

## Contemporary Art, Science, Ecology, and a Critical Pedagogy of Place

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### Abstract

In contemporary life and education, the local is marginalized in favor of large-scale economies of consumption that are indifferent to ecological concerns. The consequences of neglecting local human and natural communities include a degraded habitat, loss of wilderness, alienation, rootlessness, and lack of connection to communities. Place-based education responds to this indifference to local ecological concerns by grounding student learning in the experiences of their own lives, communities, and regions. Critical place-based pedagogy broadens the scope of place-based learning by incorporating critical theory into the curriculum of the local. This article describes a critical pedagogy of place as a prelude to describing contemporary art that is involved with ecological and social issues. Works of contemporary artists that are responsive to the ecology of local places and culture will be explored as examples of collaboration between artistic and scientific approaches. These artists suggest possibilities for the educator to create a critical pedagogy about place and to resist the isolation of the classroom from vital issues of community and ecology. The intersection of critical theory, place-based learning, and art education provides a robust framework for the theory and practice of education concerned with ecological issues.

### Introduction

Two difficult conditions, with their attendant consequences, define the context of education that would be responsive to ecological concerns. First, human progress emphasizing the domination of nature has devastated many parts of the earth.<sup>1</sup> Modern civilization has created environmental conditions characterized by pollution, depletion of natural resources, climate change, threatened biodiversity, and diminishing wilderness. In the process, modern man has lost a sense of reverence toward the earth. Second, mainstream American education reform has embraced a standards and testing culture that tends to ignore the peculiarities of place, culture, and community in order to standardize the experiences of students. Consequently, local human and natural communities are not usually important parts of the school curriculum.<sup>2</sup> Education that ignores issues of ecology and community becomes complicit in their erosion.

In American schools, curriculum is decontextualized and testing over-determines the content and methods of schooling.<sup>3</sup> Scientific management tools have produced schools designed for efficiency, social engineering, sorting of students and creation of uniform, easily measured outcomes. Learning often seems like a component of large-scale industrialization where efficiency and standardization are more important than imaginative and divergent thinking. High stakes testing creates pressure for schools to eliminate or diminish subjects that are not tested, including the arts. In the process, the scope and purposes of education have been narrowed so

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<sup>1</sup> T. Berry, *The dream of the earth*; Bowers, *Critical essays on education*; *Educating for eco-justice and community*.

<sup>2</sup> Gruenewald, *Educational Researcher*.

<sup>3</sup> Wolk, *Phi Delta Kappan*.

that issues of ecological or social responsibility are rarely considered<sup>4</sup> and the humanistic aims of developing compassion, social awareness and creative expression are neglected.

This article examines critical place-based pedagogy as a response to educational practices that neglect important ecological social issues. A critical pedagogy of place creates a rigorous theoretical framework that combines the ecological focus of place-based education with the social focus of critical theory.<sup>5</sup> It disturbs standardized curriculum models and re-envision educational purposes by valuing the peculiarities of the local.

Many contemporary artists create work that is responsive to the ecology of local places and culture. These artists suggest ways that the educator might resist the isolation of the classroom from vital issues of community and ecology by focusing on the peculiarities of the local environment and culture. They assume a critical stance toward taken for granted assumptions about power, privilege, progress and our relationships with nature. Their work also resists the separation of art from science through its use of technology and scientific collaboration. As teaching becomes responsive to ecology and local culture, learning can be socially aware, multi-disciplinary, reflective, and transformational. The intersection of critical theory, place-based learning, science, technology, and contemporary art provides a robust framework for the practice of education that is concerned with ecological issues.

## **Wilderness**

“In Wildness is the preservation of the World. Every tree sends its fibres forth in search of the Wild. The cities import it at any price. Men plough and sail for it. From the forest and wildness come the tonics and barks that brace mankind.”<sup>6</sup>

One of my earliest memories is camping in the Uintah Mountains with my father. I remember crouching behind him in the cold before the dawn while he attempted to capture on camera the behavior of nocturnal beavers. As I grew older, we took many long hikes into these mountains and traveled to distant lakes. My father was a biologist and taught me at an early age to value the beautiful and complex relationships of the natural world. I learned to prize the mountain wilderness, the quiet of the deep forest, and the adventure of the narrow path. The natural world became a sacred place for me. Like Thoreau, I want to speak a word for wildness.

