

5

This chapter examines the connection between civic engagement and environmental literacy, positioning activism as central to their intersection.

Civic Engagement and Environmental Literacy

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The Convergence of Moments

Examining the intersection of civic engagement and environmental literacy is particularly timely because 2012 marked a critical juncture in history: the United Nations Literacy Decade ended, and a 20-year appraisal of the United Nations Earth Summit commenced. The Literacy Decade, launched in 2003 under the slogan “Literacy as Freedom,” situated literacy as a human right and a necessity for survival in today’s globalized world. In a facile way, learning for the environment and civic engagement can be situated in capacity building for literacy. The current moment has its roots, in part, at the Earth Summit that convened in Rio de Janeiro, Brazil, in 1992. It was there that governments acted to, among other items, endorse the Rio Declaration on the Environment and Development and adopt Agenda 21, a comprehensive plan for global action to achieve sustainable development in the twenty-first century. Agenda 21 and the Rio Declaration—a series of principles defining the rights and responsibilities of states—in particular promoted civic engagement through “new forms of dialogue . . . for achieving better integration among national and local government, industry, science, environmental groups, and the public in the process of developing effective approaches to environment and development” (Integrating Environment and Development in Decision-Making, 2009, para. 1).

Among numerous points, Agenda 21 called for improving interdisciplinary education and technical training and strengthening the roles of non-government organizations (NGOs). Most notably, Agenda 21 unambiguously recognized that education, raising public awareness, and an actively engaged and environmentally literate world were essential for both success and survival. This engagement was unambiguously tied to improving processes of decision

making “so as to achieve the progressive integration of economic, social and environmental issues in the pursuit of development that is economically efficient, socially equitable and responsible and environmentally sound” (Agenda 21, 2009, para. 3).

Since 1992 there have been a host of global conferences, declarations, and supragovernmental conclaves rooted in the Earth Summit. The list includes the World Summit on Sustainable Development held in Johannesburg, South Africa, in 2002, where learning networks, civic engagement and responsible local leadership, and the call to mobilize resources to help communities compete successfully in a globalized world were advanced. Others include, in 2005, the United Nations General Assembly proclamation of the Decade of Education for Sustainable Development, 2005–2014, which placed education as an indispensable element for achieving sustainable development, holistically addressing “three pillars of sustainable development—society, environment and economy” (About Education for Sustainable Development, 2008, para. 3).

In 2012, the United Nations Conference on Sustainable Development in Rio de Janeiro was convened. It was dubbed Rio+20, because the meeting was a two-decade follow-up to the Earth Summit. In preparation for Rio+20, the significance of civic engagement, voluntary action for achieving sustainability, and the role of citizen participation were unmistakable. One of the main themes at Rio+20 was mainstreaming environmental literacy.

Civic Engagement

Michael X. Delli Carpini, director of public policy at The Pew Charitable Trusts, describes civic engagement as

individual and collective actions designed to identify and address issues of public concern [that] can take many forms, from individual voluntarism to organizational involvement to electoral participation. It can include efforts to directly address an issue, work with others in a community to solve a problem or interact with the institutions of representative democracy. Civic engagement encompasses a range of specific activities [based on the] underlying principal [sic]. . . . that an engaged citizen should have the ability, agency and opportunity to move comfortably among . . . various types of civic acts. (cited in Civic Engagement, 2011)

Information and Communication Technologies (ICTs) are key to civic engagement at both the global and the local levels. Globally, they aid what has been termed “citizen globalization” (Gadotti, 2009)—the processes of sharing information, knowledge, and activities by civil society organizations. These processes are often against “globalism”—that is, the capitalist, transnational form of globalization—and for democratic participation. Locally they are employed as an aid to foster literacy that may lead to engagement. Carlton (2001) stresses the value of adult-friendly science learning to enable people to

both comprehend and engage in debates and decision making on key contemporary issues. At a time when environmental crises remain unabated, there is little doubt about the necessity of civic engagement. Rethinking civic engagement from the lens of adult learning and education means recognizing the importance of capacity building, that ordinary people can be organic intellectuals, life experience counts, the centrality of power analysis (criticality), and that engagement is always political.

