

## ESSAY

### **Sowing the Seeds: Moving Curriculum and School Culture Towards Education for Sustainable Development**

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2005 marks the beginning of the UN Decade for Education for Sustainable Development (ESD), but awareness of this event is practically nonexistent in the New York City public high school where I teach English. A concerted effort to teach for--or even about--sustainability in mathematics, science, business and humanities classes is more remote still. The reasons are as various as they are predictable: "poverty, ignorance, disease and violence"--the real "axis of evil" (Henderson & Ikeda, 2004, p. 84)--and high-stakes testing thrown in for good measure. In this essay, I will discuss two key issues specific to education that may help us deal more effectively with the obstacles keeping ESD from being better known and universally embraced in the schools: 1) curriculum; and 2) school culture. The important points to retain are that ESD will require a fully integrated approach to curriculum development; that small schools are by virtue of their scale better suited to do ESD; and that ideally the physical infrastructure should reflect the values and technologies which make ESD possible. My hope is to interest a number of like-minded individuals in joining an evolving team of educators, as we design together a model small school founded on the principles of ESD.

Since curriculum is not value-neutral, our values should be transparent: "peace, equity, and justice [are] necessary for a sustainable society" (McKeown, n.d.). However, in the words of Nobel Peace laureate Jimmy Carter, "War may sometimes be a necessary evil. But no matter how necessary, it is always an evil, never a good. We will not learn how to live together in peace by killing each other's children" (Carter, 2002, p. 35). In my quest to expedite our transformation from a culture of war to a culture of peace, I turn ironically to texts about war. Nel Noddings has famously made the case for using texts about war as pre-texts for teaching about and for peace, and she repeated them on August 13, 2003, during a panel discussion held at Columbia University 's Alfred J. Lerner Hall to mark the opening of the "Building a Culture of Peace for the Children of the World" exhibition. Nobel Peace laureate Betty Williams (1977) and Danny Hall, co-chair of the SGI-USA's Victory Over Violence initiative, were her co-panelists. On that occasion, she used the example of the Iliad, a war epic, to teach for peace. Another example from literature that comes to mind is Shakespeare's *Coriolanus*, a play that I would like to discuss in some detail in order to parallel problems we face in educating for sustainability.

Is *Coriolanus*, one of the last great tragedies, written in 1608, a "sustainable" play? Hardly. Yet the issues that Shakespeare has raised in *Coriolanus* are a core problematic of our time as well, for as Hazel Henderson observes, "You can't have a holistic view without being a whole person" (2004, p. 53). In *Coriolanus*, pride prevents the patrician anti-hero from baring his heart before the famine-afflicted plebeians and exchanging his war wounds for their accolades; their ignorance, which deprives the people of a clean conscience, drives their would-be leader out of Rome. Such is their mutual contempt

that it clogs the arteries of communication, and Coriolanus's betrayal by Rome fuels his desire for vengeance, as well as the ambitions of his arch-nemesis, Aufidius, leader of the Antiates, with whom he later teams up in a last ditch effort to avenge himself. Even his own mother, who for vainglory corrupted her son's unyielding nature in an attempt to make him Consul, is willing to sacrifice him on the abstract altar of the State. In the end, Coriolanus, an exile, persuaded by his mother during a moment of high pathos to spare Rome and reconcile Antium, is undone by Aufidius' jealous hatred, who immediately regrets his action, but again it is too little, too late.

I ask, then, might it be possible to fit Coriolanus into a curriculum designed to teach for sustainable development? ESD, as defined by UNESCO, is not limited to environmental awareness raising or even peace education, but describes the educational processes by which we all become human by its insistence on an other-oriented disposition and social justice issues. Moreover, social justice and environmental protection are not seen as divorced from economic growth (UNESCO, 2004). Coriolanus is a play about famine caused by hoarding and high grain prices, a situation which leads to internal strife, which in turn leads to more warfare. It is a cycle worth contextualizing--Ancient Rome, the reign of James I, the founding of the United States --and perhaps even deconstructing. Fear of the Other, and the subsequent demonization of the Other, weakens the will to dialogue and compromises our respect for life and the environment. Buddhist philosopher, peace activist and poet, Daisaku Ikeda, notes, "The cold brutality and folly that imagines that the misery of others can be the basis for our own happiness" and "the inability to recognize the reality of interconnection" is "fundamental darkness" or ignorance (2004, p. 10). "This attitude," he continues, "is sadly reflected in patterns of resource consumption that are undermining the very life-systems of the planet on which we live" (2004, p. 10), a concept succinctly expressed by Coriolanus' friend and advisor, Menenius, in the "parable of the belly," a sort of trickle-down economic model.