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<sup>4</sup> Bowers, *Educating for eco-justice and community*.

<sup>5</sup> Gruenewald, *Educational Researcher*.

<sup>6</sup> Thoreau, *Essays of Thoreau*

But, unlike Thoreau, I drive a car and live in New York City where the desert wilderness of my youth is a distant echo. Walking, paradoxically, is now the domain of the city dweller, where a car is superfluous. But even here, in New York City, as I set up my easel to paint the skyline above the trees in Central Park, the majesty of light and breeze thrill me, just as if I were perched on a rock below Mount Baldy in the Uintah Mountains.

#### Art, Wilderness, and Sacred Places

“Life is not possible without an opening toward the transcendent.”<sup>7</sup> Did archaic, religious man really consider the world as a sacred place as Eliade suggests? “Religious man thirsts for the real. By every means at his disposal, he seeks to reside at the very source of primordial reality, when the world was in the state of being newly born.”<sup>7</sup>

The sacred mountain, the ladder, the temple all point toward a transcendent reality and relief from chaos. The sacred stone, the magic oak tree, the column connecting heaven and earth, the white whale, the velveteen rabbit all contain a glimpse of the dramatic irruption of the sacred into the mundane world.

The habitation of the archaic innocent is symbolically situated at the center of the world. According to Eliade, “The house is not an object, a machine to live in; it is the universe that man constructs for himself by imitating the paradigmatic creation of the gods, the cosmogony”.<sup>8</sup> The history of art is filled with sacred objects and images of sacred places. Even paintings without a religious context often reflect the intent to give the world a lasting, eternal quality. Cezanne’s painting of Mont Sainte-Victoire and Georgia O’Keeffe’s desert paintings reflect an interest in a transcendent place. Artists often attach themselves to places, carving out sacred spaces, creating personal mythologies, and attending to the details of their specific location.

The image of the wilderness holds a particular fascination for American artists. Nineteenth century American painters saw the natural world as a source of creativity and sanctuary. Thomas Cole believed there was a certain vitality inherent in civilization’s wild roots and that wilderness was the most distinctive feature of the American landscape.<sup>10</sup> Thomas Moran, Frederick Church, and Alfred Bierstadt were explorers of the American west and assisted in the campaign to create national wilderness parks. Their work helped create a public awareness

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<sup>7</sup> Eliade, *The sacred and the profane*, 34.

<sup>7</sup> Ibid, 43.

<sup>8</sup> Ibid, 74.

<sup>10</sup> Nash, *Wilderness and the American Mind*.

of the need to preserve these places even as industrial development threatened them. These artists saw nature as the reflection of divine creation, an idea that was part of Transcendentalism's complex philosophy about man, nature, and God.<sup>11</sup> Their paintings of the sublime wilderness for a cosmopolitan audience challenged unrestricted development and industrialization of the land. The struggle between preservation and development continues today.

In contemporary art, place has acquired a myriad web of meanings, ranging from landscape to city, from real to imaginary, from concrete to conceptual. Landscape has become a contested space and many contemporary artists make the ecology of place the subject of their work.<sup>9</sup> They see art-making as a social practice and attempt to create meaningful iconography about the earth and their community. These artists often combine science and technology to make art that illuminates ecological issues and disturbs our complacent attitudes toward nature.<sup>10</sup>

### **Education and Ecological Crisis**

Thoreau's question, "Why should we be in such a desperate haste to succeed, and in such desperate enterprises?"<sup>17</sup> seems pressingly relevant today. The world is in an ecological crisis that is difficult to ignore. Evidence of man's influence on the climate as reflected in global warming is becoming increasingly alarming. Pollution, environmental degradation, and pressures on biodiversity are threatening the quality of life throughout the world. Yet, there is very little serious environmental education in American schools.<sup>18</sup>

In spite of their importance, environmental issues remain on the margins of the educational landscape. American education neglects the local and the ecological in favor of the logic of standardization and high stakes testing designed to prepare children for competition in the global marketplace.<sup>11</sup> There is a widespread commitment to prepare students for success in an economy that is often individualistic, unsustainable and inequitable. Education that emphasizes, "high stakes testing" and aspires to "world class standards" often ignores social and ecological practices that are oppressive and environmentally destructive.<sup>12</sup> Attitudes and practices that promote the domination of the earth and abuse of the natural world are taken for

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<sup>11</sup> McCarron-Cates, *Tourism and the American Landscape*; Nash, *Wilderness and the American Mind*.

