Chapter 3
Reimagining Environmental Education as Artistic Practice

Hilary Inwood and Elizabeth Ashworth

Abstract This chapter explores the potential of art education to increase the power and reach of environmental learning in teacher education programmes and schools. The authors advocate for the inclusion of creativity, imagination and aesthetics as powerful pedagogical tools to provide a means for teacher educators of the arts to contribute towards positive environmental change. This entails a philosophical shift, one that better connects art education and environmental education, as well as a practical shift that reduces the waste and toxicity inherent to many art programmes. Descriptions of two different approaches to this reimagining of EE in Canada are provided. By sharing their experiences with integrating EE into their art education programmes, the authors discuss the benefits and challenges of reconceptualizing environmental education as artistic practice and aim to inspire others anywhere to do the same.

3.1 Reimagining Environmental Education as Artistic Practice

Creativity, imagination and aesthetics are not terms typically associated with the praxis of environmental education (EE). This is not surprising as over the past three decades, EE has found a strong foundation in science, geography and outdoor education (Palmer 1998), working towards a more sustainable future by developing learners' knowledge of human impact on the Earth's biological and physical systems. While some progress has been made in raising awareness about these environmental challenges (Klein 2015), we believe that large-scale change in terms of

H. Inwood (✉)
OISE, University of Toronto, 252 Bloor St. West, Toronto, ON M5S 1V6, Canada
e-mail: hilary.inwood@utoronto.ca

E. Ashworth
Schulich School of Education, Nipissing University, 100 College Dr,
North Bay P1B 8L7, ON, Canada
e-mail: liza@nipissingu.ca

G. Reis, J. Scott (eds.), *International Perspectives on the Theory and Practice of Environmental Education: A Reader*, Environmental Discourses in Science Education 3, https://doi.org/10.1007/978-3-319-67732-3_3

shifting patterns of living towards sustainability is still missing. How can EE be reimagined to help make sustainability a societal priority? What roles can creativity, imagination and aesthetics play in this? And how can teacher education help to facilitate this change? Examining the role that the arts can play in EE and in teacher education may help address these questions.

As faculty who teach in Canadian teacher education programmes, we are not alone in believing that initial teacher education should play a central role in ensuring that teachers have the knowledge, attitudes and skills needed to be environmental educators and advocates; our views are informed and supported by Charles Hopkins and Rosalyn McKeown (2005) and the Council of Ministers of Education, Canada (2012). As visual arts educators and practicing artists, we posit that the arts have an important role to play in raising societal awareness about environmental issues, as well as stimulating creative thought and innovative action in the movement towards sustainability. We support Joe Uehlein and Bren Smith's (2011) belief that "art can help us digest and make sense of what is happening in our world – a process essential for spurring political action" (n.p.). By sharing case studies in this area from the teacher education programmes in which we teach, we aim to bring together art making, research and teaching (referred to as a/r/tography by Irwin and de Cosson (2004)) as a means of starting a dialogue about the process of reimagining EE by exploring the roles that art education can play in EE within the context of initial teacher education.

3.2 Integrating EE and Art Education

> Here's the paradox: if the scientists are right, we're living through the biggest thing that's happened since human civilization emerged. One species, ours, has by itself in the course of a couple of generations managed to powerfully raise the temperature of an entire planet, to knock its most basic systems out of kilter. But oddly, though we know about it, we don't know about it. It hasn't registered in our gut; it isn't part of our culture. Where are the books? The poems? The plays? The goddamn operas? (McKibben 2005, online source)

McKibben is not the only one to call for a greater role for the arts in raising awareness about climate change and environmental degradation. While many visual artists (Edward Burtynsky, Noel Harding, Lynne Hull, Chris Jordan, Mierle Laderman Ukeles, Peter Menzel, to name only a few) have been making powerful contributions to environmental awareness and sustainability over the past 40 years, their work has been neither well-publicized nor widely understood by scholars in the EE field, nor by the general public. Visual arts scholars and critics such as John Beardsley (1998), Tim Collins (2007), Lucy Lippard (1998) and Barbra Matilsky (1992) have helped raise the profile of these artists' work, as have filmmakers such as Jennifer Baichwal (2006) and Thomas Riedelsheimer (2004). A variety of multidisciplinary programmes, such as the Cape Farewell project (http://www.capefarewell.com/), have also begun to recognize the need for scientists and artists to work collaboratively to make the interdisciplinary shifts towards sustainability.