Environmental Literacy

Literacies are tools for reading the lifeworld; environmental literacy is one of these tools. Environmental literacy, a form of literacy conceptualized by Roth (1992), is essentially “the capacity to perceive and interpret the relative health of environmental systems and take appropriate action to maintain, restore, or improve the health of those systems” (Disinger and Roth, 1992, para. 10). It consists of a constellation of abilities that are requisite for participatory democracy and includes an open understanding of how governments work and of assessing what are critical social issues. Environmental literacy operates at three levels: (1) nominal (basic knowledge), (2) functional (deeper knowledge and understanding of the nature and interactions between systems—human social and natural), and (3) operational (deepest breadth and depth of understandings and skills). Environmental literacy requires a “fundamental understanding of the systems of the natural world, their relationships and interactions between the living and the non-living environments, and the ability to deal sensibly with problems that involve scientific evidence, uncertainty, and economic, aesthetic, and ethical considerations” (What Is Environmental Literacy?, 2008). Environmental literacy is predicated on the belief that quality of life is linked to the quality of the environment, and that people must take responsibility to ensure that this linkage remains unbroken. However, in spite of the necessary role that this knowledge plays, “the literature on . . . environmental literacy is sparse in adult education” (Kerka, 2003, p. 3).

Creating Socially Responsive Knowledge

Knowledge does not always ensure behavioral change (Finger and Asún, 2001). In a study by Chawla (1999), education was mentioned as the basis for action by only 38 percent of respondents, while more than half listed participation in environmental or outdoors organizations and three-quarters mentioned the experience of nature as generative of committed behavior.

Educational systems are, in part, “designed to produce national citizens” (Ramirez and Boli, 1987, p. 10); when environmental education is added, the hoped-for result is the production of an environmentally literate citizenry. There is no doubt that formal educational venues have been responsible for building environment awareness. In fact, Pilkington (2004) remarks, from the perspective

of structured studies, “nowhere is [scientific literacy] so badly needed as in the contested debate of so many environmental issues” (p. 152). Higher education too has made substantial contributions. And, service-learning projects that link civic engagement with environmental protection are numerous, with citizen-science efforts leading the way. From an adult learning and education perspective, however, informal and nonformal sites of learning, especially the role of social movements, have been quintessential in generating environmentally literate adults.

St. Clair (2003) offers that “many of the most vital and effective examples [of environmental literacy] have occurred in local social movements” (p. 14). It is perhaps no surprise that learning for the type of ecoliteracy that translates into civic engagement may mean “adult learning that is outside the direct ambit and control of educational institutions, the state or the economy” (Johnston, 2004, p. 54). Pruneau and others (2000) report that “educating community citizens concerning the environment and sustainable development represents a major challenge in . . . contemporary life” (p. 97). They argue that “the environmental literacy of . . . working adults . . . comprised of two dimensions—awareness of one’s milieu and its problems, as well as the motivation to act . . . constitutes a difficult but essential [endeavor]” (p. 97).

The Rise of the Ecolate Citizen

The Environmental Education Training and Partnership (EETP) distinguishes environmental education from environmental literacy. They suggest that the former underpins the latter. Environmental education teaches youth and adults how to learn about and investigate their environment and make informed decisions, while environmentally literate individuals employ four learned skills when making daily choices: (1) developing questioning, investigating, and analyzing skills; (2) acquiring knowledge of environmental processes and human systems; (3) developing skills for understanding and addressing environmental issues; and (4) practicing personal and civic responsibility for environmental decisions (What’s New in EETP, 2010). The Campaign for Environmental Literacy suggests that the all-encompassing goal of environmental education is an environmentally literate citizenry (What Is Environmental Literacy?, 2007). The campaign offers essential components to environmental literacy that are linked in a continuous process: general awareness of the relationship between the environment and human life that leads to knowledge and understanding of human and natural systems and processes. This knowledge generates attitudes of appreciation and concern for the environment that in turn lead to problem-solving and critical-thinking skills. The final stage is the capacity for personal and collective action and civic participation. The “test of environmental literacy is the capacity of an individual to act successfully in daily life on a broad understanding of how people and societies relate to each other and to natural systems, and how they might do so sustainably” (para 1).

