concerned educators can be found in contemporary environmental philosophies, as well as in older traditions. In this article I want to briefly consider the challenges to modern resource education found in feminist and ecofeminist philosophies and in Leopold's Land Ethic before I turn to the question of applications. This discussion cannot consider all possible challenges. I merely wish to present a few that I have found to be particularly engaging. The key ideas found in each of the philosophies that are particularly engaging include what the feminists call an ethic of care and the linkage of the personal with the political or of philosophy with action.

An Ethic of Care

Feminist philosophy has been strongly influenced by the ethic of care discourse begun by Carol Gilligan (1982) more than a decade ago. Gilligan argued that women's nature and socialization produce a person more likely to identify with others and to "care" about those others. Nancy Hartsock (1983) made a similar argument in her work on feminist political philosophy, writing that a woman's construction of self in relation to others leads towards opposition of dualisms of any sort; valuation of concrete, everyday life; a sense of variety of connectedness and continuities both with other persons and with the natural world. (p. 242)

In other words, a feminist perspective on care and on relationships with others posits a person within all the linkages of relationships, in Leopold's words, who sees him- or herself as a "cog" in a larger system.

Ecofeminists have also adopted the ethic of care as one step toward resolving the crisis in the relationship between humanity and the rest of the natural world. Ecofeminists such as Marilyn French (1985), Beverly Harrison (1989), Marti Kheel (1985), and others argued that it is feelings of caring, perhaps even love, that must be recovered as legitimate sources of knowledge. Feeling and personal experiences lead people to care, a solution to the techno-industrial society's alienated and ecologically destructive approach to the world. Both Stephanie Lahar (1990) and Kheel (1985, p. 144) argued that without a sense of personal connection and caring about objects and actions people cannot act in an ethically sound manner. Abstract principles (such as Cartesian philosophy, legal reasoning, or even contemporary methods for teaching ecological science) are insufficient because they fail to evoke any true commitment and can easily be manipulated to meet other ends.

Leopold (1949/1966), in his key essay, "The Land Ethic," also argued the necessity of an ethic of care, even love, as one essential necessary change in humanity's relationship with the natural world. The genius of Leopold's Land Ethic, besides his gift for writing, was his linkage of ethics to ecology. He changed the basis for arguing that something was ethically good from a human-based extension of good or bad (if it was like humans in its individual attributes, if it could feel pain—for example, as does a pet dog—then humans could have an ethical relationship with it) to an assessment of ethical good based on ecological good (an assessment that might have little individualistic human basis; a rainforest's pain might not be one people would recognize as analogous to that of an individual human). Thus Leopold's change in the definition of community is key: what is right for the ecological community, as a whole, is also also ethically right:

A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise. (1949/1966, p. 262)

At the heart of Leopold's ethic was an understanding of land as something far more complex than a set of resources, or even a collection of individual plants and animals. Rather, it was a set of ecological interactions and relationships, interactions and relationships that could be disrupted only at great risk to the health and integrity of the land. Resource managers, and others who might be involved with a piece of land, who adopted this Ethic absorbed what Leopold termed an ecological consciousness, "and this in turn reflects a conviction of individual responsibility for the health of the land" (1949/1966, p. 258).
Leopold's Ethic also incorporated two possibly more challenging ideas: aesthetics and love. His statement of ethical assessment included beauty within ecological criteria. Leopold's sense of the beautiful in nature is certainly evident in his writing, and still draws many people to read his work. And it may well remain a necessary mechanism for drawing people beyond appreciating nature writing to appreciating nature in and of itself. The ability to perceive beauty in nature may be what leads people to develop that next element in the Ethic: love.

We can be ethical only in relation to something we can see, feel, understand, love, or otherwise have faith in. (1949/1966, p. 251)

It is inconceivable to me that an ethical relation to land can exist without love, respect, and admiration for land, and a high regard for its value. (1949/1966, p. 261)

Love is perhaps the most difficult element to incorporate into resource management plans, and so it is mentioned less often than other elements of the Ethic by resource managers. It certainly accounts for many of the emotionally charged reactions individuals demonstrate to proposed alterations in some area they value. However, love remains an important part of the Land Ethic because it injects into an otherwise scientific assessment of ecological soundness that element of loving-caring that forces acceptance and willingness to sacrifice for the sake of perhaps long-term, distant ecological needs. Mandating love, of course, as with most ethical precepts, is impossible, at which point the scientific assessment becomes a moral fail-safe system.

