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Creative Approaches to Environmental Learning: Two Perspectives on Teaching Environmental Art Education

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Abstract

Environmental art education is growing in popularity in college and university programs as the arts begin to play a more prominent role in environmental and sustainability education. As this emerging field of study is an interdisciplinary endeavor that draws from the more established fields of visual art education and environmental education, environmental art education offers a means to increase the pool of potential learners to those in the arts and sciences, as well as diversify learning to ensure that it is memorable and authentic. This article describes two different approaches to the design of courses in this emerging field from the perspectives of both science and art educators, in hopes of providing direction on the development of curricula and pedagogy in environmental art education to other educators.

Keywords: Environmental education, environmental art education, eco-art education, visual arts, course design

Introduction

Developing new courses is a process that many of us in academia come to simultaneously love and despise. We enjoy the challenge of choosing appropriate content and pedagogy for a course, but recognize at the outset the long hours that go into preparing reading lists and devising engaging learning activities for our students. This is especially true in a new field of study where there is little established or accepted curriculum, and no textbooks to guide the way. Having just undertaken this challenge in the development of new courses in environmental art education, this article offers an opportunity to share the processes and results from two distinct perspectives as we teach in post-secondary settings in two different countries. While our subject area was similar, our starting points couldn't have been more different, as one of us hails from the sciences and the other from the arts. Our

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hope is that a comparison of how our courses in environmental art education developed may help provide direction and reflection on the development of curricula and pedagogy in this emerging field for other educators.

Theoretical Background

Environmental art education is an interdisciplinary endeavor that draws elements from the more established fields of visual art education, science education and environmental education, amongst others. Sometimes referred to as eco-art education, it fosters the kind of transdisciplinary learning argued for by environmental educators by integrating knowledge, pedagogy and narrative from the visual arts, sciences, outdoor education, and environmental education (Orr, 1994; Palmer, 1998; Zakai, 2002). This is done as a means of developing awareness of and engagement with environmental concepts such as interdependence, systems-thinking, biodiversity, conservation, and sustainability. It can also offer opportunities for artistic forms of environmental activism for students of all ages by encouraging the development of creativity alongside cross-curricular learning in pursuit of the higher goal of sustainability (Hansen, 2009).

Environmental art education is growing in popularity in college and university programs as the arts start to play a more prominent role in 'greening' and sustainability efforts in society as a whole. In part, its growing presence recognizes that all disciplines need to play a role in improving environmental literacy in post-secondary learners, as well as the general populace; developing this is considered by many educators to be essential to the continued existence of human life on this planet (Orr, 1992; Őzden, 2008; Smith & Williams, 1999; Thomashow, 1995). While science educators have taken a lead role in the past in developing new ways to broaden and deepen environmental learning, researchers in that field (Leeming, Dwyer, Porter & Cobern, 1993; McBeth & Volk, 2010; Tal, 2010; Talay, Gűndűz, & Akpinar, 2004) freely admit that progress has been limited in actually creating what Short (2010) describes as "a citizenry that is capable of understanding the complexity of environmental issues and participating in their resolution" (p. 7).

With forty years having passed since the first Earth Day and major global environmental issues still in need of resolution, the environmental education community is currently grappling with its proper place in the environmental movement (Marcinkowski, 2010; Potter, 2010; Strife, 2010). To that end, environmental educators are also seeking more innovative and aggressive ways to create and deliver issue-focused, environmental education curriculum that addresses the interdisciplinary nature of environmental problems (Hicks & King, 2007; Hungerford, 2010; Song, 2008; Turner, 2008; Zakai, 2002).

We both believe that bringing the arts to the table as allies in this undertaking offers alternative ways to reach learners who may not have been reached by the more traditional cognitive approaches of science education. Bringing art's powerful ability to engage audiences with multiple dimensions of an issue to environmental education not only increases the pool of potential learners from those in the sciences to those in the arts and sciences, but it also diversifies the types of learning that might take place, increasing the likelihood that the learning will 'stick' with a wider range of students (Dunaway, 2009). As the need for more arts-based, affective approaches to environmental education has been echoed by many others (Adams, 1991; Graff, 1990; Graham, 2007; Gurevitz, 2000; Lindholdt, 1999; McKibben, 2005), it is clear that environmental and sustainability education needs the arts more than ever as the human race struggles to find creative and innovative solutions to the immense environmental challenges we face in the 21st century.