Environmental literacy is so central to the concept of literacy that it has been called the third point in literacy's triumvirate: literacy, numeracy, and ecolacy (Garrett Hardin Quotations, 2011, para. 82). Milbrath (1989) illustrates the linear development of literacy concepts, arguing that at one time simply being literate was the hallmark of an educated person. "We later came to see that mere literacy was insufficient, people also needed numeracy" (p. 20)—the ability to handle numbers. Ecological literacy (ecolacy), an understanding of socioecological systems, became the third level of education, in which a person developed "a working understanding of the complexity of the world [realizing that] almost everything we do when we intrude in nature has unintended consequences" (p. 20).

From Ecolacy to Earth Pedagogy

To this day, "a large part of civic activity is concerned with the environment and flows from the [1992] United Nations Conference on Environment and Development" (Pilkington, 2004, p. 154). Gadotti (2009) has furthered the conversation to include an "earth pedagogy" or "ecopedagogy." Ecopedagogy originated in the context of Latin American radical education as a result of interactions at the Earth Summit. Kahn (2010) offers that planetary citizenship "demands the retooling [of unsustainable transnational capitalism] as a necessary, though not clearly sufficient condition, for ecoliteracy in a time of planetary crisis" (p. 46). In a challenge to current paradigms of ecoliteracy, he argues for the politics of engagement as a prerequisite for critical ecopedagogy and ecoliteracy—a principle commensurate with adult learning and education. Ecoliteracy must be built on three interrelated forms of literacy . . . technical literacy (working knowledge of environmental science and functional survival-oriented competencies), cultural literacy (knowledge of how cultural practices either promote or hinder sustainability), and critical intersectional literacy (knowledge of the oppressive and emancipatory potentials located within existing socio-political and economic structures based on an analysis of power) (Kahn in Thordarson, 2010, p. 478).

Activism as a Necessary Component of Environmental Literacy

To some, environmental literacy must simultaneously embrace both ecological literacy and environmental citizenship (Environmental Literacy for a Sustainable World, 2010). Environmental citizenship is often referred to as "environmental decision making"; environmental literacy is thus a type of political literacy. St. Clair (2003) argues that to be truly meaningful, environmental literacy "requires a fairly well-developed knowledge of environmental science along with the ability and willingness to act upon that knowledge . . . that take literacies beyond instrumentalism" (p. 14). He proposes that environmental

literacy “requires knowledgeable, critical engagement with environmental issues and the ability to form judgments about the likely impact of human activities upon the environment [and] calls upon people to act to follow up their judgments with some form of intervention” (p. 14). The fields of adult learning and education have a history of involvement in environmental engagement (L. H. Hill and Clover, 2003; Walter, 2009), especially in new social movements as sites for the development of theory, knowledge, and practice.

Confronting Techno-empiricist/Positivist Knowledge

Becoming environmentally literate may result in civic engagement, just as civic engagement may foster environment literacy. St. Clair (2003) remarks that “the action component of environmental literacy may precede the full scientific understanding of the issues” (p. 17). Regardless of the reciprocity between the two, the principles espoused for environmental adult education must be at the core. As illustrated in the sourcebook *Environmental Adult Education: Ecological Learning, Theory, and Practice for Socioenvironmental Change* (Hill and Clover, 2003), the goal of environmental literacy is to challenge the privileging of techno-empiricist/positivist knowledge. It reexamines people’s experiential knowledge. It is transformative (O’Sullivan, 1999) and repositions a cosmological perspective as well as promotes social dialogue and civic engagement. Environmental literacy must also go beyond an “awareness-raising and behavior change agenda [since] the problems we face are simply more political and more complex than that” (Clover, 2002, p. 3).

