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EDUCATING
for a Sustainable Future

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What does education have to do with making the shift toward a sustainable future?

A practice (or set of practices) is unsustainable when it undermines the health of the very systems upon which it depends and therefore cannot be continued or sustained over time. The practice of spending more money than you earn cannot be sustained over time without adverse consequences. Eating too much without exercising enough undermines the health of the body.

In contrast, a sustainable practice enhances the health of the systems upon which it depends by creating favorable conditions for it to thrive indefinitely. Mutually beneficial relationships, healthy food and exercise, saving for a rainy day—all are natural, healthy ways we have learned to behave in our everyday lives because they make it possible for us to thrive. The same concept can be used at any scale: healthy body system, healthy family system, healthy schools and communities, healthy local and global economic, social, and ecological systems.

What makes our current reality unsustainable is that the interdependent systems within which we live and upon which we depend are, simply put, out of whack. Social and economic indicators of unsustainable practices include the widening gap between rich and poor; the rising rate of obesity and diabetes in our children; and the declining graduation rate of U.S. high school students, estimated at being as low as 54 percent for urban minorities (Greene, 2002). Despite evidence that there is enough food grown on our planet to feed everyone 3,500 calories a day (Lappe, 1977, 1991), more and more people are going hungry, particularly farmers.

Ecological indicators of unsustainable practices include unprecedented and disturbing changes in our global climate due to the release of more carbon into the atmosphere at a rate that is faster than Earth's absorption rate. Similarly, our ecological footprint, an indicator of the human demand on biological capacity, exceeds the Earth's replenishment rate of biological supply by 20 percent (Wackernagel, 2008). All these are interconnected indicators—symptoms, if you will—of unsustainability. They are all the results of practices that are inadvertently causing the decline of the systems upon which we and our loved ones depend.

But the question of sustainability is much deeper than environmentalism or "greening," despite the tendency to examine it in these terms. Central to the essential question, How can we all live well within the means of nature? is a sense of agency, engagement, and hope that inspires us to create a better future for ourselves and our children. Here, too, our systems are in decline. Roper studies and Gallup polls indicate that as many as 70 percent of school-age youth feel hopeless about the future and disempowered in their daily lives (Wheeler & Bijur, 2000).

Now, this is *not* news. We have all been informed. The data have been accumulating and publicized for decades.

What *is* news is that it doesn't have to be that way. We can choose a different destination. We can learn. We can trump the habits that reside in the hardwiring of our brains that got us into this situation in the first place, and we can exercise our free will to move toward a healthy and sustainable future. A midcourse correction is required.

However, most of us have not been *educated* to grapple effectively with our current reality. Nor have we been educated to make the connections between our thinking, our behavior, and the results of that behavior on our current reality. Most people in the United States do not have a shared understanding of the knowledge, skills, and habits of mind required to make the shift toward a sustainable future. If they did, they would have learned them in school, because the foundations of our knowledge, skills, and habits of mind are cultivated in our schools.

We have to *learn* how to live well in our places without undermining their ability to sustain us over time. To ensure healthy and sustainable communities, we need to apply an ever-expanding body of knowledge; to employ an ever-changing set of skills; and to develop the attitudes that are most likely to create favorable conditions for us to thrive. We can, and I believe we must, increase our capacity to make the shift toward a sustainable future.

Educating for Sustainability

Thankfully, "intelligence is learnable" (Johnson, 2008). Therefore, those of us who educate for sustainability spend the bulk of our time preparing people in schools and communities to learn why and how to move toward a healthy and sustainable future for ourselves, for future generations, and for the living systems upon which we and, indeed, all life depend. This is a distinguishing characteristic of education for sustainability. There would be no need to educate for sustainability if there was no such thing as unsustainable. Educators for sustainability work to develop in young people and adults the knowledge, skills, attitudes, and enduring understandings required to individually and collectively contribute to a healthy and sustainable future.

What is education *for?* To address that essential question, educators for sustainability address a series of guiding questions:

Q. What kind of future do we want?
A. A healthy and sustainable future for generations to come.

Q. What do we want to sustain, for whom, and for how long?
A. A quality of life, for all, within the means of nature, indefinitely.

Q. What does our thinking have to do with our current reality and our ability to achieve the kind of future we want?

A. Our mental maps (paradigms, frames, mental models) drive the designs we create, the rules we make, the strategies we use, our behaviors and their consequences.