Coriolanus, then, is a play that addresses the nexus between human development and social justice and economic growth. Here is a public man whose hatred for his enemy and contempt for his own people function as "objective correlatives" (Eliot, 1920, p. 7) for his private resentment of his mother and his self-loathing. Coriolanus is consumed by his inability to reconcile the two "contrary" poles of his world, and so his personal shortcomings are displaced onto the public sphere.

In the classroom, what if scenarios would take a humanities seminar even further by proposing alternatives--livable, sustainable alternatives--a new way forward. To quote The Earth Charter: "As never before in history, common destiny beckons us to seek a new beginning. [...]. This requires a change of mind and heart" (2000). What if Coriolanus had had a change of heart? What if he had found the strength to lead, and so become whole? What might have he accomplished if he had followed the example set by India 's legendary King Ashoka, who did experience a change of heart:

aggrieved by the folly of his earlier murderous military campaigns, [he] changed his ways and concentrated on policies for the public good. Modern market economics [...] concentrate on efficiency and rationality and overlook important factors like social justice and human happiness. Humanity still lacks a satisfactory solution to the problem of how to create a sustainable society. (Henderson & Ikeda, 2004, p. 166)

Moreover, this type of analysis should not be limited to English or Social Studies; rather we need to expand its applications to science, business, economics, mediation, sex education, technology, and mathematics as well. With regard to mathematics and technology, for example, G.D. Chakerian and Kurt Kreith (1999) offer a course of study which "links together the use of technology (Excel, Stella) and modern mathematical techniques to explore the interaction of algebra (at the pre-calculus level) with computer and graphing calculator technology" (Chakerian and Kreith, 1999, p. 1). Their course, *Iterative Algebra and Dynamic Modeling*, is comparable to current Math B in New York City, and can be used to analyze, for instance, economic growth and its limits at the high school level. In our hypothetical small model school, Mathematics-Technology and English-Social Studies teachers could conceivably work together to design curriculum in the manner outlined above. ESD concepts must be fully integrated into the curriculum in and across all disciplines.

Efforts to promote curriculum in a coherent and integrated fashion have already paid off. The Cloud Institute for Sustainability Education (CISE, formerly known as The Sustainability Education Center, a spinoff of the American Forum for Global Education) has developed many curriculum modules, units, projects, and courses that respond "to the growing need for educational materials and professional development focused on sustainability" (Cloud, p. 1). One such module, called "The Paper Trail: Connecting Economic and Natural Systems," is a four-week introductory mini-course for use by teachers and students of economics, environment, ecology, biology, social studies, and management and business. Through an investigation of where our paper comes from and where it goes, students are introduced to the elements of ecological economics. Jamie P. Cloud, project director and president of CISE, has described the rationale behind this module:

"The Paper Trail," as it is referred to throughout the unit, was chosen for two reasons. First, paper is a commodity that students and teachers deal with daily: it is a product that they have some control over in their individual lives as well as possibly in the school and community where they live. Second, paper is linked to renewable resources and relates clearly to larger systems. We chose "The Paper Trail" in order to link systems thinking to the concept of sustainability so fundamental to ecological economics. The paper trail illustrates the many ways that "separate" systems or cycles interact. Systems thinking provides the conceptual base for ecological economics because it takes two traditionally separate disciplines and uses both to analyze the questions raised. The systems tools we introduce - concept mapping, life cycle analysis, feedback loops, and full cost accounting - can be wonderful fun to play with in a variety of contexts. Based on systems thinking, ecological economics is by its nature interdisciplinary. (Cloud, *The Paper Trail*, p. 7)