Arts education has played only a peripheral role in EE in the past (Graham 2007). With a growing recognition that transmission-based, information-driven modes of learning are not sufficient in shifting attitudinal to behavioural change in relation to sustainability (McKibben 2005), the arts offer a more holistic approach, one that makes space for affective, creative and subjective approaches to learning. They provide an alternative means of developing the competencies of sustainable living by engaging the head (cognitive learning), the hands (embodied learning), the heart (affective learning) and the spirit, believed to be a route into authentic, long-lasting learning (Center for Ecoliteracy, "Discover" section). Certainly, as part of an inter-/trans-/multidisciplinary approach to EE, the arts offer the possibility of increasing the power and relevancy of environmental learning by appealing to a wider range of learners than ever before in creative and personal ways.

Artists, scholars and educators have been investigating artistic approaches to EE since the 1990s, sometimes referred to as environmental art education or eco-art education (Inwood 2009). Inspired by Suzi Gablik's (1991) articulation of a need for a social reconstructionist agenda in the discipline of the visual arts, many educators agreed with her call for "connective aesthetics" in art making (Gablik 1995, p. 84) and subsequently in art education. E. Louis Lankford (1997) framed this approach as "purposeful creativity" (p. 50), moving away from the art for art's sake model that was prevalent for most of the twentieth century and towards art making that had a purpose in addition to aesthetics. Art educators have begun to see the potential for a better integration of art education with the philosophical and theoretical trends of environmentalism, seen in the incorporation of place-based education and bioregionalism (Blandy and Hoffman 1993), ecofeminism (Hicks and King 1996) and systems thinking (Rosenthal 2003). These theoretical foundations continue to develop, with more recent contributions from Mark Graham's (2007) integration of a critical pedagogy of place with art education, Young Song's (2009) infusion of ecological art into EE and Tom Anderson and Suominen Guyas' (2012) articulation of the principles of E*art*h Education, built on the tenets of deep ecology.

Yet what is missing from the literature is an examination of how to bring art education and EE together in the context of initial teacher education and its potential for increasing the power and reach of EE. While some researchers have analysed the benefits and challenges of developing undergraduate courses in environmental art education (Inwood and Taylor 2012), there is a lack of understanding about its role in the context of teacher preparation. By describing and analysing case studies in this area at two different Canadian campuses, we aim to compare and analyse our approaches to reconceiving EE as artistic practice within the context of initial teacher education and argue for a more equitable inclusion of the visual arts in EE as a whole as a way to reimagine its praxis.

3.3 Turning Over a New Leaf at OISE

At the Ontario Institute for Studies in Education (OISE), in Toronto, Canada, I (Hilary Inwood) have taken a multipronged approach to integrating environmental art education into our initial teacher programme. Along with colleagues, we formed the Environmental and Sustainability Education (ESE) Working Group in 2008 in anticipation of the release of the Ontario Ministry of Education's (2009) EE policy framework, "Acting Today, Shaping Tomorrow". This policy was the first in Canada to formalize EE in the K–12 education system and proved to instigate some Ontario faculties of education to better embed EE in their preservice programmes. As Canada's largest teacher education programme (with over a thousand teacher candidates registered each year), we felt strongly that a clear presence for EE would support and deepen the creation of a culture of sustainability across the institution.

Each member of the group looked for ways to integrate EE within the existing content of our courses. While my challenge was timing (the art education module, mandatory for all elementary teacher candidates, was only 12 h in length), I realized that EE aligned nicely with the module's existing big ideas of curricular integration, growth and creativity. Over four classes, I highlighted the sustainability features of the classroom (a large blue bin for recycling, bins of reusable paper, found objects for art making and a vermicomposter for food waste). Wanting to remind my students of the pleasure of learning outside, I took the teacher candidates to a local park to draw in and from nature and to analyse a nearby public art installation focused on nature in the city, created by Susan Schelle and Mark Gomes. Another class was devoted to introducing environmental art education, contextualizing it in relation to the Ontario Ministry of Education's policy (2009), which advocates for an integrated approach to EE. Introduced to visual exemplars of what environmental art making looks like in elementary schools (created as part of my community-based artistic practice), teacher candidates became excited by the possibilities of this form of contemporary art practice and tried out similar ideas during their practicum placements.

