A New Vision for Public Art and Functional Landscape Design

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Abstract

This article explores how Johanson’s ecological public art and landscape design addresses current social issues and community necessities. It also examines how her designs may serve as a communication tool for the surrounding society, and how her public art may provide new perspectives for community members, scientists, artists, engineers, architects and government officials in shaping the future of their communities. The purpose of this study was to inspire art and design students in thinking about their future projects. This phenomenological case study highlights Johanson’s works as a model for these students. Furthermore, it discusses some educational implications as seen among university students who first studied Johanson’s works and then designed their own public art projects.

Keywords
public art, landscape design, art and design, ecological art, community art, environmental education, Patricia Johanson
Introduction

‘Biological evolution – like much contemporary art – is based on time, process, and chance. Both art and science have moved away from concepts of self-sufficient isolated entities toward open-ended ideas of natural relatedness, organization, and systems’ (Johanson 2002, 1). If this assessment of evolution is true, then the relationship between ecological public art and landscape design is shifting into a more ‘open-ended’ partnership. This shift has perhaps come about from the work of ecological artists like Patricia Johanson. Her work has for many years brought together both science and art, and has suggested a new perspective and a new vision for public art designers.

Artist Patricia Johanson was born in New York City and currently lives in a farmhouse in Buskirk, New York, near the Green Mountain National Forest and not far from the Mohawk Trail. With a background in fine arts, Johanson began her foray into ecologically and socially aware landscape design in 1969 when the magazine *House & Garden* invited her to design a garden. She sketched about 150 garden designs that emphasised her vision for functionality and practical value in combination with aesthetics, instead of art-for-art’s sake. This approach became the foundation for her large-scale landscape designs. Johanson specifies four goals for her ecological public art designs: (1) the aesthetic experience, (2) the functionality for preserving ecosystems, (3) its usefulness for humans, and (4) to facilitate wildlife food chains.

Since the 1960s, Patricia Johanson has been interested in creating multifunctional ecological public art as a way of public landscaping. She firmly believes that artists should seriously consider the ecological survival and aesthetic implications in designing or shaping public landscapes.

This article explores Johanson’s works as a lens through which one may understand current social and community issues. It describes the ways in which her works may have helped various community members see their own society with new perspectives. It also discusses how university students who studied her works learned from the projects and went on to create their own public art works.

Review of literature

Humans have come to be an extraordinarily destructive force, over-consuming resources and severely altering the physical landscape (Turner *et al.* 1991). By changing habitats and ecosystems, the composition of species inhabiting an area becomes transformed (McKinney 2002). Alberti (2003, 172) stated: ‘The greatest challenge for ecology in the coming decades is to fully and productively integrate the complexity and global scale of human activity into ecological research.’ Now, a decade later, more people than ever are indeed acknowledging the intricacy of humans’ devastating relations with the earth with their ecological research to try to find solutions. This is an effort that needs a multidimensional approach, incorporating scientists, engineers, politicians, architects and artists. Green landscape design, which strives to minimise harm to natural ecosystems, is one example of this effort. ‘There is an enormous untapped potential for such things as the design of roads that are less harmful to animal migration, of buildings that kill fewer birds, and of landscaping that promotes native species conservation’ (McKinney 2003. 1132). These types of innovative approaches acknowledge and address human needs while also prioritising the needs of the ecosystem that surround them.

Promoting environmental awareness and working to protect the environment are multidimensional processes. While scientists develop new ideas and inventions to protect the environment, artists simultaneously develop new approaches to affect people’s conscience and raise their environmental awareness. Some of these artists are environmental artists (Song 2009). Beginning with the environmental art movement of the 1960s, some artists began to engage more actively in these trends.