Despite our background, knowledge and experiences in environmental education, developing new courses in environmental art education proved to be a huge challenge for both of us. At each of our respective institutions, environmental art courses were new to the departmental offerings, so there were no existing syllabi to guide the way in our course development. Fortunately, we shared one major advantage – institutional support. Ryan was working in the Natural Science Faculty at Purchase College in New York state, and received encouragement both from his home department and the college administration to explore arts-enriched ways to engage students in dialogue about their scientific understanding of environmental problems. Hilary was in the Fine Arts Faculty at Concordia University in Montreal, and her department welcomed her efforts to create art education courses focused on environmentalism to contribute to a growing social movement of people concerned about the quality of the environment (Norton, 1991).

The literature provided few precedents to draw on. While there had been descriptions of colloquia in eco-art education for adults (Birt, Krug and Sheridan, 1997; Neperud, 1997; Savva, Trimis & Zachariou 2004; Stankiewicz and Krug, 1997; Turner, 2008) and workshops (Anderson, 2000; Holmes, 2002; Keifer-Boyd, 2002), there is little in the literature describing the construction of curricula for post-secondary students in this area. The one exception to this is Rosenthal (2003), who argues for pedagogy that conceptually and experientially supports a systems approach to eco-art learning at the college level. She actively encourages systems thinking, systems practice, team building, collaborative practice and project assessment as her core pedagogical strategies; this was done purposefully as a means to promote her conception of best practices in eco-art (Rosenthal, n.d). Although framed within the terminology of systems theory, her pedagogical approach is similar to that recommended by other scholars (Garoian, 1998; Krug, 2003; Neperud, 1995) in that it focuses on inquiry-based, collaborative learning that promotes interconnectivity.

These references were familiar to Hilary as she started to develop her courses, and informed her course development, but not so with Ryan. As a science educator unfamiliar with the eco-art education literature, he instead partnered with Heather Saunders, a practicing artist and trained art historian as well as the Fine Arts librarian at his college. This provided him with a willing collaborator to support his curriculum development, and an entrée into arts-based learning approaches. As his college is supportive of interdisciplinary courses that foster collaboration between faculty members in the arts and sciences, his partnership proved to be a rewarding outcome of the course, as multiple perspectives were incorporated from the outset.

Description of Courses

Even though we had yet to meet, we started with similar overall learning goals for our students: to develop an appreciation of the roles artists play in positive environmental change; to provide an entreé into learning about environmental issues; and to acquire skills needed to critically comprehend and analyze environmental artworks. But because each of us was starting with different backgrounds and theoretical perspectives, available resources, and student interests, we pursued different approaches for achieving these similar goals.

Hilary had a head start with the latter goals, as her large class of undergraduate students came from the Art Education and Fine Arts programs at the university. Many had prior knowledge of art history and art-making, and were comfortable in interpretive discussions. However their knowledge and comfort level with the arts was balanced by the lack of even a basic knowledge of environmental issues for many students; for them, discussions and readings about the environmental crisis was eye-opening and disturbing. As the course

was presented in the context of a fine arts program, students' expectations were for an art course focused on the environment, rather than an environmental studies course with an arts focus. This dictated that the course content center more on the arts, rather than science concepts, sitting at odds with many traditional approaches to learning about environmental issues (Turner, 2008).

In contrast, about three-quarters of the students in Ryan's small class were majoring in one of the social or natural sciences, with the minority majoring in the arts. Anticipating a classroom heavily skewed by students with formal training in scientific analysis, but little in artistic analysis, Ryan and Heather developed the course with the assumption that most of these students would also have little basic preparation or literacy in the arts. Ryan's biggest fear soon became that his treatment of the various media and techniques discussed in the class would have to be so rudimentary, that the quarter of his students who were majoring in the arts would take little away from the course and might ultimately withdraw. However a carefully crafted student survey reassured him that that his major-based assumptions about the starting points of the students was not an accurate descriptor of their level of preparedness to critically engage with the course material. In fact, due to the self-selected nature of this elective course, all of his students shared a previous interest (and in many cases) an existing background and comfort level in the arts not evident on their transcripts. As a result, during reviews of student work throughout the semester, it was nearly impossible to discern the art majors from the science majors.