CISE projects also include "Business and Entrepreneurship Education for Sustainability (BEES)," developed for the NYC Department of Education; and "Inventing the Future: Leadership and Participation for the 21 st Century (IF)," which fulfills the requirements for the Participation in Government course needed for graduation from high school in New York State. These projects have the added advantage of incorporating sustainability education within the general framework of existing courses of study,

although CISE's focus is not always high school. CISE also prepares materials for grades 6-8 ("From Global Hunger to Sustainable Food Systems--Challenges and Choices"); adults (Stumbling Toward Sustainability); and educators (professional development for IF).

Other curriculum models exist as well, and it would be worthwhile to visit the good work that has already been done. Needless to say, peace education, education for planetary or global citizenship, and ESD are all intertwined because of the value they place on the human capacity to empathize with others. Consequently, ESD should teach us to transcend our attachment to the lesser self. "Workable Peace, a curriculum project of the Consensus Building Institute (CBI)" is being successfully used to integrate conflict resolution into the high school curriculum (Smith & Fairman, 2005). "Facing History and Ourselves" focuses attention on "the Holocaust as an extended case study" so as to illustrate the escalation of general intergroup conflict from "the historical origins of stereotyping" through "socially discriminatory behavior" to "state-sanctioned violence, and ultimately genocide" (Smith & Fairman, 2005, p. 43). The Earth Charter, too, which enunciates four "fundamental principles for building a just, sustainable, and peaceful global society in the 21 st century" (Carlsson-Paige & Lantieri, 2005, p. 111) has been thought of as "a prototype world constitution for a global communal body" (Henderson & Ikeda, 2005 p. 130). Its four main principles are, 1) Respect and Care for the Community of Life; 2) Ecological Integrity; 3) Social and Economic Justice; and 4) Democracy, Nonviolence, and Peace. ESD draws from each of these curricular models, and therein finds the breath it needs to promote change at the local and global levels. Stand-alone approaches provide needed enrichment, but the integration of these models into pre-existing courses offers greater flexibility to teachers and students.

Curriculum may drive instruction, but equally important is the proposition that school culture supports curriculum. The Office of New Schools, a bureau of the NYC Department of Education, is slated to open about two hundred small, new schools thanks in large measure to the Bill and Melinda Gates Foundation and the Michael and Susan Dell Foundation. In order for the ideals of peace, global citizenship, and sustainability to resonate with students, faculty, and administration, the school culture must support and reflect those ideals. Those ideals in turn must be experienced and lived, not just read about as topics for study removed from the realities of daily life.

I repeat my challenge, then, to interest a number of like-minded individuals in joining an evolving team of educators to design together a model small school founded on principles of ESD. This school will foster: an egalitarian culture that respects difference; the integration of technology and design, business, and core academic disciplines; a sense of community and place; values that contribute to building a culture of peace; respect for life and the environment. "Community", writes Nancy Mohr (2000), "by definition, asks us to think about others, not just ourselves, cooperating more, competing less, and caring--about what happens to one another and in the world as well" (p. 153). Envisioning such a school is certainly only the first step. Buy in will happen over time, gradually, as the community begins to experience victory after victory--as Alan Dichter, the Local Instructional Superintendent (LIS) for Region 9 remarked during a Small Learning Communities (SLC) meeting (personal communication, March 14, 2005). Team leaders are charged with the task of uniting

administrators, faculty, parents, students, community-based partners, researchers, and sponsors, all of whom share a belief in the possibility of constructing a vision of the future that is at once utopian and pragmatic. But small schools, as Nancy Mohr (2000) reminds us, are not miniature large schools; they require an entirely different mindset and patterns of behavior.