By 2010, an elective course in EE was added to OISE's initial teacher education roster, providing a more formal venue in which to do this work. With teacher candidates immersed in a 36-h course devoted to EE, and an assignment that required them to pilot an EE learning experience, I found willing partners in the teacher candidates to explore how to incorporate artistic practices into EE in ways that could be shared across the institution.

During the first year, three teacher candidates offered to collaborate with me on an art project related to the Fatal Light Awareness Program (FLAP http://www.flap.org/). Dismayed by the discovery that migratory birds were hitting the glass windows of OISE's building, our team used artworks as a way to raise awareness about the plight of these birds in urban environments and to encourage OISE faculty to close their window blinds and turn off their office lights at night to deter birds from seeing the windows as fly-through portals. The project resulted in over 200 block relief prints (see Fig. 3.1) being delivered to offices throughout the institution, much

Fig. 3.1 Example of FLAP bird relief print

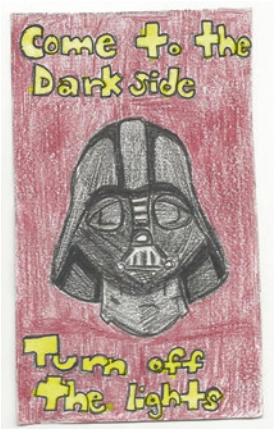

Fig. 3.2 Example of an energy conservation sticker

to the delight of faculty and staff. (At the time of the publication of this chapter, these prints were still found in offices throughout the building.)

Buoyed by this positive response and subsequent behavioural changes induced by the FLAP artworks, I promoted the idea of art projects as a means of raising awareness about environmental issues at OISE. In the second year, I ran three projects, two of which involved a partnership with Tara Rousseau, the art teacher at OISE's lab school, the Dr. Eric Jackman Institute of Child Study. I worked in collaboration with teacher candidate Hayley Chown and Tara's grade 5 class to create small drawings to encourage energy conservation, installed next to light switches in all OISE classrooms (see Fig. 3.2).

Hayley was so excited about this project that she enlisted other classmates to work on iterations of it in their teaching placements to support the Earth Hour event in March. I also worked with teacher candidate Stephanie Heim and Tara's grade 6 class to develop a clay-based art installation about the environmental rights of children. Even in grade 6, students could articulate the rights of children around the world to clean air, water and proper sanitation. As well, Aidan Hammond, a teacher candidate and experienced clay artist, worked alongside me on an installation that involved over a hundred teacher candidates visualizing the importance of nature-based learning in school and community settings. OISE students incised and

Fig. 3.3 Clay installation on nature-based learning

sculpted their impressions and memories of nature-based learning into clay relief tiles, helping to remind viewers about the importance of reconnecting children and adults with nature (see Fig. 3.3).

These projects were the starting point of OISE's "Take the Stairs" campaign. Installed in OISE's main stairwell as a walking art gallery, these artworks aimed to encourage the OISE community to take the stairs, rather than using the elevators, thereby conserving energy and improving the health and wellness of walkers. The projects were a success, garnering attention both within and outside the building and spurring the development of three more eco-art installations the following year. Grade 1 learners from the lab school created two tall murals to share their knowledge-building approach to learning about trees, which involved learning through observation, discussion and research, collaboratively building their understanding over time. Working in collaboration with Tara, me and OISE teacher candidate Jennifer Sharpe, the class created two large-scale paintings to share what they had learned, showing two trees in different states of seasonal change, with their text-based descriptions forming part of the colourful images (see Fig. 3.4).