Given Ryan's partnership with Heather, who had a deep knowledge of art history, they chose to organize their environmental art course via a four-pronged, media-based approach. The first prong was lecture-based and was intended to introduce the basic skills necessary to understand environmental issues, interpret artworks and achieve basic literacy in the different disciplines of the visual arts. The second prong was field-based and provided students with the opportunity to explore and experience first-hand the ways in which artists attempt to engage with environmental issues. The third prong was writing-intensive and required students to think critically about the artworks and artists they encountered. Finally, the fourth provided students with the opportunity to practice the concepts they learned by creatively expressing their own environmental message through an artistic medium of their choice.

For Ryan and Heather's course, this approach resulted in a variety of assignments. Students honed their analytical skills by writing three short critical analyses of environmental artworks, writing reflective journal entries about field trips and visiting artist lectures, and completing a comprehensive final exam. As a culminating project each student also had to create an individual piece of environmental art that incorporated reclaimed materials in some way. The class ended the course by working collaboratively to organize their work for a public exhibition in the campus library, providing students the opportunity to develop a theme, promote an exhibit, and learn curatorial stewardship skills as they cared for and displayed the pieces.

While similar in its goals of providing an entreé to learning about environmental issues, critically viewing art connected to the social movement of environmentalism and sharing their learning collectively, Hilary's approach was restricted by the logistics of the course. She had seventy students in a lecture hall on Monday nights in the winter term, making it difficult to include art-making or field trips in the syllabus. This course offered an introduction to environmental art education by focusing on the work of environmental artists; discussing key readings from the related literature; and exploring the history of and current approaches to environmental education. Environmental issues and challenges

were discussed in relation to specific artworks, but the artworks, rather than the issues, were the starting point. The content was delivered via lectures, class discussions, guest speakers, student presentations and a field trip to the Montreal Bio-Dome (a museum/zoo that recreates four distinct ecosystems with living tableaus of plants and animals). The latter, a site typically focused on science education experiences, helped to introduce the class to science–based concepts such as the features of ecosystems and biomes, balancing the artistic focus of the course.

Students were encouraged to bring their creativity to their assignments in Hilary's course, despite the physical limitations of the lecture space they were working in. They did write a critical analysis of one of the assigned readings, and enjoyed the interactivity of a 'Web of Life' treasure hunt at the Bio-Dome. However they situated their learning individually in the creation of an environmental self-portrait (connecting to an environmental issue of personal interest and analyzing the work of eco-artists working on it). This was followed with a collaborative project that had them design and implement eco-art learning experiences for their communities. What resulted was a variety of innovative projects that raised awareness about environmental concepts or issues, from snow sculptures with primary students, to eco-art walking tours of the city, even sessions on natural dyeing and jewelry-making with chicken bones! Due to their creativity, these student presentations were a highlight of the course as they bolstered students' confidence in learning about and taking action on environmental challenges in their communities.

Informing both of our courses were frameworks for exploring environmental learning and eco-art practice. Hilary used the work of Collins (2003) which conceptualized eco-art practice as lyrical expression, critical engagement and transformative action as a base, relating it to learning in, about and for the environment. This helped students to understand the varying 'shades of green' that eco-art making and learning can take (Inwood, 2010). In contrast, Ryan's course focused on artists' adoption of SOLE (sustainable, organic, local, & ethical) materials in their creations (Powell, 2009); the interaction of natural forces in the creation of artworks (as in kinetic sculptures); and the incorporation of the land in place-based art-making (as with Earthworks). Students also referenced the 2003 Cincinnati Contemporary Arts Center exhibit catalog "Ecovention" (Spaid, 2002) as a touchstone for discussions about how artworks can address the environment by creating positive ecological conditions, as with trans-species and restorative works that have a healing effect on environmental challenges. We both drew on web resources in this work, particularly on the useful listing of environmental artists and readings at www.greenmuseum.org.