Hall, Clover, Crowther, and Scandrett (2011) and other adult educators have advocated building a culture of engagement; believing that there are different ways of understanding; participating in a pedagogy and activism of survival; recognizing that ordinary people have the ability to make complex decisions at the intersection of their different experiences with local and fugitive knowledge; acknowledging that they have a right to provision of learning opportunities where systems, structures, behavior, and dominant knowledge can be critically examined—practices that are linked to environmental literacy.

Thwarting Environmental Literacy, Assassinating Civic Engagement

Thorkildsen (2009) reports that “social environments play a key role in individuals’ willingness to accept the responsibilities of democratic citizenship and participate in civic life” (para 1). Conversely, it must be asked, “What happens to civic engagement when social environments that promote environmental literacy are subverted?” If three key components for civic engagement are ability, agency, and opportunity, “what happens to civic engagement when these are sabotaged?” The past decade has witnessed the dissolution of engaged citizens’ rights to develop ability, agency, and opportunity for environmental change.

Examples are legion, and include clandestine meetings and closed-door sessions at the White House in 2001 when a secret “Energy Task Force” was created, meeting secretly with lobbyists and representatives of energy industries to craft a national energy policy; and the recent collusion of regulators, elected officials, and the market over hydraulic fracturing to extract petroleum and natural gas using a method that is known to cause ground water contamination, air quality risks, seismic activity in communities, and adverse health effects. Extraction interests are heavily invested in “education” to convince the public that extraction methods are safe and economically beneficial. To these can be added government manipulation of data regarding climate change and global warming, the safety of nuclear power vis-à-vis the disposition of spent radioactive materials, and many more.

There has been hyper-commercialization of environmental literacy through heavily financed advertisements that glamorize corporate polluters as friends of the environment as they simultaneously wreak havoc on the sky, land, and sea. For example, as tar balls from a deep sea oil spill washed ashore along the U.S. Gulf Coast in 2010, the polluter “spent more than \$93 million on newspaper advertisements and TV spots in the weeks following the [accident], paying out three times as much money on ads as it did during the same time [the previous] year” (BP Tripled Its Ad Budget After Oil Spill, 2010, para 1). Television jingles informed viewers that the company was “making the day a little bit better.” Such efforts by corporate interests to create “environmentally” literate communities have been documented elsewhere (R. J. Hill, 2002), finding that

“right-wing natural resource initiatives . . . have both grassroots as well as elite sponsorship and are effective sites of adult learning, resistance, and meaning making [that] . . . seek to change understandings, dispositions, behaviors, attitudes, and knowledge—the adult educational politics and policies—of society [in favor of capitalist exploitation and environmental destruction].” (p. x)

Environmental Literacy: Hope for the Future

In 1992, Agenda 21 recommended that governments explore and make more effective and widespread use of economic and market-oriented approaches to build and maintain sustainable Earth policies. Nations made the commitment to change practices that passed costs on to society, other countries, or to future generations. Two decades have transpired, and it is time to ask how sanguine have been the commitments to change economic instruments and market mechanisms. Finger and Asún (2001) have argued that we have failed; citing the irreversible destruction of nature, society, and culture, they propose that systems are no longer humanizable. Gadotti (2009) remarks that “it would be fake if we insisted only on changing *people’s* behavior leaving the *system* out of it. The challenge is to change Earth’s life system, the capitalist system” (emphasis in original, p. 98).

Despite the efforts of the Rio Declaration on the Environment and Development, Agenda 21, and many others, we have failed to effectively integrate sustainability into economic management on a global scale. This failure has been tied to the breakdown of mainstreaming environmental literacy. We find today that worsening environmental quality is associated with greater economic inequality. When profitable polluters are excused from their full responsibilities, citizens bear the burden of cleaning up the natural resources that markets have despoiled, setting up a type of privatization of profits and socialism for the elite, that is, the distribution of what belongs to the many, to the powerful few.