Since the inception of this unusual art gallery, we have added a number of other artworks. Grade 3 students from the lab school shared their study of First Nations peoples, the cardinal directions and native plant species by creating artworks using paint, clay, photographic transfers and poetry. In 2013, teacher candidates helped create an art installation focused on sustainability actions called "Turning over a New Leaf". It was made up of dozens of clay leaves inscribed with images and

Fig. 3.4 Detail of grade 1 mural of trees

messages that remind viewers of the actions they can take to live more lightly on the Earth. Another iteration of the FLAP project has also been installed, involving hundreds of watercolours of local birds in flight, as well as an installation focused on the plight of Ontario bees. Teacher candidates will use the time they put into these projects towards fulfilling the requirements of OISE's Environmental Leadership Certificate, a means of recognizing their commitment to 36 h of formal, informal and service-based learning related to EE.

What lessons have been learned from this ongoing experimentation into environmental art education at OISE? Teacher education as a whole needs to be reimagined to align with beliefs and practices about environmental sustainability (Hopkins and McKeown 2005), and modelling what sustainability can look like in art education classrooms is a vital part of this. Integrating EE into all subject areas in an initial teacher education curriculum is important, as teacher candidates, much like younger students, enjoy learning experientially, holistically and affectively. Another lesson learned is that one of the tenets of EE, start small and do projects well, is just as applicable in eco-art education. Showing that artworks and installations made in environmentally friendly ways (using natural materials such as clay) can be completed on time and on budget is crucial for ensuring ongoing support. Art installations, when done collaboratively, can be created quickly and inexpensively; many hands make for light work. We also learned that allies in this process can be found in unexpected places; for example, in my experience, facilities managers are often happy to have more art in buildings, especially when the art is made by those who use the building. With a little forethought and imagination, any art installation can be focused on socially and politically relevant big ideas, helping learners to manifest their theoretical learning in concrete and aesthetic ways. For those who often

don't see themselves as creative, teacher candidates are thrilled to become artistic collaborators on projects that leave a lasting mark, thus modelling encouragement and support for them demonstrates, in an explicit way, what they can do as teachers in their own future classrooms.

3.4 Sustainable Studio Thinking at Nipissing University

For many years, I (Elizabeth Ashworth) have been aware of how Hilary infused her passion for EE into her art, research and teaching at OISE (Inwood 2010), and she inspired me to experiment with similar practices in my art education courses at Nipissing University, in North Bay, Canada. I work with teacher candidates to create a variety of drawings, paintings, prints and sculptures as exemplars for their future classrooms. During the process of creating their art education sample portfolios, they use an abundance of supplies, mimicking traditional visual arts programmes that rely heavily on consumable supplies. Once the artworks are assessed, however, these are often discarded by the teacher candidates, resulting in large amounts of paper and other materials being used on a short-term basis. As the recycling programme within the City of North Bay does not have a wide breadth of acceptable items, the potential for things to go into landfill is high. Like Pamela Taylor (1997), I reached a tipping point when I witnessed teacher candidates thoughtlessly discarding materials in this process.

In an effort to stop these wasteful practices, I asked teacher candidates to consider their roles as art education leaders and encouraged them to reimagine art programmes through an EE lens. I embarked on a journey to plan, implement and assess a sustainable studio. Among others, I considered Lorraine Chiarotto's (2011) ideas for incorporating environmental expectations into school projects and Mark Stewart's (2010) practical concepts for encouraging sustainability in higher education. Except for Pamela Taylor (1997), no one included strategies on how to reduce art programme refuse in educational contexts.

I then re-evaluated the art education classroom at Nipissing and created short- and long-term plans for transforming it into a sustainable teaching and learning space and identified areas in our programme where sustainable practices could be improved. Each year, for example, we ordered dozens of Plasticine bricks for teacher candidates to create claymation figures. At the end of each term, however, only some were taken home; leftover works were tossed into boxes for recycling. In order to encourage both sustainability and creativity in the sculpture unit, I asked the teacher candidates to imagine moving into a classroom where they found boxes of used Plasticine. They could neither buy new materials nor discard the used supply, so they had to consider ways to use it creatively. They appreciated the real life scenario, and once they began building their sculptures, they started to accept the blended colours. As a result, fewer works were left behind, and those that were discarded were donated to a local school for use in their claymation projects (see Fig. 3.5).