What was the environmental art movement? According to Clive Adams, Director of the Centre for Contemporary Art and the Natural World:
During the political and social upheavals of the 1960s, a group of artists in the United States and Europe increasingly questioned the restriction of painting and experimented with radical new ways of responding to the environment and its ecology. Rather than paint the landscape, their experiences were realized by sculpting the land itself, by photographic sequences and in sculpture made from natural materials. (Adams 2002, 3)

There are several ways to define ecological and environmental art. Greenmuseum.org defines ecological art as ‘artwork created by artists concerned with the state of our environment worldwide, and with their local situation’ (greenmuseum 2003, 4). They argue that ‘artists interpret nature and create artworks to inform us about nature and its processes or about environmental problems we face’ (greenmuseum 2003, 4). Some researchers have also defined ecological art as restorative art that promotes awareness, engagement and activism around major environmental issues (Blandy et al. 1998; Cembalest 1991). Other researchers emphasise the relational approach of ecological art in terms of integrating art with nature. In particular, Barbara Matlisky (1992, 57) asserts that ‘ecological art does not isolate and interpret aspects of nature but rather integrates them into a total network of relationships’.

Since the environmental art movements of the 1960s, artists have been creating artworks that draw viewers into thinking beyond their daily observations of the earth in action and to the larger natural forces that exist (Boetzkes 2007; Gablik 1995; Matilsky 1992). According to Sue Spaid’s (2002) book entitled *Ecovention: Current Art to Transform Ecologies*, several artists from the 1960s began to undertake projects that sought to physically transform the environment. One of the earliest artists to do so was Joseph Beuys, who proposed in 1962 that people take ‘action’ to partake in a clean-up effort of the Elbe River in Hamburg, Germany. In 1965, Hans Haacke wrote a manifesto that called for ‘time-based, dynamic, natural, indeterminate art’, after which Agnes Denes performed Haiku Poetry Burial, Rice Planting and Tree Chaining exercises in Eco-Logic, Sullivan County, New York in 1968. In the same year, Patricia Johanson installed a 1,600 ft long work along the railroad in Buskirk, New York that was a light-responsive artwork. The next year, Haacke created Grass Grows in response to his own 1965 manifesto in Ithaca, New York.

In the meantime, Alan Sonfist and Betty Beaumont sought to heighten the public’s awareness of the state of environmental pollution. In 1969, Sonfist monitored and posted results of air quality of various locations throughout New York City. Beaumont documented the clean-up of the worst oil spill to date in the country, in Santa Barbara, California. That same year, Johanson produced hundreds of innovative designs for ecologically integrated gardens. The movement carried on throughout the early 1970s as well, with Haacke creating Bowery Seeds to attract airborne seeds in New York City, and Robert Smithson constructing Spiral Hill/Broken Circle in Emmen, the Netherlands.

Today, many artists understand that the creation of ecological public art is an effective tool that helps a community collectively identify and resolve local environmental issues and foster connectedness through stewardship (Anderson 2000; Erzen 2005; Taylor 2002). There are many reasons why ecological public art is able to increase people’s awareness and interest about environmental issues. In particular, site-specific installations invite the viewer to begin a dialogue about various local environmental issues. Public art is a gateway for community members to rethink various local issues and take ownership of an area (Gablik 1991; Spaid 2002; Weintraub 1996). Because ecological public art is inherently designed for widespread viewing, it can spark dialogues from various stakeholders and locations in the community.

Both artists and students of art and design can play an important role in creating functional ecosystems for the local wildlife and useful spaces for people by participating in landscape design:

*Given the present understanding of the role art can play in the public realm, an artist may be...*
hired to decorate a site such as a landfill closure. And with a small shift in thinking, artists could simultaneously create habitat and make the site available to different constituencies or species. What if, through the creativity of artists, landfill, airports, sewers and highways could become parks, playgrounds, restored ecosystems and recreational facilities? (Kelly 2006, 104)

Research purpose and questions
The purpose of this study was to inspire art and design students in thinking about their future projects. This phenomenological case study highlights Johanson’s works as a model for these students. This study was designed to explore the process behind Johanson’s ecological public art and landscape design, from her intentions to the execution of her artistic expression, including the challenges of executing large-scale projects in collaboration with professionals from various disciplines. Through this research, Johanson’s projects are examined for ways that offer new perspectives in thinking about the environment, biodiversity and local communities, in addition to fostering interdisciplinary ideas and connections that are sometimes overlooked. The specific research questions were as follows:

(1) How does Johanson use her ecological public art and landscape design to address concerns regarding wildlife and a deteriorating ecosystem and to support coexistence between nature and humans?
(2) What action steps did Johanson take, and what messages can we glean from these?
(3) How do these works provide ideas for students of various disciplines – such as design, visual art, architecture, art education and environmental education – for future projects?
(4) What are some of the challenges that accompany collaborating with individuals from various disciplines, such as artists, architects, scientists, engineers and government officials? How can these hurdles be overcome? What can students learn from Johanson’s attempts to manoeuvre and negotiate these situations?