The development of the grassroots movements Occupy Wall Street and the '99 Percenters are exemplars of contemporary understandings of the failures of governments and market systems to ensure equity and justice, including environmental justice. They are establishing a new environmental literacy agenda—one in which people's activism is at the heart of transformation. In the 99 Percent Declaration, the section titled, "Protection of the Planet," the problem is summarized: Human greed, exponentially magnified by corporations, is destroying the only habitable planet. . . . The rights to clean air, water, and conservation of the planet for future generations shall no longer be infringed by greed-driven corporations and selfish individuals . . . who care for nothing except money. (The 99 Percent Declaration, 2012, Sect. 7)

The lesson is clear:

"The 99% pay for wealth disparity with lost jobs, foreclosed homes, weakening pensions, and slashed services, but Nature pays, too. In the world the [elite] one-percenters have created, the needs of whole ecosystems are as easy to disregard as . . . the need the young have for debt-free education and meaningful jobs." (Ward, 2011, para. 8)

It is not enough that "in the coming decades, the public will more frequently be called upon to understand complex environmental issues, assess risk, evaluate proposed environmental plans and understand how individual decisions affect the environment at local and global scales" (Pfirman, 2003, p. 41). Environmental and civic learning must be linked to decentering power. Calls for scientifically informed citizenry, civic engagement, and sustainable development will be far more meaningful when conjoined with activism-centered environmental literacy.

References

- "About Education for Sustainable Development." 2008. Retrieved March 25, 2012, from <http://www.desd.org/About%20ESD.htm>
- "Agenda 21." 2009. Retrieved March 25, 2012, from <http://www.un.org/esa/dsd/agenda21/>

- "BP Tripled Its Ad Budget After Oil Spill." *Wall Street Journal*, September 1, 2010. Retrieved March 25, 2012, from <http://online.wsj.com/article/SB10001424052748703882304575465683723697708.html>
- Carlton, S. *Life, the Universe and Almost Everything Else*. Leicester, England: National Institute of Adult Continuing Education, 2001.
- Chawla, L. "Life Paths into Effective Environmental Action." *Journal of Environmental Education*, 1999, 31(1), 15–26.
- "Civic Engagement." The Pew Charitable Trusts, 2011. Retrieved March 25, 2012, from <http://www.apa.org/education/undergrad/civic-engagement.aspx>
- Clover, D. E. "Environmental Adult Education." *Adult Learning*, 2002, 13(2/3), 2–6.
- Disinger, J. F., and Roth, C. E. "Environmental Literacy." 1992. Columbus, Ohio: ERIC Clearinghouse for Science, Mathematics and Environmental Education. (ED 351 201).
- "Environmental Literacy for a Sustainable World." 2010. Retrieved March 25, 2012, from <http://www.esa.org/eesummit/content/environmental-literacy>
- Finger, M., and Asün, J. M. *Adult Education at the Crossroads: Learning Our Way Out*. London: Zed, 2001.
- Gadotti, M. *Education for Sustainability*. São Paulo: Editora e Livraria Instituto Paulo Freire, 2009.
- "Garrett Hardin Quotations." 2011. Retrieved March 25, 2012, from <http://www.garretthardinsociety.org/info/quotes.html>
- Hall, B., Clover, D. E., Crowther, J., and Scandrett, E. "Social Movement Learning: A Contemporary Re-examination." *Studies in the Education of Adults*, 2011, 43(2), 113–116.
- Hill, L. H., and Clover, D. E. (eds.). *Environmental Adult Education: Ecological Learning, Theory, and Practice for Socioenvironmental Change*. San Francisco: Jossey-Bass, 2003.
- Hill, R. J. "Pulling Up Grassroots: A Study of the Right-Wing 'Popular' Adult Environmental Education Movement in the USA." *Studies in Continuing Education*, 2002, 24(2), 181–203.
- "Integrating Environment and Development in Decision-Making." 2009. Retrieved March 25, 2012, from http://www.un.org/esa/dsd/agenda21/res_agenda21_08.shtml
- Johnston, R. "Adult Learning and Citizenship: A Framework for Understanding and Practice." In P. Coare and R. Johnston (eds.), *Adult Learning, Citizenship and Community Voice: Exploring Community-Based Practice*. Leicester: National Institute of Adult Continuing Education, 2004.
- Kahn, R. *Critical Pedagogy, Ecopedagogy, and Planetary Crisis: The Ecopedagogy Movement*. New York: Peter Lang, 2010.
- Kerka, S. "Introduction." In G. A. Hull, L. Mikulecky, R. St. Clair, and S. Kerka (eds.), *Multiple Literacies: A Compilation for Adult Educators*, 2003. Retrieved March 25, 2012, from <http://www.calpro-online.org/eric/docs/compilation-literacies.pdf>
- Milbrath, L. W. *Envisioning a Sustainable Society: Learning Our Way Out*. Albany: State University of New York Press, 1989.
- "The 99 Percent Declaration." 2012. Retrieved March 25, 2012, from <https://sites.google.com/site/the99percentdeclaration/>
- O'Sullivan, E. *Transformative Learning: Educational Vision for the 21st Century*. London: Zed, 1999.
- Pfirman, S. "Complex Environmental Systems: Synthesis for Earth, Life, and Society in the 21st Century, 2003." Retrieved March 25, 2012, from http://www.nsf.gov/geos/ere/ereweb/ac-ere/acere_synthesis_rpt_full.pdf
- Pillington, M. "Citizens, the Environment and Scientific Literacy." In P. Coare and R. Johnston (eds.), *Adult Learning, Citizenship and Community Voice: Exploring Community-Based Practice*. Leicester: National Institute of Adult Continuing Education, 2004.
- Pruneau, D., Chouinard, O., Isabelle, C., N'Kambou, R., Bourque, W., and Lévesque, I. "A Website for the Environmental Literacy of Community Citizens." *Convergence*, 2000, 33(4), 97–110.