Fig. 3.5 Sculptures created with recycled Plasticine

Next, I embedded the concept of sustainability into all lessons and assignments. For instance, at the beginning of each term, I took the teacher candidates on a tour of the art classroom, placing emphasis on the use of the recycle bin, hand dryers, cloth towels and the absence of garbage cans and paper towels; I wanted them to think critically about classroom waste from the outset. I then gave them the choice to create sketchbooks with faded paper or use free sketchbook apps (Autodesk Sketchbook, Draw Color, Drawing Desk) on their tablets.

After this introduction, I modelled and reviewed sustainability considerations in all lessons; for example, teacher candidates made sculptures out of recycling bin materials and created paintings with used items (plastic lids for palettes; old sponges and toothbrushes as paint brushes). They participated in a group project where they integrated visual arts with another subject (Steele and Ashworth 2013) or an educational focus (such as aboriginal perspectives, literacy or social justice). I added the requirement that the art component must be made of recycled materials and found these works far more interesting as it encouraged the teacher candidates to think more critically and creatively when planning and constructing their works (see Fig. 3.6).

I also worked with a colleague to take advantage of our university's location, adjacent to a natural area. We led extracurricular workshops where teacher candidates created teaching exemplars out of natural items found within the forest. Without access to traditional art supplies, most groups created works inspired by artist Andy Goldsworthy (see Fig. 3.7). All works were made and discussed in situ, then photographed and left for nature to biodegrade.

After 1 year of implementing these various sustainable practices, I assessed their strengths and weaknesses to make constructive changes for future courses; for example, I kept track of the use/nonuse of consumable supplies and documented teacher candidates' use of recyclable and natural materials in their artworks. Although the consumable waste had reduced dramatically, I found that teacher candidates were still discarding artworks they did not want. In order to address this

Fig. 3.6 Working microscope created from a detergent bottle

Fig. 3.7 Bush Lion: created from items found on the ground

waste, I encouraged them to keep all of their works. Now one of their portfolio requirements is to create at least one work of art using bits and pieces of works they do not want to keep (see Fig. 3.8).

Recently, another opportunity for integrating EE and art education at Nipissing arose: the addition of two new elective courses, "Environmental Education Across the Curriculum" and "Teaching, Learning, and Being in the Outdoors". Both courses have the potential to incorporate art, research and teaching with sustainable practice considerations.

Fig. 3.8 Storm: a mixed media piece created from discarded artworks

Overall, my intention has been for teacher candidates to become eco-literate art educators. I want them to experience and reflect on sustainable studio practices and then take what they learn about the environmental, economic, community and cultural benefits of teaching and learning in a sustainable studio/classroom into their future schools. They can easily integrate their environmental art education knowledge with other subject areas and share these with classroom teachers who host our teacher candidates during their practice teaching placements. By taking their EE knowledge beyond the university, and sharing sustainable studio practices learned in their teacher education programme, it is my hope that teacher candidates will inspire other educators to create similar environments in their own classrooms.

3.5 Connections and Insights

Both of our cases reveal the benefits and challenges of reimagining EE through artistic practice in different ways. Moreover, showing our teacher candidates that the praxis of EE can be integrated into art education was easier than we initially imagined, and we demonstrated that art has a variety of social, cultural and political purposes beyond the aesthetic, modelling Gablik's (1991) social reconstructivist approach. By connecting art education to environmental sustainability in practical and theoretical ways, we made EE an explicit and integral part of our teaching. We have witnessed the personal transformation of our students, many moving from an "I'm not an artist" mindset to reimagining themselves in a new light, as both creative people and advocates of sustainability. Seeing themselves aligned with contemporary artists who are using sustainable approaches to art making has been empowering for many and has made us believe that our teacher candidates are more likely to implement this approach in their own classrooms in practicum and beyond.

This sustainable approach to creativity has benefited our universities in a variety of ways: from reducing the amount we spend on studio supplies to decreasing the amount of garbage our students create. Our eco-art endeavours have improved the aesthetics of some of our institutional spaces and raised awareness about a wide range of solutions to environmental issues, including waste minimization, energy conservation and habitat preservation. Finally, we have influenced some of our colleagues to take sustainability more seriously and to reconsider the ways in which it can be integrated into all areas of teacher education.