Research methodology
This research draws upon a variety of data collected through qualitative research methods. To explore Patricia Johanson’s inner perceptions and thoughts about her projects, I conducted a phenomenological case study based on the theoretical frameworks of Moustakas’s phenomenology (1994) and Stake’s case study (1995). In-depth interviews and field observations provided primary sources of data. In particular, interviews were conducted using a semi-structured interview framework, in which the artist elaborated on how she uses art to restore a damaged ecosystem, craft a new public place, elicit meaning from nature and convey a particular message to visitors. The interviews also captured the artist’s intentions and motivations behind the creation of ecological public art projects. Over a period of six years, I interviewed Johanson by email, phone and in person. In particular, I examined themes, goals and metaphoric symbols found among Johanson’s works and other ecological public art projects. Furthermore, contextual research and existing literature provided secondary sources of data.

Separately, I created sketches, drawings and paintings that were inspired by my interactions with Johanson and her artworks. These sources of data captured my reflective thoughts about Johanson’s works.

In addition, part of a university art and education course’s curriculum was adapted in order to explore the possible educational implications of Johanson’s works. A detailed methodology is presented below in the section on student works.

For analysing the data, I used Delamont’s (2002) structure. These various data were coded and indexed by hand. I chose this phenomenological approach (Bruyn 1966; Moustakas 1994) to gain a deeper understanding of ‘truth’ as Johanson perceives it and to explore her thoughts and perceptions about her works.

Patricia Johanson’s works
The following section discusses three of Johanson’s large-scale public landscape projects
from 1981 to 2009. Through an examination of Johanson’s work, we can see how artists can help combine community space, public art and functional infrastructure to help restore the ecosystem and provide a recreational space for humans, animals and wildlife.

**Fair Park Lagoon, Dallas, Texas (1981–6)**

The **Fair Park Lagoon** (Figure 1) is an example of wetlands and habitat restoration, a freshwater pond, aquatic ecosystems, storm water management and a municipal flood basin. When Johanson was invited to design *Fair Park Lagoon* in 1981, the lagoon had many environmental degradation problems such as an eroded shoreline, murky water and flooding. Another major challenge was algal bloom, caused by the runoff of fertilizer from the lawn surrounding the lagoon. Additionally, Johanson explains, ‘There were few birds, no waterfowl, and hardly any plants, animals, or fish – in fact the Dallas Museum of Natural History had declared the site biologically dead’ (Johanson to author, 2010). Johanson always spends a few months at the site of a project to discover the significance of the place and gain ideas for the design. Johanson believes that ‘each place has a unique set of conditions, and we need an intimate understanding of what it has been, is now, and will become in the future, in order to create a design that is more than a willful act’ (Kelly 2006, 19).

First, Johanson started developing a list of concerns about the place, and began thinking of ideas for creating functioning ecosystems, such as how to line the shoreline with cypress trees to help control bank erosion, and how to create paths over water which would allow people to become immersed in the life of the lagoon. She also studied the food and nesting habits of different local species to determine which type of environment would best attract wildlife. Johanson believes ‘it is most important to develop a sound project that fulfills real needs taking into account not only functional and human issues, but also the living world as a whole’ (Wu 2010, 199). Recognising that each landscape has its own unique character and life, Johanson intended to support the kind of environmental conditions that are vital to its survival, as well as to provide public education and entertainment by involving the public in the process of nurturing these gardens. After a few months of study about the area, she decided to convert the lagoon located in the middle of the largest park in Dallas into microhabitats for the local wildlife, where people could directly interact with nature. To nourish its sustainability, she used wetland plants to clean the water and worked to prevent erosion along the shoreline.