<sup>9</sup> Rebecca Solnit, *As eve said to the serpent: On landscape, gender and art*; Dean and Millar, *Art works place*.

<sup>10</sup> Tiffany Holmes, *Reconstruction*.

<sup>11</sup> Bowers, *Critical essays on education*.

<sup>12</sup> Gruenewald, *Educational Researcher*.

granted and rarely challenged. For most students, events of ecological degradation are matters of distant geography if they are considered at all.

Teachers and learners are led to believe that standards and assessments constitute the primary purposes of education. Standards-based reforms draw educators away from the needs and interests of the local and diminishes support for areas that are not tested, such as the arts. The personal development of students, the ethical dimension of education, and the relationships among disciplines are neglected. When standards are set far from schools, the curriculum becomes decontextualized by design.<sup>13</sup> Connections to local communities and a sense of caring for place are lost and alternative cultural attitudes toward nature that are more ecologically responsive are marginalized (Bowers, 2001). Place-based education is a response to standardized pedagogy that neglects local human and ecological communities.<sup>14</sup>

### **Place-based Pedagogy**

“We cannot immunize the continents and oceans against our contempt for small places and small streams. Small destructions add up and finally they are understood collectively as large destructions.”<sup>15</sup>

Place-based educational theory is fundamentally concerned with the purposes of schooling and its ethical relationship to culture, society, and community. Place-based education is part of a long tradition of progressive educational practices including experiential learning, constructivism, contextual learning, problem-based learning, community based education, and environmental education. The aim of place-based education is to ground student learning in the experiences of their own lives and communities. Place-based education is concerned with the value of learning within the context of the local places, environment, and culture to which students and teachers belong. Its fundamental purpose is the nurturing of these places, communities, or regions. Place-based education focuses on developing a depth of learning in a curriculum that grows from the particular circumstances, resources, traditions and culture of the local. It fosters students’ ability and motivation to participate as stewards of places and informed citizens within their communities.<sup>16</sup>

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<sup>13</sup> Jennings, Swidler, & Koliba, *American Journal of Education*.

<sup>14</sup> Smith, *Kappan*.

<sup>15</sup> W. Berry, *The way of ignorance*.

<sup>16</sup> Gruenewald, *Educational Researche*; Smith, *Kappan*.

Place-based-education considers the local ecological and human communities where students live as the most important content for education. It includes local cultural studies, nature studies, problem solving, activism, and involvement with community processes. Place-based education has a transformational agenda that focuses on local phenomena and the students' own social reality. Students are encouraged to become creators of knowledge. Their questions and concerns contribute to the content of school curriculum. Place-based education aims to strengthen children's connection to others, to their region, to the land, and to overcome the alienation and isolation that is often associated with modern society. Place-based education looks toward local cultural and natural communities for content and context, and has sustainability of place as a goal.<sup>17</sup>

### **Critical Place-based Pedagogy**

“There is no solution for environmental destruction that isn't first a healing of damage that has been done to the human community. The threats to humans and the threats to the environment are not two parts of the same problem. They are the same problem.”<sup>18</sup>

Problematically, place-based education has traditionally emphasized ecological and rural contexts and neglected the ways in which socio-cultural differences, inequality, and politics contribute to environmental degradation. Equally problematic, the emancipatory, transformative agenda of critical theory has neglected ecological matters and the local, indigenous, traditions that are essential for preserving natural systems.<sup>19</sup> A remedy for this apparent disjunction is a critical pedagogy of place that considers the relationships among social, cultural, ecological and political issues.<sup>20</sup> Critical place-based pedagogy challenges taken-for-granted assumptions regarding our relationships with nature, notions of progress, and the purposes of education. It creates a space to examine cultural constructions about place, nature, and wilderness and to imagine alternative practices.