Not unexpectedly, the emphasis on emotion and caring has come under attack. Janet Biehl (1991), for example, articulated many peoples' concern with the injection of caring into resource decision making. Biehl saw this focus as a rejection of the benefits and value of rationality, a dangerous trend. Biehl argued that there is nothing inherently liberating for women, men, or nature in a complete embrace of subjectivity or of experiential caring as a basis for improving our relations with each other or the natural world:

[Caring] simply rests on the tenuous prayer that individuals will be motivated to "care." But individuals may easily start or stop caring. They may care at their whim. They may not care enough. They may care about some but not others. Lacking an institutional form and dependent on individual whim, "caring" is a slender thread on which to base an emancipatory political life. (p. 150)

Depending on experience, feeling, and subjectivity as legitimate ways of knowing, according to the critics, is to reject rationality, and a necessary objectivity. It is to throw away the best in industrial society along with the worst of its rational excesses. Yet a reclamation of emotion and subjectivity as important elements in environmental education is not necessarily that fatal step of rejecting all of rationality and objectivity. As ecofeminists Val Plumwood (1991), Ynestra King (1981), and Lorraine Code (1988) pointed out, to focus on emotion and subjectivity to the exclusion of other forms of knowledge is to fall into an old dualistic trap: either emotion or rationality. Further, although Biehl was correct in her suspicion of the tenuousness of "caring," there is nothing to demonstrate that rationality is any less tenuous in its solutions.

The Personal and the Political

Another response to Leopold's question—What is education for?—is the linkage of philosophy and action, making the personal the political. In feminism this idea comes particularly out of liberal feminist philosophy (whose devotees have worked hard on improving jobs and wages for women, better political representation, and other political needs) and cultural feminism (whose adherents have argued that healing personal pain and trauma and/or finding a spiritual grounding translates into broader global achievements).

In ecofeminism, the use of the idea of praxis derives from its proponents, who were often women of strong activist bents involved in environmentalist activities. King (1981), for example, wrote:

Eco-feminism is about connectedness and wholeness of theory and practice. It asserts the special strength and integrity of every thing. For us, the snail darter is to be considered side by side with a community's need for water, the porpoise side by side with appetite for tuna. (p. 10)

Other prominent ecofeminists also appear to be implementing ecofeminist philosophies into their practice. Starhawk (1990) is a participant in the Livermore Action Group, which has spent much time protesting the Diablo Canyon Nuclear Power Plant in California. King (1981) has marched for women's rights. Charlene Spretnak (1991) is active in the California Green Politics movement, which in 1991 put the Green Party on the state ballot. Vandana Shiva (Spaanel, 1988) has spent time with the Chipko Movement in India, members of which preserve trees by placing themselves physically between the trees and company axes. Rachel Bagby (1988) works with the WomanEarth Institute in California, a group that seeks to implement ecological feminist principles in practice.

Perhaps it is Starhawk (1979) who argues the connection between philosophy and action, and between feeling and rationality, most persuasively and who, like Orr and Wiesel and Leopold, begins to prick most deeply at the conscience of the educator wondering, what is education for?

Life, being sacred, demands our full participation . . . Life demands honesty . . . It demands integrity—being integrated, having brought together and recognized our conflicting internal forces, and being integrated into a larger community of selves and life-forms. Life demands courage and vulnerability, because without them there can be no openness and no connection; and it requires responsibility and discipline, to make choices and face the consequences, to carry out what we undertake. And finally, life demands love . . . love, of self and of others, erotic love, transforming love, affectionate love, delighted love for the myriad forms of life evolving and changing . . . and raging love against all that would diminish the unspeakable beauty of the world. (p. 421)
Leopold, too, spent his last decades arguing, and practicing, such a linkage. His Land Ethic intrinsically depends on a community of individuals becoming actively involved in implementing appropriate management practices. Leopold’s ecological consciousness “in turn reflects a conviction of individual responsibility for the health of the land. Health is the capacity for self-renewal” (Leopold, 1949/1966, p. 258). Whereas the target of the Land Ethic was a collective whole, the application of the Ethic relied upon individuals to take up their responsibility for the land. Society might come to be involved as more individuals adopted this sense of ethical goodness, but it still relied on a community of individuals individually accepting their land responsibility. Leopold himself practiced what he preached in his reclamation of his farm in the Baraboo hills of Wisconsin and in his still legendary teaching in the Wildlife Department at the University of Wisconsin-Madison. Leopold himself answered his own question—what is education for?—on a couple of different occasions; he spoke to the role of the individual. In one essay, he wrote:

The objective [of an education] is to teach the student to see the land, to understand what he sees, and enjoy what he understands. (1942/1991, p. 302, emphasis added)

In a second essay, Leopold was even more explicit:

The problem [in education] is how to bring about a striving for harmony with land among people, many of whom have forgotten there is any such thing as land, among whom education and culture have become almost synonymous with landlessness. This is the problem of “conservation education.” (1949/1966, p. 210)

This education of the people, the teaching of students to encourage the individual responsibility necessary to achieve better relations with the land, the inducement for caring, is the challenge facing ecologically conscious educators of future resource managers and ecological citizens.