Student Response

Certainly the shared goals of the Concordia students (in terms of their common department) made them an easier crowd to choose course material for, and many were vocal about their enjoyment of the course. Students noted that they were unaware of environmental art before coming to the course, and were pleased to be able to green their own practice as artists and art educators, even if in small degrees. As many in this class were practicing artists, they were frustrated with the lack of an art-making component (sadly impossible given the lecture format decided by the university) as they had been inspired by the artworks they had seen and wanted to try making their own. There was a growing recognition that they needed to deepen their learning about environmental issues, and surprise that they could do this by studying artworks (rather than science textbooks). Their enthusiasm for the field trip to the Bio-Dome was palpable; many had never been there before, and were happy to reframe the value of this 'science' site as a possible

resource in future for art education. After this trip, there was a disappointment that they couldn't go on more field trips to explore the natural and built environments of their own city (though few wanted to venture outside in the frigid temperatures of Montreal winter nights to do so!) But the component they seemed to enjoy the most was the collaborative learning project that allowed them to try out their own ideas about eco-art education with learners in the community. While some worked with children and others with fellow students, many were thrilled at their first attempts and eager to try teaching in this area again. At the end of the course, they spoke of the increased confidence they had with taking their own students into a range of environments (built or natural) to inspire art-based learning, as well as their realization that art education could (and should) play a more active role in positive environmental change.

At Purchase College, the most popular component of the course was the opportunity to act upon the inspiration students received by creating and exhibiting their own piece of environmental art. Students expressed gratitude for being given an opportunity to explore aspects of an environmental issue on their own and to express their personalized understanding of it on a public platform. Students also enjoyed the opportunity to talk personally with practicing environmental artists; arts majors enjoyed the opportunity to glean advice from a positive example of success, whereas science majors enjoyed the opportunity to hear artists explain the approaches they took to artistically expressing their understanding of environmental issues. All students commented positively on the class-trips to outdoor art parks, made possible by the small class size. These unconventional "museum" spaces caused the students to experience art in a new way and helped to expand their views about art. Finally, students universally appreciated the co-instructed nature of the course; every student evaluation commented positively on the benefit they received from receiving the course content from the perspectives of both an artist and a scientist.

Challenges

As a scientist, Ryan experienced a number of challenges in his efforts to effectively teach a class about art, most of which seemed to stem from the inherent bias his training has given him towards a linear and categorical representation of the world. This reductionist predisposition made it difficult to present course materials in a manner that accurately reflected a field of study as fluid and dynamic as the arts. He struggled to accommodate the discrepancies that often exist between the intentions of eco-artists and the outcomes of their artworks, as well as the resistance of many artists to accept a categorical classification for their works. At the same time, he felt quite comfortable interpreting the science of environmental problems and landscape histories often depicted in indirect and sometimes unintentional ways by artists (Gaynor & McLean, 2008).

Ryan's struggle with the multidisciplinary nature of the course material was echoed administratively, as he dealt with the logistical problems of working across two different faculties. Having two instructors reporting to different academic departments with different levels of resource support proved frustrating and took more preparation time than initially planned, affected their use of campus facilities as well as the purchasing of course supplies. While this didn't prove to be a permanent barrier to conducting the course, it did increase the time and energy spent on course preparation and delivery.

Given her background in art history and art education, Hilary was more comfortable with the history and fluidity of eco-art, and enjoyed sharing artwork with her students that was new to them; many were unaware of artists' involvement in raising awareness of or ameliorating environmental problems. However her challenges came more from an internal dialogue around balance: how best to balance the needs of the seemingly

disparate fields of the visual arts, environmentalism and education? She struggled to ensure that interdisciplinary connections were clear, while at the same time worrying about giving too little or too much attention to one area at the expense of the others. Certainly her students needed a deeper background in the science of environmental issues, yet it felt as if there was never enough class time to do this justice, and students' assumptions about science-based learning put up some road blocks. She felt constrained by the pre-existing structure of the course; the classroom location and timing limited the flexibility of the types of learning activities that could be included, running counter to active student participation. Certainly having access to a studio space as a class would have allowed for a more dynamic approach to the material, and supported students' preferred learning styles.