Because ecological issues cannot be separated from social and cultural issues, place-based education must assume a critical stance toward cultural and political assumptions about

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<sup>17</sup> Smith, *Kappan*

<sup>18</sup> White, *The ecology of work. Orion*. 27.

<sup>19</sup> Gruenewald, *Educational Researcher*; Bowers *Educating for eco-justice and community*.

<sup>20</sup> Bullard, *Confronting environmental racism*; Gruenewald, *Educational Researcher*.

power, privilege and opportunity.<sup>21</sup> A critical pedagogy of place expands critical pedagogy to include the relationships and interactions between cultures and ecosystems. A critical pedagogy of place is a response against educational policies that neglect local human and ecological communities. It is a response against an educational agenda that ignores the relationships between environmental degradation and issues of human justice. It is a response against the kind of progress that destroys communities of life.

Critical place-based pedagogy is significant because of its blending of the local and ecological with cultural awareness and social critique. It has a transformative social agenda that aims to engage students and teachers as agents of change. A critical ecological perspective illuminates important relationships between cultural systems and ecological systems. For example, the attitude of domination that oppresses people also threatens many other life forms on the earth.<sup>22</sup> Environmental degradation cannot be separated from matters of social justice. The worst aspects of environmental devastation afflict the poor and voiceless. Eco-justice extends ethical considerations to the non-human world and explores relationships among ecological, social, cultural, and political issues. Re-conceiving life styles and revitalizing old and local knowledge are important aspects of eco-justice. A critical pedagogy of place insists that environmental concerns cannot be separated from issues of human culture, justice, and community.<sup>23</sup>

### **Schools, Art and Teaching**

“The arts offer opportunities for perceiving alternative ways of transcending and being in the world...and to subvert our thoughtlessness and complacencies, our certainties.”<sup>24</sup>

In contemporary life and school, the world is taken for granted, community is often fractured, and children can feel more connected to television characters than to their own families. Nature is depicted as an object of consumption. Places are owned, measured, used up, and thrown aside. Schools can feel like factories made to prepare standardized products for competition in the global economy. Scientific management and social efficiency create homogenized learning experiences designed to create standardized outcomes. Uniformity and efficiency is prized and

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<sup>21</sup> Warren, *Ecofeminist philosophy*.

<sup>22</sup> Bowers, *Educating for eco-justice and community*; Gaard, *Ecofeminism*; White, *The idols of environmentalism. Orion*; Warren, *Ecofeminist philosophy*.

<sup>23</sup> Bowers, *Educating for eco-justice and community*

<sup>24</sup> Greene, *Harvard Educational Review*. 30

the notion of sacred is strange, and rarely encountered. In school we like to outline, explain, label, and classify. We strive to cover the material, wrap things up, and get to the conclusion. Heaven forbid our objectives are not clear and all outcomes anticipated. Standardization is the goal. Knowledge is packaged, taken out of context, and then memorized. Something else is needed.

The art classroom defines a space that is different from the rest of school. It is a hospitable place, inviting, safe, and interesting. It is place where imagination and divergent, idiosyncratic outcomes are prized. The artist/teacher is looking for an occasion to disrupt the superficial topic and to connect learning to the lives of students. The artist's studio holds clues to an education that is more meaningful and less isolated from the context of students' lives. The artist in the classroom can create possibilities for a kind of learning that cultivates awareness and care for place. John Dewey said, "The function of art has always been to break through the crust of conventionalized and routine consciousness."<sup>25</sup> Artistic creation "rejects the world on account of what it lacks and in the name of what it sometimes is."<sup>26</sup> The artist in the classroom confronts the deep reasons for school and resists the isolation of the classroom from the community. The hypnotic, insistent allure of commercial media is questioned and a more authentic experience is sought. As education turns toward predication, mechanistic rationality, and measurement, the exploratory vision of art education is even more vital.