**Putting Philosophy Into Practice**

All the above philosophy might be presumed to be sufficient to send the average natural resource manager (and manager wannabe) fleeing white-faced from the room. In many cases it does, because resource management education emphasizes a rational scientific approach to questions. Although often lured into the resource professions by a personal love of nature, few individuals are encouraged or rewarded for integrating an ethic of caring, yet alone love, into their 4 years of formal schooling or into subsequent professional appointments. Yet such philosophy is the start toward answering Leopold’s question. So how does an environmentally conscious educator bring back into the classroom and back into students’ thoughts such philosophies? With thought, craft, and respect for the student.

The ideas of Leopold, Wiesel, Orr, Starhawk, King, Bagby, Shiva, and many others have strongly influenced my interest in becoming a university professor. Leopold’s question haunts me. A very long time ago I discovered for myself a reality Leopold (1949/1966) described almost 50 years ago:

One of the penalties of an ecological education is that one lives alone in a world of wounds. Much of the damage inflicted on land is quite invisible to laymen. An ecologist must either harden his shell and make believe that the consequences of science are none of his business, or he must be the doctor who sees the marks of death in a community that believes itself well and does not want to be told otherwise. (p. 197)

Teaching in the environmental studies area means confronting and accepting both views, and encouraging students to begin, in their own ways, to do the same.

Usually I teach two types of students. The first, the budding scientists, ecologists, engineers, and foresters, are usually well on their way to believing in their science. Cracking their shell of singular certainty is a first step toward a broader understanding of how they can later fit their education into a frequently buried earlier goal: working with the natural world. Encouraging these students to ground their science in an ethical framework—of their own devising—and into the broader social context, community, policy, politics, and even the arts, is vital.

The second type of students I see are the “bleeding-heart environmentalists.” They yearn to make the world better. They wish to save the third world from themselves (and sometimes us from the third world) by whatever drastic means necessary. They love fuzzy animals and hug trees. Such a description is not meant to trivialize their concern, their caring, or to poke fun at them. What it should demonstrate is that they experience the world’s wounds deeply, but they have no rationally derived basis through which to focus that experience. These students also need to develop a more focused understanding of the ethical and social contexts. Crucially, they also need to develop a rudimentary understanding of the physical, biological, and ecological processes and functions of the natural world they care so deeply about. They do not need to become scientists, but they do need to have a minimal ecological literacy.

And there are, of course, students who blur between the types.

In thinking about the types of classes I wanted to teach, I realized (not with any originality) that both types of students need a variety of experiences: different perspectives, integrating frameworks, and exposure to and practice at linking their philosophies to their practices.

One effective tool that appeared particularly useful in engaging the science students in discovering other views of the natural world was an exposure to the arts, in particular, music, poetry, visual art, and literature. Recognizing and valuing other ways of perceiving the natural world outside of ecological science was a discovery for many. So was the requirement that students turn their hand to an artistic project themselves. Thus, students began to recognize, in others and themselves,
how "caring for nature" could be expressed and accepted within society.

Another exercise was snapshot observation. Without prior warning students were sent outside the classroom to go off by themselves, find a spot, and just "see" what was around them for 5 minutes without putting an explanation on that observation. One suddenly noticed the large number of condoms thrown in the bushes. Another found himself isolated by the fog ed at the lack of sound and how alone he felt. One woman was watching a squirrel in a tree and a passerby started to tell her all about the habits of the four resident squirrels. She was surprised anyone paid attention to squirrels. All of them correctly made the link between environmental education and the need to be outdoors, observing: the link of classroom theory with nonintrusive practice.

A last exercise was the keeping of a journal. The journal was to encourage students to make linkages between this environmental course and the other course work they were doing, between the course and the rest of their life, between the course and the "rest of the world." Many found the journal helpful in learning to reflect and in learning to integrate. Many were able, unexpectedly for them it seemed, to suddenly identify that depth of caring for nature that had led them originally to consider careers in natural resources.

The Environmental Service Project: Praxis

Linking philosophy to practice is essential for environmentally conscious educators. Experiential environmental education does not end its usefulness at the grade school level. The "environmentalist" students are often so overwhelmed by the size of the ecological crisis that they have no idea where to make a start (often also the case with "caring" scientists). The "think globally, act locally" slogan is trite but surprisingly useful if students are given a chance to apply it. The hard-core scientists need time trying something other than controlled lab studies and textbook simulations. They need to somehow avoid the trap Leopold (1949/1966) saw in modern education: "learning to see one thing by going blind to another" (p. 168).

All the students needed encouragement to think about ecological problems as something broader and more interconnected than the news or their teachers tend to state. Toward this end I started using environmental service projects as an integrating experience for students.