Finally, Johanson determined ‘biological restoration’ to be the key element in the design of **Fair Park Lagoon**. After she decided what she wanted the art to accomplish, Johanson chose two Texas plants as images for the sculptures in the lagoon. These specific plants were chosen because they had local relevance, and their forms could be twisted and turned to create sculptural paths, bridges, seating and microhabitats, where people could focus on the life of the lagoon. In Figure 2, leaves of the **Sagittaria platyphylla** become animal islands and seating along the shore, while the twisted roots serve as paths over water and prevent erosion. Many turtles, fish and birds live in the spaces between the sculptures. In Figure 3, the form of the Texas fern, **Pteris multifida**, provides a network of paths, bridges and islands that frames small-scale water landscapes and nesting birds.

Through this work, Johanson allows people to connect directly with a real living ecosystem – the functional flood basin. She incorporates an educational agenda, through which she fosters public popularity of the place while allowing it to flourish and continue to develop ecologically. ‘What emerged … was a paradigm shift from
Opposite page:
Figure 1
Fair Park Lagoon by Patricia Johanson, 1981–6, photo courtesy of the artist

This page:
Figure 2
*Sagittaria platyphylla* – Shoreline Stabilization by Patricia Johanson, 1982

Figure 3
*Pteris multifida* (Bridge) – Plan of Arches by Patricia Johanson, 1982

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the idea of representation to a process of continual transformation that would have allowed art to become part of living processes of productivity of the land itself as well as its inhabitants’ (Araeen 2009, 682). This is an important idea for artmaking – shifting from trying to represent something to trying to enable a process of transformation. As she expected, ‘The neighborhood’s children have become very emotionally attached to the environment through exploring every niche of the Fair Park Lagoon – looking for insects, fish, birds, and plants at every corner’ (Song 2010, 76) (Figure 4).

Fair Park Lagoon brings many benefits to people, animals and wildlife that live in the area. First and foremost it provides a safe ecosystem for the species living in the area through a series of carefully planned microhabitats that are cleansed through natural processes. Additionally, it has greatly expanded the biodiversity of the area by using sculptures to carve out many small habitats in which plants thrive and animals can breed and raise families. The installation has brought about an important change for people as well, by creating a place in which they can feel in harmony with natural systems. A site with floodwater problems has turned into a public amenity that all community members can enjoy. It also provides an unusual natural oasis in the midst of an urban setting in which residents have the opportunity to see an ecosystem at work in their own community.

Johanson faced many challenges in bringing the Fair Park Lagoon project to fruition. It was a highly unusual undertaking at the time and she had to address many questions about safety, architectural standards and building codes before she could proceed. There were also major liability concerns because the water in the lagoon was approximately 17 ft deep and accidental drowning was a potential issue. Fortunately, Johanson developed a design that allowed the water on either side of the paths to be only two feet deep and thus the city agreed to assume any liability from the project. The design has ultimately been highly successful and even when a few people crowded the paths at the dedication and slipped into the water, they were easily able to get out without any harm. She is not aware of any serious accidents that have occurred as a result of the project, but safety is something that must always be accounted for in public projects.

Endangered Garden, San Francisco, California (1987–97)

Endangered Garden (Figure 5) is an example of a habitat restoration for endangered butterflies and shellfish, a marsh restoration and an urban sewage infrastructure. This project also demonstrates how public ecological art can serve a positive function for both the ecosystem and the public. When a new pump station and holding tank for sewage and excess rainwater were being built as part of a sewer project in San Francisco, she was invited to be a designer. In developing ideas, Johanson spent many months conducting research on the locality and consulted many experts on shellfish restoration and endangered species. Through this process, she discovered the rich history of the Ohlone Indians who had inhabited the area for thousands of years. Consequently, Johanson ‘linked her design to Native American culture by creat-
ing birdbaths shaped like petroglyphs and carved rainwater channels’ (Matilsky 1992, 64) Furthermore, she learned that many endangered species had lived there as well.