Art as a component of a liberal arts education creates an approach to learning that offers a remedy for the limited purposes and scope of schools designed like factories to fit the diversity of children into a single mold. Art offers an alternative to the fiasco of high stakes testing by providing assessment models that are malleable and holistic. Contemporary artists raise provocative questions about nature, community, and culture that reflect the complex character of our relationship with the natural world. The work of these artists has connections to the peculiarities of specific places and is attentive to the web of relationships that constitute local culture and ecology. It often involves significant involvement with science and technology. Their work makes ecological relationships comprehensible in a way that can be a catalyst for awareness and consequently change. These artists encourage reverence for human and natural communities and emphasize the spiritual and moral dimension of life. Artists that exemplify a

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<sup>25</sup> Dewey, *Art as Experience*. 183

<sup>26</sup> Greene, *Landscapes of Learning*. 92.

critical place-based approach to their work suggest many possibilities for education that is responsive to environmental and social concerns.

### The Contemporary Artist

“In Western culture, artists aren’t encouraged to be integral to the social, environmental or spiritual life of the community. They do not train to engage with real-life problems. Instead they learn to be competitive with their products in the marketplace.”<sup>27</sup>

Modern society’s orientation toward progress, individual achievement, and consumption at the expense of community finds ample expression in the art world.<sup>28</sup> The model for the contemporary artist is often based on isolated individualism. Artists are cultivated like hothouse flowers in graduate schools where they work in isolated studios and dream of gallery openings. The art world is defined by who is selling and who is showing. Art becomes a collection of precious objects, another commodity disconnected from everyday life. The story of the lonely genius, isolated and relieved of social responsibility is a persistent theme in the art world. The postmodern paradigm of appropriation, small narrative, and juxtaposition of image is often about detachment and the ironic rearrangement of signs and symbols. Art becomes another object for commerce, complicit with the dream of progress within a compulsive and oppressive consumerist framework. The exalted individualism and self-expression of modern art is not a good response to social or ecological needs.

However, for some artists, vision is a holistic, social practice and art is seen as a means to heal soulless approaches to the world. Among these artists there is the possibility of meaningful iconography about the earth and the places to which we belong. For these artists, art is more than individual self-expression practiced by the strange and gifted. It is also a form of knowledge, a way to inquire about life, and a way to change how we understand the world and our relationship to it.<sup>29</sup> Art can be catalyst for engaging with vital questions about community and ecology. For many artists who work with ecological issues, the methods of science inform their work and emerging technology carries their message. The relationships that embody ecology and community are the focus of the work. This new way of thinking about art-making moves from

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<sup>27</sup> Gablik, *The reenchantment of art*. 62.

<sup>28</sup> Blandy, Congdon, and Krug, *Studies in Art Education*.

<sup>29</sup> Gablik, *The reenchantment of art*.

the “dominator” model of culture to an aesthetic of interconnectedness, social responsibility and ecological attunement.

#### Art, Science, Ecology, Places, and Critical Theory

Many contemporary artists seek to increase our awareness of the plight of the earth and inspire people to take action to preserve and restore ecological balance. Local places, human communities and science are often important features of their work. Ecological art emerged from the environmental art movement of the 1960s to 1980s. For example, Joseph Beuys combined performance, symbol, ritual, and life events to make artistic and political statements about the environment and society. Beuys saw the artist as a warden for metaphysical awareness who works for cultural and ecological restoration.<sup>44</sup> Joseph Beuys was a political activist who recognized that ecological issues are connected to cultural and political issues. In the work *7000 Oaks* (1982), he inspired an entire community to plant oak trees in order to protest deforestation and promote urban renewal.<sup>30</sup> Beuys set the stage for other artists who wanted to make work that was actively involved with ecological and social issues.