Recommendations

While we both experienced conceptual and administrative struggles in the implementation of these environmental art education courses at two different post-secondary institutions, we learned a lot in the process of development about how to improve these for future iterations of the courses. As a result, we recommend that colleagues attempting to wade into the waters of environmental art education consider the following seven recommendations.

- Take an exploratory approach.

Integrating two or more disciplines requires new connections to be made between fields of study, a time-consuming task with a steep learning curve that requires the instructor(s) to consider their own assumptions and those of their field of study. Often this means stepping outside of your comfort zone, developing learning materials from scratch, and creating unique interdisciplinary assignments. A partnership model, like that of Ryan and Heather, ensures both disciplines have a knowledgeable advocate to create a balance in the course material.

- Lay clear groundwork.

When introducing new material, be sure to reframe each subject for your students within the disciplines of art history and education, as well as environmental science and education. Though we instructed different mixes of students with a variety of backgrounds, we both found that taking the time to highlight the connections art works make between each of these disciplines provided students with the context necessary for them to begin to assimilate this transdisciplinary material into the paradigm of their primary discipline.

- Give opportunities to create.

Include an art-making component as an assignment to channel the inspiration students will feel from environmental artists. Hilary's students lamented the absence of this component and Ryan's students reveled in its incorporation for good reason. Ryan found this creative endeavor established a sense of ownership over the material and ultimately the environmental issue being addressed.

- Provide space to share.

Use group work and collaborative activities to explore the material together. Many of the "aha" moments both Hilary and Ryan observed in their students occurred when their peers shared connections about art works they did not previously see themselves. These free and open interpretive discussions not only foster peer-transfer of key concepts, but can also emphasize the importance of interdependence and collaboration in creating a fuller understanding of environmental issues. Similarly, having students work collaboratively on

group projects, be it activities, lessons or exhibits, makes new learning in the area seem less intimidating. Hilary found that risk-taking and creativity became more prevalent in the context of group-based learning.

- Get out to the "gallery".

Though logistically impossible for Hilary's class, Ryan's evaluations unanimously expressed appreciation for getting to experience many of the pieces in-situ. This is especially important for those environmental works that are essentially place-based. While image-rich lectures can convey some of the key concepts, the gravity of many works is not fully felt outside of their intended exhibition spaces. If logistics prohibit the class traveling, seeking opportunities to bring physically tangible pieces into the lecture room for up-close inspection can serve as a good surrogate.

- Learn deeply about a few environmental issues.

Have students learn more deeply about a few environmental issues in depth over the semester, rather than try to get a grasp on a broad range of environmental issues, as there are just too many different environmental concepts to cover effectively in one course. Ryan found by focusing each lecture around a specific issue, and repetitively illustrating how different artists have addressed the subject through their own unique approaches to be an effective means of conveying deeper discussions about the mechanics of various environmental problems. Hilary discovered that letting students select their own issues for deeper investigation ensured that they had personal investment in the issues, leading to more engagement with the assignment.

- Encourage reflective writing.

Incorporate an activist theme into some assignments so that students start to understand how art can be used to bring about positive environmental change on a personal level. Both Hilary and Ryan found that by providing students with an opportunity to internalize their experience with different artworks and environmental subjects, their students wrote reflectively and forcefully about the need to personally adopt more sustainable environmental lifestyles.

Conclusion

During a time in which environmental educators working in higher education are seeking new and more effective ways to convey complex environmental issues, the field of art education offers an innovative and alternative way to reach students. In our two pilot courses, undergraduate students responded positively to the development and enrichment of their understanding of environmental issues through discussions of contemporary art movements. By incorporating dynamic, reflective, and participatory opportunities for students to engage with the material, both Environmental Studies and Art majors related very positive experiences with this transdisciplinary material. This suggests that future classes in the subject can be successfully adopted into the curricula of both art and science programs and delivered by both science and art faculty.

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Biographical Statements

Dr. Hilary Inwood currently teaches at the Ontario Institute for Studies in Education at the University of Toronto. Her research focuses on developing environmental literacy through art education in school and community settings. Her work extends beyond classrooms to include school gardens, outdoor education centers, parks and galleries. For more information or to contact, visit www.hilaryinwood.ca.

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