- Ramirez, F. O., and Boli, J. "The Political Construction of Mass Schooling: European Origins and Worldwide Institutionalization." *Sociology of Education*, 1987, 60(2), 2–17.
- Roth, C. E. *Environmental Literacy: Its Roots, Evolution and Directions in the 1990s*. Columbus, Ohio: ERIC Clearinghouse for Science, Mathematics and Environmental Education, 1992. (ED 348 235).
- St. Clair, R. "Environmental Literacy." In G. A. Hull, L. Mikulecky, R. St. Clair, and S. Kerka (eds.), *Multiple Literacies: A Compilation for Adult Educators*. 2003. Retrieved March 25, 2012, from <http://www.calpro-online.org/eric/docs/compilation-literacies.pdf>
- Thordarson, J. "A Courageous and Necessary Extension of Critical Pedagogy." *Journal for Critical Education Policy Studies*, 2010, 8(1), 477–480. Retrieved March 25, 2012, from <http://www.jceps.com/PDFs/08-1-17.pdf>
- Thorkildsen, T. A. "Book Review: The Power of Civic Engagement. A Review of 'The New Humanitarians: Inspiration, Innovations, and Blueprints for Visionaries.'" *Psychology Today*, 2009, 20(5). Retrieved March 25, 2012, from <http://www.apa.org/international/pi/2009/12/book-review.aspx>
- Walter, P. "Philosophies of Adult Environmental Education." *Adult Education Quarterly*, 2009, 60(1), 3–25.
- Ward, C. "Someone Got Rich and Someone Got Sick." 2011. Retrieved March 25, 2012, from <http://www.tomdispatch.com/archive/175459/>
- "What Is Environmental Literacy?" 2007. Retrieved March 25, 2012, from <http://www.fundee.org/facts/envlit/whatisenvlit.htm>
- "What Is Environmental Literacy?" 2008. Retrieved March 25, 2012, from <http://www.enviroliteracy.org/subcategory.php/1.html>
- "What's New in EETP." 2010. Retrieved March 25, 2012, from http://www.eetap.org/pages/dynamic/landing.page.php?topology_id=22

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