There is a growing recognition among artists that place involves a web of social and natural relationships that are layered with meanings. Landscape not just as scenery but includes the ecological systems we inhabit.<sup>31</sup> Andy Goldsworthy’s remote icicle installations or floating leaf sculptures reflect the desire to create a personal harmony with the natural world, in contrast to the prevailing attitude of domination. Similarly, Richard Long uses rocks and landscape as both the media and subject for his work. However, many contemporary artists, faced with the prospects of environmental degradation have taken a more activist role in their work. For example, Agnes Denis creates work that is both beautiful and ecological restorative. In the piece *Wheatfield-A Confrontation* (1982) she cleared garbage from two acres in lower Manhattan and planted wheat to comment on human values and misplaced priorities. In Finland, she planted 10,000 trees in an intricate mathematical pattern. Her comments about what it means to plant a forest as a work of art reveal a belief that art should make a difference in the world:

For one, it is taking art out of the museum or gallery and changing its preciousness and collectibility but not its beauty or meaning. It is creating

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<sup>30</sup> Weintraub, *Art on the edge and over*; Holmes, *Reconstruction*.

<sup>31</sup> Dean and Millar, *Art works place*; Solnit, *As eve said to the serpent*.

something borderless and timeless...it is beautiful and it is a good thing, ecologically sane land restoration, and calling to account in the face of industrial expansion, aggression and exploitation.<sup>32</sup>

Landscape as a threatened territory has given some artists reason to engage in environmental restoration, such as Mel Chin's *Revival Field* (1990-present). Chin often directs his creativity toward working within a specific place or community on urgent environmental or social problems. In this piece, he identified an area in Minnesota that had become polluted by toxic metals because of industrial pollution. He then planted the area with plants that would take these metals out of the soil. Later, the metals could be extracted from the plants. When asked about his work he said: "My goal for art is to create a condition where one can see the possibility of change. Art does not exist for its own sake."<sup>33</sup> In addition to involving significant intersection with science, this piece illustrates the transformational agenda of a critical place-based work.

Environmental art pioneer, Betsy Damon, creates art parks featuring sculptural flow forms and public art events to help clean urban waterways and raise water awareness around the globe. *The Living Water Garden*, (1998), is a large-scale, award-winning public park in downtown Chengdu, China. Damon commented: "Polluted river water moves through a natural, and artistic treatment system of ponds, filters and flowforms, making the process of cleaning water visible."<sup>34</sup> Betty Beaumont defines her work as "a model of interdisciplinary problem solving". She applied her social, conceptual, and environmental concerns to a wide range of projects including the use of coal wastes to create an artificial marine habitat that merged into interactive multimedia and conceptual photo-based art.<sup>35</sup>

The natural history museum has a tradition of being a repository of collections and a site for scientific research into the natural world. These museums are also educational institutions with many connections to specific places. Their collections use artfully designed displays and detailed illustrations that simultaneously define and communicate the visual aspects of natural history. Art as a means to explore and depict the natural world has a long tradition that continues with the work of many contemporary artists. The form of the natural history museum is evident in the work of Brian Collier who uses the methods of art and science to examine how modern

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<sup>32</sup> Agnes Denes. What it means to plant a forest. <http://greenmuseum.org/>

<sup>33</sup> Wientraub, *Art on the edge and over*. 47-50.

<sup>34</sup> Betsy Damon. <http://greenmuseum.org/>

<sup>35</sup> Betty Beaumont. <http://greenmuseum.org/>

humans experience nature when even the most remote environments have been greatly transformed.<sup>36</sup> Brandon Ballangee further blurs the already ambiguous boundaries between environmental art and ecological research. He examines the effects that human interaction has on local environments and native species. His projects use technical and theoretical information from field biologists and zoological organizations to transform field specimens of amphibians deformed by pollution into high resolution images that are displayed as both art and scientific research. He artwork is concerned with wildlife preservation and biodiversity and is inspired by the political philosophies of Thomas Cole and the Hudson River School who were actively involved with conservation issues in the 19<sup>th</sup> century.<sup>37</sup>

Whereas 19<sup>th</sup> century artists depicted the sublime beauty of the wilderness landscape, Alexis Rockman creates disturbing images of the consequences of man's domination of nature. His paintings of Mount Rushmore becoming submerged by water or the St. Louis arch strangled in kudzu vines reminds us that there are forces that threaten to overwhelm civilization if we do not exercise some restraint on our use of natural resources. It critically examines our relationship with nature while exploring civilization's vulnerability and the disjunction between the human and natural worlds.<sup>38</sup>