After contemplating how it would be possible to develop a sewer site into a public park, and how it might be possible to recreate the habitat of endangered species in a way that could educate the public about the environment and provide public space for people, she decided to bury most of the sewer underground and to transform its surface into a baywalk that is accessible to the public. This baywalk now stands 30-feet wide and one-third of a mile long in the shape of the endangered native San Francisco garter snake (Figure 6). Even the design of the paving and the benches along the baywalk are similar to the black, yellow and red patterns of the endangered native snake. Along with this restoration, ecological aesthetics (Gobster 1999) have been established as the baywalk winds around a series of habitat gardens. Here the visitor discovers a variety of images, intimate spaces, and patterns that correspond to different habitats and public uses. ... However the central focus is the bay itself. ... [The project] fosters an environmental ethic regarding the value of even the smallest living things by making visible the tiniest animals of the bay. (Matilsky 1992, 64)

The completion of Endangered Garden also served the function of welcoming back several nearly extirpated species by recreating their habitats. Simultaneously, it served the function of a site for environmental education. Johanson also designed the head of the garter snake as a twenty-foot high sculptural earth mound that would block the strong winds, making it easier for butterflies to fly. As intended, the area is now abundant in beautiful butterflies once again. Also it has become a vast public space for picnics, ballgames and recreation. A small sculpture within the body of the garter snake form called Ribbon Worm-Tide Pools provides a pathway and tidal steps, down to a beach. This work was created not only to provide an aesthetic experience but also to allow people to come into close contact with plants, animals and the water so that they could directly appreciate them through interaction (Johanson 1989). As visitors stroll along the base of the baywalk,
they are able to see the biologically diverse habitats that surround them. At low tide, they see members of invertebrate populations, such as worms, snails, barnacles, mussels and shrimp, and many kinds of algae. One may also notice that the area is rich in birds. This baywalk is now part of the Bay Circuit Trail, so many people walk, jog and bike along the path. Many people pause to take a closer look at the birds or to watch the waterfowl feed in the marsh.

Now, *Endangered Garden* is part of a California state park, and most visitors fail to realise that there is a sewer below the very path along which they are walking. The *Endangered Garden* 'proposes a new aesthetic for designers: to envision solutions that are as creative, functional, and biologically productive as nature herself' (Johanson to author, 2010). *Endangered Garden* brings many benefits to the animals, plants and people of the Bay area. It has provided a creative response to a pressing urban infrastructure need. Instead of just creating a sewer treatment area that would generally be disliked and avoided by the community, Johanson helped to create an area with many additional public uses including the trail on top of the sewer. These installations are cost effective and multi-purpose and help provide access to the local beaches. Additionally, the area has now become a protected habitat for endangered butterflies including host plants for larva and nectar for adults. It has also restored the native marshes and associated fauna and provided additional areas for feeding shorebirds.

*Endangered Garden* also faced many challenges in its design and implementation and unfortunately not all features were built due to budgetary cuts during the project. The greatest challenge was a political one because many local residents were opposed to the idea of having a public sewer adjacent to the Bay. Additionally, the engineers of the project were opposed to the buried design that Johanson proposed. She was able to overcome these challenges by becoming a co-designer of the project and thus having decision-making authority in the project. Also, she was able to obtain the support of many California state park rangers who attended public hearings and spoke in favor of the art, restored habitat and trail components that the project would yield. Finally, they were able to reach a compromise that satisfied the concerns of the various stakeholders. Ultimately, after sharing her vision and design with the nearby communities, Johanson observed; ‘People were really enthusiastic, and loved the idea that the public might actually be able to use these infrastructure projects.’ It highlighted Quraeshi’s explanation (2008, 271) of the artist’s role: ‘to catalyze family and citizen responsibility – to help community members expose and define issues so that they could begin to devise solutions’. This illustrates the importance of considering and reflecting the community’s needs in creating public art projects.