If a qualitative difference exists between large and small schools, it is to be found, I believe, in the social interactions of its members. In advancing this proposal, I take my cues from Japanese educator and pioneer of social ecology, Tsunesaburo Makiguchi, active at the beginning of the last century. In his attempt to classify human behavior as a function of two variables--participation in social exchange and self-actualization--Makiguchi distinguished three modes of living as divisions of labor:

1. Antisocial interaction--Blind living as a parasite or puppet with no self-awareness.
2. Pseudosocial interaction--Obscure living as independent individual with partial self-awareness.
3. True social interaction--Enlightened living as leader or contributor with total self-awareness. (Makiguchi, 1989, p. 47)

In my application of Makiguchi's classification, I hold that large schools tend to favor pseudosocial types of interaction by virtue of their larger-than-human scale: Human interactions oscillate between bureaucracy and hysteria; consequently, people tend to lose their good common sense and ethical principles. Small schools, on the other hand, tend to favor the ideal of "true social interaction" because all members are on an equal footing and share a common responsibility for the success of the venture. Small school culture encourages its members to live contributively "by extending one's efforts to others, with awareness of a greater self and public self-definition" (Makiguchi, 1989, p. 45). A contributive, other-oriented life-style with an eye toward an awe-inspired appreciation of the totality of nature defines the type of leadership necessary to implement ESD, and, at the same time, describes the kind of training it can offer young people, teachers, staff, and administrators. The success of a school in great measure hinges on the character development of all of its stakeholders, as Makiguchi once pointed out (Norton, 1989, p. 207); small schools provide better opportunities for that character development to occur.

Furthermore, supporting both culture and curriculum must be a viable school infrastructure that establishes the venture in the community and calls attention to it. The most obvious, and perhaps the most important, is the physical plant itself. How sustainable is the architectural design of our building? Ideally, our building should reflect the values and technologies that make our school so well-suited for educating youth for life in the 21st century. Sustainable design is not a new idea. The US Green Building Council (USGBC) promotes "buildings that are environmentally responsible, profitable and healthy places to live and work" (USGBC, 2005, Who We Are section, p. 1). Locally, institutions of higher learning have engaged in community restoration projects. One such project was carried out by Pratt Institute's Center for Community and Environmental Development, which offered technical assistance to the Cypress Hills

Community School by converting an industrial warehouse into a high-quality school and community facility. "Not only does this project illustrate how community-based organizations can be involved in producing desperately needed facilities to support small, innovative schools, it also demonstrates the use of 'green' building techniques in an educational setting" (PICCED, Cypress Hills Community School, p. 3). The use of green building technology in constructing the physical plant of the model small school we are designing would benefit our students immeasurably.

Thus housed in our hypothetical green school building, seniors will take advantage of the opportunities for sustainable business by running a Virtual Enterprise (VE). Models of sustainable businesses abound through which students can learn about the triple bottom line --economic, social, and environmental. One such model might be a green cuisine sustainable restaurant and catering establishment. "Ecolodges"--the brainchild of the Environmental Business Finance Program (EBFP) and The International Ecotourism Society (TIES)--are another (International Finance Corporation, 2005). Take-back programs, pioneered by Hewlett-Packard (computer hardware) and Ray Anderson's Interface, Inc. (textiles) are also excellent models, as is paper recycling. The VE's partnering organization(s) would be asked to provide our students with consultants to help them run the enterprise, and paid internships; a mentoring program would also be worked out through the Department of Education's Office of Strategic Partnerships. Meanwhile, our school's kitchen would prepare meals using locally grown organic produce that the students and staff would eat communally. Service learning initiatives for students would further play a role in helping them build character and establish a sense of community.

My purpose here was not to entertain a nuts and bolts discussion of the school day, but to sketch how various concepts elucidated by ESD could be integrated at all the levels of our model small school. The result is a community of people--of differing ages, interests and talents--who are excited to be there and know why they are learning.

With a good team, anything is possible.

#### References

Carlsson-Paige, Nancy & Lantieri, Linda. (2005). *A Changing vision of education*. In Nel Noddings (Ed.). *Educating citizens for global awareness*. New York and London: Teachers College Press.

Carter, Jimmy. (2002). *The Norwegian Nobel Institute. Nobel lecture*. Retrieved April 23, 2003, from [http://www.nobel.no/eng\\_lect\\_2002b.html](http://www.nobel.no/eng_lect_2002b.html).