Q. What does our education have to do with our thinking?

A. Everything.

Education for Sustainability (EfS) was officially born in 1992 in Chapter 36 of Agenda 21, the international agreement to move toward sustainability signed by every country in the world at a UN Summit in Rio de Janeiro. The history of EfS as a field of study, before and after 1992, is well documented. One good rendition of that history is in a chapter (Federico, Cloud, Byrne, & Wheeler, 2002) of a book entitled *Stumbling Toward Sustainability* (Dernbach, 2002). A sequel, *Agenda for a Sustainable America* (Dernbach, 2009), includes updated information on EfS activity in the United States.

The Cloud Institute

At the Cloud Institute for Sustainability Education, we equip preK–12 school systems and their communities with the core content, competencies, and habits of mind that characterize education for a sustainable future. We do this by inspiring educators and engaging students through meaningful content and student-centered instruction.

Our vision is as follows:

> IMAGINE There is a shared understanding that schools have a responsibility to contribute to our individual and collective potential, and to that of the living systems upon which all life depends.
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> IMAGINE Schools are learning organizations.
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> IMAGINE The potential of having all our children in school with their teachers and mentors during the *most favorable time* in their lives for learning and paradigm shifting (*for creating new functional pathways*) in young people, and that we honor them with transformative learning

> experiences that prepare them to participate in, and to lead with us, the shift toward a sustainable future.

The Cloud Institute Framework for Education for Sustainability draws upon the original work of educators from around the world as noted in Chapter 36 of Agenda 21; the U.S. Task Force on Education for Sustainability; Harland Cleveland, Paul Hawken, Daniella Tillsbury, David Orr, Keith Wheeler, Jack Byrne, and Stephen Sterling; ministries of education in Germany, Switzerland, the United Kingdom, and Australia; colleagues and counterparts in the United States, Japan, Mexico, Canada, Hungary, the Czech Republic, Slovakia, and Russia, to name a few; and 15 years of experience in purposefully educating for a sustainable future in schools and school systems in New York City, around the United States, and throughout the world.

As outlined in our EfS Framework, the Cloud Institute (www.cloudinstitute.org) advocates that students learn (and act upon) the following:

> *Cultural Preservation and Transformation*—How the preservation of cultural histories and heritages, and the transformation of cultural identities and practices, contribute to sustainable communities. Students will develop the ability to discern with others what to preserve and what to change in order for future generations to thrive.
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> *Responsible Local/Global Citizenship*—The rights, responsibilities, and actions associated with leadership and participation toward healthy and sustainable communities. Students will know and understand these rights and responsibilities and assume their roles of leadership and participation.
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> *The Dynamics of Systems and Change*—Fundamental patterns of systems including growth, decline, and vacillation. Students will know and understand the dynamic nature of complex living systems and change over time. They will be able to apply the tools and concepts of system dynamics and systems thinking in their present lives, and to inform the choices that will affect our future.
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> *Sustainable Economics*—The evolving theories and practices of economics and the shift toward integrating our economic, natural, and social

systems, to support and maintain life on the planet. Students will know and understand 21st century economic practices and will produce and consume in ways that contribute to the health of the financial, social, and natural capital.

Healthy Commons—That upon which we all depend and for which we are all responsible (i.e., air, trust, biodiversity, climate regulation, our collective future, water, libraries, public health, heritage sites, top soil, etc.). Students will be able to recognize and value the vital importance of the Commons in our lives and for our future. They will assume the rights, responsibilities, and actions to care for the Commons.

Living Within Ecological/Natural Laws and Principles—The laws of nature and science principles of sustainability. Students will see themselves as interdependent with each other, all living things, and natural systems. They will be able to put their knowledge and understanding to use in the service of their lives, their communities, and the places in which they live.

Inventing and Affecting the Future—The vital role of vision, imagination, and intention in creating the desired future. Students will design, implement, and assess actions in the service of their individual and collective visions.

Multiple Perspectives—The perspectives, life experiences, and cultures of others, as well as our own. Students will know, understand, value, and draw from multiple perspectives to co-create with diverse stakeholders shared and evolving visions and actions in the service of a healthy and sustainable future locally and globally.

A Sense of Place—The strong connection to the place in which one lives. Students will recognize and value the interrelationships between the social, economic, ecological, and architectural history of that place and contribute to its continuous health.

Real-Life Examples

Educating for Sustainability is not just a theoretical construct. Here are some real-life examples of schools and school systems that aspire to educate for sustainability.