It is encouraging that a growing number of colleges and universities are making serious efforts to address questions of sustainability in their teaching, research, campus operations, and public relations programs. Some are building green buildings, buying green cleaning supplies, and competing in greenest campus contests. It is also heartening that food and agricultural issues have risen to prominence on green campuses, as food services respond to student demands for local sourcing of foods, composting of food waste, and space for student gardens to produce foods by sustainable methods. While going green is necessary, it is not sufficient.

Authentic sustainability is about meeting the needs of the present without diminishing opportunities for the future. Everything that is used for meeting human needs ultimately must come from...
either nature or society. The economy provides an efficient means of using natural and societal resources to meet human needs. Ecological integrity, while necessary, is not sufficient to ensure sustainability. A society that is lacking in social or economic integrity cannot sustain ecological integrity. Ecological, social, and economic integrity are inseparable dimensions of the whole of sustainability. Educational programs that focus on a specific ecological, social, or economic dimension of sustainability without effectively addressing the other two may be useful, but they do not address the fundamental question of sustainability.

Furthermore, the responsibility of current generations for the well-being of future generations is an inherently moral or ethical issue. Individuals have no economic or social incentives to invest for the benefit of those of the seventh or seventieth future generation. They won’t be able to realize returns on such investments and may not even have any descendants in those generations. Authentic sustainability is deep sustainability; it questions the rightness and goodness of our relationships with other people and with nature. Such questions are the essence of sustainability. Educational programs that fail to address the ethical dimensions of sustainability fail to address authentic sustainability.

Many sustainability education programs fail to address alternative ways of thinking, or simply attempt to modify conventional thinking to accommodate the concepts of sustainability. Such programs fail to recognize that current ways of thinking are a root cause of the current lack of sustainability. To achieve authentic sustainability, societies must evolve to a new understanding of how the world works and the place of humans within it. The paradigms that dominate current thinking view the world as a complex mechanism with many interrelated but separable parts. While these paradigms have proven efficient in extracting economic value from nature and society, mechanistic systems are incapable of the self-renewal and regeneration essential for sustainability. Paradigms for sustainability must view the world as a dynamic living organism with many interrelated and inseparable parts. We humans are not apart from but are part of that holistic organism. Only living systems are capable of relying on solar energy to renew and regenerate the resources of nature and society that must sustain the economy.

Sustainability education must go beyond an understanding of how to use natural and human resources more efficiently and even beyond substituting renewable for nonrenewable sources of energy. Educators must help students understand how to radically redesign current economic and social systems for sustainability. Authentic sustainability in higher education will require very different ways of thinking and learning to accommodate a very different worldview.

The new ways of thinking and learning must mimic those of resourceful, resilient, regenerative living systems. Living systems are made up of components with semipermeable boundaries that are neither closed nor open but instead are selectively permeable. Relationships within living systems are nonlinear, meaning they are characterized by continuous feedback loops which create reoccurring patterns of acceleration, decay, and oscillation. Living systems are...

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self-organizing. They are not precisely predictable, but they have the capacity to learn and to evolve with purpose. Living systems have memory and emergent properties and behaviors that are not characteristic of the parts but arise from relationships within the whole. These new ways of thinking are typically referred to as systems thinking, but they relate specifically to thinking about living systems.

Collaborative learning or co-learning is a means of stimulating and cultivating the new ways of thinking necessary for sustainability. In collaborative learning, some may be conveners and others participants, but there are no teachers or students; all are co-learners. Collaborative learning encourages self-organization with an open flow of knowledge both among and between participants and conveners. It encourages involvement that augments self-acquired knowledge, intelligence, imagination, and intuition. It supports and promotes openness, honesty, and harmony. It creates learning communities where people feel free to share their intellects, ideas, inspirations, and their social and ethical values. Collaborative learning is fundamentally different from traditional paradigms of higher education.

While collaborative learning may sound ideal-istic or infeasible in today’s academic environment, it is not. Recent summer “unconferences” hosted by the Midwest Regional Collaborative for Sustainability Education have brought together practitioners of collaborative learning from a wide variety of educational institutions to share their ideas and experiences. The international faculty of the Nordic Agroecology master’s program has developed a collaborative learning process which they characterize as dual learning ladders. Instead of starting at the factual/conceptual and progressing toward application, they start in the middle of the traditional process by exposing students to real world experience. They respond to students’ questions arising from those experiences to expand in both directions, toward the factual/conceptual and the applied. They also envision a corresponding ladder that describes personal reflections of students arising from the learning process in clarification of their personal values and ethics. Thoughtful educators are beginning to address the challenges of authentic sustainability education in very practical ways. The challenge is to go beyond going green and radically redesign higher education to support and encourage these new ways of thinking and learning.

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