**Petaluma Wetlands Park and Ellis Creek Water Recycling Facility, Petaluma, California (2000–9)**

The Petaluma Wetlands Park and Ellis Creek Water Recycling Facility project (Figure 7) is an example of a multi-purpose landscape that combines art, ecology and functional infrastructure. It demonstrates that engineering projects can expand beyond their original objective, and include a multitude of functions, including public recreation, agriculture, wildlife, educational programmes and economic development. The ‘art’ in Petaluma is not ‘added on’. It is the pattern by which sewage is processed, habitats are restored and people navigate the trails (Johanson to author, 2010). The project is situated in Petaluma, California, and it includes 272 acres of tidal marsh and mudflat, oxidation ponds, sewage treatment wetlands, and polishing ponds that remove heavy metals from the water. The main goals of this large and complicated project are to treat human sewage, create recycled water and to restore the ecosystem through the creation of a public park. Johanson has always demonstrated an interest in ‘enmeshing human needs within the large patterns and purposes of nature’ (Johanson to author, 2010). In this Ellis Creek project, she unified ‘art, infrastructure, ecological nature, and the public landscape’ into one image...
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This image was that of the endangered Salt Marsh Harvest Mouse (Figure 8). The image of the salt marsh harvest mouse was selected to coincide with the sewage treatment train, and the zones of wetland plants that cleanse the water. Three miles of public trails and other interpretive sites trace this mouse’s pattern. In addition, the four ponds that occupy the 30 acres at the center of the wetland park embody the image of this harvest mouse (Figure 8). As a result of restoring this ecosystem, the habitat islands that occupy each of the sewage treatment cells provide a nesting place for birds. At the same time, they direct the flow of the water in the basin. The most remarkable aspect of this area is ‘the diversity of ecosystems that occurs within a relatively small area – tidal sloughs, brackish marsh, mudflats, riparian corridors, and uplands – combined with positive human interventions, agricultural fields, freshwater ponds, and storm water purification systems’ (Johanson to author, 2010). People can see some of the recycled water this facility produces in the reservoir at the end of the mouse’s tail.

Through the creation of Petaluma Wetlands Park, Johanson provided multidimensional benefits for humans and the environment. The park deals with sewage, recycled water, urban agriculture, ecological communities and endangered species, as well as providing numerous educational programmes. It is an example of art and urban infrastructure embedded within living nature. As a result, her work was able to benefit the area by transforming it ‘in ways that enhance not only the natural potential of the earth itself but also the collective creativity of the life of all its inhabitants’ (Araeen 2009, 684).

Additionally, the project is being used as a teaching site by the local public schools, and tourists have come to see the local wildlife and stay at a hotel recently built nearby. The recycled water is even being sold to local farmers and is extremely popular.

Like other innovative ecological art installations, local engineers and city officials were not initially confident that the wetlands approach was the best one to choose for sewage processing. They were convinced that mechanical systems were somehow more reliable than natural systems. Through a series of public presentations, Johanson was able to convince them and community members that through this project they would get an effective sewage processing facility while also creating a public park, more than three miles of trails, and a place in which wildlife, tourism and agriculture could all thrive. The project ultimately garnered strong community support and has since been highly successful.

Challenges

Johanson reports having encountered several challenges in the process of creating her
projects. Many of these challenges have arisen from the projects’ interdisciplinary nature, which usually requires extensive collaboration with partners. Johanson has had few problems in working with scientists, since she meticulously researches her topic first and then consults them for additional advice. Typically, they provide her with additional expertise about local conditions and are generally very enthusiastic about her work. Working with engineers has been more challenging, however, because they tend to have very specialised training in a particular kind of engineering, such as roads or sewage. As a result, some tend to be very precise and want to do things in a traditional manner that they can control, rather than using natural and organic processes.

According to Johanson, she has learned to prioritise utility and efficiency in her projects so that they will perform as well as traditionally engineered projects, even though they are designed using very different processes. She states that working with government officials is also challenging because the length of the political cycle is often shorter than the length of a public art project. Large-scale projects usually take many years to complete, during which previously elected officials may no longer be in office, and new officials may no longer share their predecessors’ understanding of the project’s significance. Budget cuts throughout the life of a project also threaten a project; often the first suggestion of what to eliminate from a project are the art, habitat and public amenities that she values so highly.