Chakerian, G.D. and Kreith, Kurt. (1999). *Iterative Algebra and Dynamic Modeling: A Curriculum for the third Millennium*. New York: Springer Verlag. Publisher's Prospectus. Retrieved April 18, 2005, from <http://www.springeronline.com/sgw/cda/frontpage/0,11855,4-40109-22-1601743-0,00.html>.

Cloud, Jaime P. (n.d.). Sustainability Education Center. Retrieved March 5, 2005, from <http://www.sustainabilityed.org/about.htm>.

Cloud, Jaime P. (n.d.). Sustainability Education Center. The Paper Trail: Connecting Economic and Natural Systems. Retrieved March 1, 2005, from [http://www.sustainabilityed.org/Paper%20Trail\\_Week%201.PDF](http://www.sustainabilityed.org/Paper%20Trail_Week%201.PDF).

The Earth Charter. (2000). San Jose, Costa Rica: The Earth Charter International Secretariat. Retrieved from <http://www.earthcharter.org>.

Eliot, Thomas Stearns. (1996). The Sacred wood. London: Methune. Online Ed. Bartleby.com. Retrieved April 2, 2005, from [www.bartleby.com/200/](http://www.bartleby.com/200/). (Original work published in 1920).

Henderson, Hazel and Ikeda, Daisaku. (2004). Planetary Citizenship. English Edition. Santa Monica, California: Middle Way Press.

Ikeda, Daisaku. (November 22, 2004). Education for sustainable development. Special to The Japan Times. The Japan Times Online. Retrieved November 25, 2004, from <http://www.japantimes.co.jp/cgi-bin/getarticle.pl5?eo20041122a2.htm>.

International Finance Corporation-EBFP Ecolodge Studies. (2005). International Finance Corporation. Retrieved April 18, 2005, from [http://ifcln1.ifc.org/ifcext/enviro.nsf/Content/EBFP\\_Ecolodge](http://ifcln1.ifc.org/ifcext/enviro.nsf/Content/EBFP_Ecolodge).

Makiguchi, Tsunesaburo. (1989). Education for creative living: Ideas and proposals of Tsunesaburo Makiguchi. (A. Birnbaum, Trans.; Dayle M. Bethel, Ed.). Ames, Iowa: Iowa State University Press. (Original work published 1930).

Makiguchi, Tsunesaburo. (2002). A Geography of human life. English Edition. Trans. Katsusuke Hori et al. San Francisco, California: Caddo Gap Press. (Original work published in 1903).

McKeown, Rosalyn. (n.d.) Education for sustainable development toolkit. Reorienting education. Retrieved March 17, 2005, from <http://www.esdtoolkit.org/discussion/reorient.htm>.

Mohr, Nancy. (2000). Small schools are not miniature large schools: Potential pitfalls and implications for leadership. In William Ayers, Michael Klonsky, Gabrielle Lyon (Eds.). A Simple justice: The Challenge of small schools. New York and London: Teachers College Press.

Norton, David L. (1989). Afterword: A Philosophical appraisal. In Education for creative living: Ideas and proposals of Tsunesaburo Makiguchi. (A. Birnbaum, Trans.; Dayle M. Bethel, Ed.). Ames, Iowa: Iowa State University Press. (Original work published 1930).

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PICCED: Cypress Hills Community School. (n.d.). Retrieved March 19, 2005, from <http://www.picced.org/arch-cypress.php>

Smith, Stacie Nicole & Fairman, David. (2005). The Integration of conflict resolution into the high school curriculum: The Example of Workable Peace. In Nel Noddings (Ed.). *Educating citizens for global awareness*. New York and London: Teachers College Press.

UNESCO, (October 2004). *United Nations Decade of Education for Sustainable Development 2005-2014, Draft International Implementation Scheme*.

USGBC - US Green Building Council. (2005). Meet the USGBC. Retrieved April 18, 2005, from <http://www.usgbc.org/DisplayPage.aspx?CategoryID=1>