Artists, in responding to environmental degradation have experimented with new visualization techniques to expose polluters and raise public awareness. Photography is a powerful tool to visualize environmental issues, providing evidence of the threats that face many places.<sup>39</sup> For example, W. Eugene Smith's photographic essays document the crippling effects of mercury poisoning in Japan. Eco-visualization describes artwork designed to make slow and barely perceptible ecological relationships visible. Eco-visualization promotes sustainability by increasing awareness through the shared experience of real time events. Tiffany Holmes creates eco-visualization projects that use computer technology to encourage good environmental stewardship using art and design that is informed by scientific research.<sup>40</sup> Her work *7000 oaks and counting*, (2007), creates digital artistic animations that display environmental information derived from the mechanical systems of the building where it was located.<sup>41</sup> The goals of eco-

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<sup>36</sup> Brian Collier. <http://greenmuseum.org/>

<sup>37</sup> Brandon Ballangee. <http://greenmuseum.org/>

<sup>38</sup> McKibben, *Orion*.

<sup>39</sup> Matilsky, *Fragile Ecologies*.

<sup>40</sup> Holmes, *Reconstruction*.

<sup>41</sup> <http://www.tiffanyholmes.com/>

visualization artwork are to show that daily visual feedback from site-based media art can elevate understanding of consumption patterns and possibly increase conservation behavior in resident populations. These projects are site specific, involve collaborations with scientists, extensive use of technology, and interactions with the viewer.

The use of science and technology is changing the character of the art world. ‘Netcentric’ are communities based on distinct communities of practice linked by the Internet. For example, the ‘greenmuseum’ is a virtual museum that supports collaboration and interdisciplinary exploration among artists who are interested in initiating a positive relationship with the natural environment. Their work often involve collaborations with architects, botanists, zoologists and engineers. These artists are concerned with the complex relationships among communities, the natural world and issues of social and eco-justice.

### **Contemporary Art and a Critical Pedagogy of Place**

Critical pedagogy in art education aims to develop students’ ability to critically evaluate the images and artifacts of art and popular visual culture by considering issues of power, persuasion, and politics. Art-making is seen as a way to make statements that influence social consciousness and advocate for change.<sup>42</sup> Critical pedagogy creates opportunities for students to step outside their own cultural assumptions and consider issues of justice, equity, and privilege. Art can take a person out of the “main text” of cultural beliefs and taken-for-granted attitudes. The significance of this, in the context of a critical pedagogy of place is that many environmental problems are a result of taken for granted images and metaphors of competition, progress, consumption, and domination of nature.<sup>43</sup> The arts have the power to awaken students to the importance of eco-responsibility and to contribute to an emerging discourse about places.

The problems of environmental and social justice are profound challenges to modern society. Like place-based education and critical theory, art education exists mostly in the margins of educational systems that emphasize a rationalistic approach to education that culminates in curriculum standardization and high stakes testing.<sup>44</sup> Perhaps it is in this margin of educational discourse that art makes its most distinctive contribution. Art asks us to resist habits of conventional thinking and to consider what we live for. Art education seeks divergent responses

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<sup>42</sup> Freedman, *Teaching Visual Culture*.

<sup>43</sup> Bowers, *Critical essays on education*; Bowers, *Educating for eco-justice and community*.

<sup>44</sup> Eisner, *Kappan*.

to important personal, environmental, and social problems that require creative, imaginative solutions. Art education framed by a critical pedagogy of place creates opportunities for students to engage in thinking and art-making that consider vital questions about nature, place, culture, and ecology.

## Conclusion

In contemporary life and education, the local is often marginalized in favor of large-scale economies of consumption that ignore ecological concerns. A curriculum that seeks to establish restorative ecological practices and community based content goes against many taken-for-granted assumptions about progress and educational policy that encourages uniform standardization. Contemporary art that addresses ecological issues can educate students in unique ways about community, environment, and culture. Artists who are engaged in ecologically responsive practices exemplify an environmental aesthetic characterized by awareness of ecological relationships, stewardship, restoration and active involvement with issues of social and eco-justice. Their work also has significant connections to scientific methods and practices. Critical place-based pedagogies aim to build meaningful, empathic connections to natural and human communities and cultivate a sense of wonder and responsibility toward the natural world.

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