Although we have had many successes, we have also faced challenges and limitations in this work. It has been difficult to get our students (and colleagues) to change their habits around the use of disposable coffee cups, water bottles and paper towels; not everyone in our workplaces embraces our passion for sustainability. Similarly, some colleagues are not open to integrating EE into their teacher education courses; from their perspective, it is yet another addition to an already overloaded curriculum, and they lack the knowledge and awareness (or interest) into how to infuse EE into their course. Some of our managers are very pleased that our use of recycled and natural materials has resulted in a reduction in the use of consumable materials and have reduced budgets with this in mind. Certainly, we have not gotten fully to where we would like to be in terms of a zero waste approach; artistic practice and school-based learning involves the use of consumable supplies that generate waste, so it is still a dream to imagine a fully zero waste art education programme.

This process has also left us with many questions moving forward. How can we grow our efforts beyond our subject area and get more faculty members on board with this reimagining of teacher education? How can we get support in this work from the companies that make art supplies? And what impact is this work having on our students' learning? Are our students taking the practices they have learned into their practicum schools, and are they able to successfully implement the practices we have shared with them with their own students? Are they able to translate this new knowledge into their personal lives and live in more sustainable ways? Anecdotally, we are hearing many stories from our present and former students about shifts in their attitudes, as well as their personal and professional behaviours, towards living more lightly on the earth. But there is no doubt that a more formal study is needed in this area to better understand the impact of the changes we have made in our teaching practice and if they are resulting in long-term changes in our students' lives.

We recognize that the impact of our efforts, so far, is local, but has the potential to reach far beyond our classrooms. We have created goals with which to work: first, to integrate EE more fully into our art education courses, our universities and our communities and, second, to model how to integrate creativity, imagination and aesthetic practice into positive sustainable changes for our teacher candidates and colleagues. The new 2-year teacher education programme in Ontario offers the possibility to develop our ideas with students over a longer period of time. We see the efforts described in this chapter as first steps towards a greater reimagining of art education and teacher education to support EE and welcome others to join us in this journey.

Questions

Discussion questions that could help instructors and students to engage in meaningful conversation about the ideas presented in this chapter.

1. Both Inwood and Ashworth faced challenges in their planning and implementation of sustainable practices in their teacher education classrooms. What challenges could you face in your workplace regarding a move to more environmental awareness and sustainable practices?
2. The study of eco-art/artists, and the practice of making art with recycled and natural materials, "transformed" their teacher candidates. How might the same happen with your learners?
3. Inwood and Ashworth focused on integrating visual arts and environmental education within their initial teacher education programmes. How could this integration be imagined and implemented in other curricular subjects and areas of focus in elementary, secondary and post-secondary institutions?
4. The authors advocate for the inclusion of creativity, imagination and aesthetics as powerful pedagogical tools for teachers to contribute towards positive environmental change. Consider how a lesson (or unit) you have taught could be reimagined in this context
5. Modelling positive sustainable practices in education is a key theme in this chapter. What steps could you take in your workplace and community to be a leader in environmental education?

References

Anderson, T., & Guyas, A. S. (2012). E"art"h education, interbeing, and deep ecology. *Studies in Art Education, 53*(3), 223–245.

Baichwal, J. (2006). *Manufactured landscapes [documentary]*. Toronto: Foundry Films & the National Film Board of Canada.

Beardsley, J. (1998). *Earthworks and beyond: Contemporary art in the landscape*. New York: Abbeville Press.

Blandy, D., & Hoffman, E. (1993). Toward an art education of place. *Studies in Art Education, 35*(1), 22–33. https://doi.org/10.2307/1320835.

Center for Ecoliteracy. (n.d.) Competencies for sustainable living. Retrieved from http://www.ecoliteracy.org/taxonomy/term/84.

Chiarotto, L. (2011). *Natural curiosity: Building children's understanding of the world through environmental inquiry*. Toronto: University of Toronto.

Collins, T. (2007). *Lyrical expression, critical engagement, transformative action: An introduction to art and the environment.* Retrieved from http://wayback.archive-it.org/2077/20100906195312/, http://www.communityarts.net/readingroom/archivefiles/2003/06/lyrical_express.php

Council of Ministers of Education, Canada. (2012). *Education for sustainable development in Canadian faculties of education.* Retrieved from http://www.cmec.ca/Publications/Lists/Publications/Attachments/279/ESD_Dean_reportEN.pdf

Gablik, S. (1991). *The re–enchantment of art*. New York: Thames and Hudson.