The ideas behind the service project were simple: get students doing something so they will realize that an individual can make a difference; link them to the here and now; by trying solve a problem, get them to recognize how many linkages there are between issues and how much effort is required to make a difference; ground their practice in a philosophy by forcing them to relate their project to a broader social and ecological context; require them to give back to the community by having them share their results with a broader audience; get them to care and to practice. I have run the service project now with roughly 300 students over 3 years. It is the most popular part of the courses.

Students are given guidance in the selection of their projects, which range from the work of individuals to large groups, but most prefer to come up with their own projects. Several went far beyond the confines of a class demonstration and were the seeds of larger environmental efforts at an institutional level. A few projects are described below.

- One group investigated ecological practices at the University of Wisconsin-Madison. They looked at transportation (and discovered a similar critique done 20 years before), the source of food used by the cafeteria, energy demand in the dorms, and the use of nonrecyclable products such as eating utensils and styrofoam cups.
- A student decided to estimate her garbage production, and to ensure she could share the results, she wore and/or carried her garbage output of an entire week. Toward the end, she had a row of seats in the class to herself, but her point was clearly demonstrated.
- Two students from the University of Northern British Columbia approached two large stores regarding the amount of cardboard packaging that was thrown away. They sufficiently intrigued one store manager, and the store implemented a recycling program.
- Several students volunteered in soup kitchens and food pantries to understand the causes of hunger and poverty.
- Students held environmental education classes with schoolchildren in which they grew tree seedlings, learned about endangered species, and produced educational puppet shows. Several worked with homeless children in shelters.
- Several students cleaned up parks and nature areas. One worked on a hatch box for endangered trumpeter swans, another on bluebird houses.
- Three engineering students organized and ran a public presentation and debate on the proposed construction of a controversial road widening project.
- One group engaged in theater, presenting Dr. Seuss's The Lorax, an ecological fable.
- One student prepared a Fisherperson Code of Ethics brochure. He was shocked by how few recreational businesses would display it.

Student evaluations of the various courses in which I have used these techniques are highly supportive of continuing the use of the techniques. Overall the courses are very popular and draw students from across the university by word of mouth. Qualitative evidence suggests that the courses' primary source of success is the opportunity for students to take charge of finding solutions, to try their hand at addressing "real-world" problems. Further, personal reflection on individual contributions to the problems as well as the solutions becomes an important opportunity for students to understand their roles in the future as resource managers who are also ecologically conscious citizens.
A Conclusion

None of the concrete ideas I have shared here are particularly original; I've learned from excellent teachers. Without the philosophical and practical challenges issued by Leopold, Orr, and Wiesel, Starhawk or King, however, none of this would have come into “practice.” Such practices, however, are essential to making the connection between philosophy and practice, the link of ecology and ethics, that Leopold called for and that people like Orr, Starhawk, King, and others are committed to developing today. The ecofeminists have spent much time associating the abuse of nature with the abuse of the world’s disenfranchised: women, children, the poor. Ecologically speaking, we as humans are all disenfranchised if our practices do not improve, if we do not come to care for and respect the natural world upon which we are dependent.

To return to Leopold’s question, the purpose of education, and Wiesel’s point about the nature of most conventional education and its consequences, we must be drawn up short and forced to reconsider what is taught and how and for what purpose.

To inculcate a strict set of values that we, as individuals, believe in, is certainly questionable if not immoral outside the sphere of dogmatic religions. Indeed much recent development theory chides us for the imposition of Western values on others with legitimate values of their own (Bhasin, 1993; Braudotti, Charkiewicz, Hauser, & Wieringa, 1994; Churchill, 1992; LaDuke, 1990; Mies & Shiva, 1993; Shiva, 1994). An adoption of those other values indiscriminately (note the rise of interest in the “ethics” or “values” of indigenous peoples and their promotion as an alternative, although without a rise in interest in the peoples themselves). So Wiesel’s call for values is troubling. His valuing of human beings over concepts seems good, although it leaves the rest of nature on the outside. Conscience and consciousness cannot be taught, except perhaps by example.

But Wiesel’s critique cannot be ignored: The consequences are too apparent. The science of ecology is, give or take a decade, around a century old. That science has not saved us from our actions. Leopold’s Land Ethic is turning 50, and his Sand County Almanac takes its place next to the Gideon Bible in motels across the midwestern United States. That ethic has not yet taken hold in our conscience. Earth Day has turned 25. It remains a symbolic gesture. Our actions remain divorced from an ethic; our science retains its academic objectivity. The biosphere remains under threat. And our students demand education. Infusing an ethic of care and a belief in praxis into environmental education, whether for future resource managers or future ecological citizens, is vital.

These are a few of the connections that can occur between feminism, ecological feminism, environmental education, The Land Ethic, the ethic of care, and the science of ecology. I believe the intersection of these philosophies and practices and theories has something to contribute to the academic question of natural resources management and environmental education. If nothing else, the intersection suggests that environmental education cannot remain academic.

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