Gablik, S. (1995). Connective aesthetics. In S. Lacy (Ed.), *Mapping the terrain: New genre public art* (pp. 74–87). Seattle: Bay Press.

Graham, M. (2007). Art, ecology, and art education: Locating art education in a critical place–based pedagogy. *Studies in Art Education, 48*(4), 375–391.

Hicks, L., & King, R. (1996). Ecofeminism, care and the environment: Towards a greening of art education. In G. Collins & R. Sandell (Eds.), *Gender issues in art education: Content, contexts and strategies* (pp. 90–101). Reston: National Art Education Association.

Hopkins, C., & McKeown, R. (2005). *Guidelines and recommendations for reorienting teacher education to address sustainability*. UNESCO Education Sector. Retrieved from http://unesdoc.unesco.org/images/0014/001433/143370e.pdf

Inwood, H. (2009). *Artistic approaches to environmental education: Developing eco–art education in elementary classrooms*. Doctoral dissertation. Retrieved from ProQuest Dissertations & Theses Global. (NR67360).

Inwood, H. (2010). Shades of green: Growing environmentalism and sustainability in art education. *Art Education, 63*(6), 33–38.

Inwood, H., & Taylor, R. W. (2012). Creative approaches to environmental learning: Two perspectives on teaching environmental art education. *International Electronic Journal of Environmental Education, 2*(1), 65–75.

Irwin, R., & de Cosson, A. (Eds.). (2004). *A/r/tography: Rendering self through arts–based living inquiry*. Vancouver: Pacific Educational Press.

Klein, N. (2015). *This changes everything*. Toronto: Knopf Canada.

Lankford, E. L. (1997). Ecological stewardship in art education. *Art Education, 50*(6), 47–53. https://doi.org/10.2307/3193688.

Lippard, L. (1998). *The lure of the local: Senses of place in a multicentered society*. New York: The New Press.

Matilsky, B. (1992). *Fragile ecologies: Contemporary artists' interpretations and solutions*. New York: Rizzoli.

McKibben, B. (2005). *What the world needs now, is art, sweet art*. Retrieved from http://www/grist.org/comments/soapbox/2005/04/21/mckibben-imagine/index.html

Ontario Ministry of Education. (2009). *Acting today, shaping tomorrow*. Toronto: Queen's Printer for Ontario. Retrieved from http://www.edu.gov.on.ca/curriculumcouncil/shapetomorrow.pdf.

Palmer, J. (1998). *Environmental education in the 21st century: Theory, practice, progress and promise*. London: Routledge.

Riedelsheimer, T. (2004). *Andy Goldsworthy: Rivers and tides, working with time [Documentary]*. New York: New Video Group.

Rosenthal, A. (2003). Teaching systems theory and practice through environmental art. *Ethics and the Environment, 8*(1), 153–168. https://doi.org/10.1353/een.2003.0013.

Song, Y. I. K. (2009). Community participatory ecological art and education. *International Journal of Art & Design Education, 28*(1), 4–13. https://doi.org/10.1111/j.1476-8070.2009.01588.x.

Steele, A., Ashworth, E. (2013). Walking the integration talk: An artsci project. *Canadian Journal for the Scholarship of Teaching and Learning*, *4*(2). doi:https://doi.org/10.5206/cjsotl–rcacea.2013.2.6.

Stewart, M. (2010). Transforming higher education: A practical plan for integrating sustainability education into the student experience. *Journal of Sustainability Education, 1*, 195–207. Retrieved from http://www.jsedimensions.org/wordpress/2010-inaugural-issue/.

Taylor, P. (1997). It all started with the trash: Taking steps toward sustainable art education. *Art Education, 50*(2), 13–18. https://doi.org/10.2307/3193638.

Uehlein, J., & Smith, B. (2011). *Calling all artists: The climate change movement needs you!* Retrieved from-http://grist.org/climate-change/2011-05-13-calling-all-artists-the-climate-movement-needs0you/