Other challenges also include the fact that the process of constructing public ecological art projects is very time-intensive, which involves both long-term planning and detailed day-to-day supervision. When Johanson commits to a project, she must attend every meeting and follow up on the small details for the entire length of a project. She sees this as an important role because creating a huge public ecological art and landscape design is ‘a big responsibility for the artist – both to the public and to the integrity of the project and its message’ (Kelly 1992, 24). Participating in each step of the process is essential to ensure that she is able to weigh in on key decisions and ensure that the actual implementation adheres to her design and vision.

Finally, language barriers may present another challenge, particularly when working in foreign countries. Johanson states that it is very important for the artist to identify a translator who is familiar with the concepts and terms of ecology, art and design. Otherwise, deeper meaning and ideas may be filtered through a translator in a way that they become lost. Being aware of and understanding these kinds of challenges in advance will help art and design students better prepare for their future projects.

Students’ works
To explore the possible educational implications of Johanson’s works, a section of a course curriculum was designed to expose students to her works, provide an opportunity for discussing them, and explore how their perceptions of their own relationships with the environment, local community and art might change after they each designed a public art piece. This curriculum was delivered to art major and non-art major students in an art and education course. Fourteen university students participated in the hands-on activity, in which groups of two students designed a public art piece after viewing and interpreting Johanson’s works. In addition to examining the educational implications of Johanson’s works, this activity sought to help students develop the skills of critically examining community public art projects. This would enable students to get involved, speak up and suggest ideas when there is a new project being constructed in their own schools or communities. This type of process involvement is emphasised and encouraged by Johanson as the artist’s responsibility (Kelly 1992).

This activity was the last of four main activities that were assigned in the course. Each activity built on the previous one, such that the final activity was a culmination of the earlier ones. The first activity asked students to research and deliver a presentation about an artist who works for the public and the environ-
ment. Specifically, students were asked to consult various sources to find information about the artist’s background and his or her works. In addition, students were asked to convey their reactions to the artist’s works and their interpretation of the artist’s meaning behind the works. This activity sought to familiarise students with concepts about art, design and the environment. For the second activity, students were asked to use these materials and information to create a presentation in the form of a movie clip or visual artwork. This activity aimed to encourage students to organise their ideas about the artist’s works and to connect them with their own ideas. For the third activity, the class as a whole chose one artist to study collectively in greater depth. In one particular year of this course being offered, students chose to explore Johanson and her works further. Lastly, for the fourth activity, students were to design a project of their own that addressed a problem in their own respective communities. In doing so, they were asked to redesign a public space, such as a public schoolyard, playground, parking lot, local riverbank or community park. Students were also encouraged to think about how this design could address some practical concerns in addition to interacting with a public space.

For the final project, much like Johanson, students started by doing some research to identify a specific area and then investigating the location, space and related issues of the surrounding community. Also, students tried to find symbols and metaphors from their local cultures in an attempt to create a design with greater meaning and significance. In what follows, students describe and discuss the significance of each of their public art pieces.

Students Robin Leed and Alice Wong said: ‘Too often, urban schools have very limited space. They do not have the option to expand outwards. We had the plan to build a “Car Port” structure over a school’s parking lot.’ They described that they were inspired by Johanson’s goals for her ecological public art, and that they sought to create an art work that would provide an aesthetic experience for children, be useful for humans and would facilitate the wildlife’s food chain.

Leed and Wong envisioned that the Car Port would help keep snow off cars during the winter. In addition to serving a functional purpose, it provided a space to house a rooftop garden that would encourage connections to nature, beautify the school community and be used as a backdrop to the ‘outdoor pebble classrooms’. With the outdoor pebble classrooms, educators can provide new types of learning from which young students may learn ‘new ways of seeing, hearing, feeling and moving’ (Greene 2001, 7).

Students Lauren Alverson and Carolyn Swanhal looked into the courtyard space of the Berklee College of Music in Boston. They judged this space to be a nice outdoor area, but one that lacked a relationship with the music school, did not draw in community members and could thus use a redesign. They wanted to bring in a musical theme, so they added a long, colourful bench designed to look like a musical scale. They made the place more desirable for students and the public to mingle and congregate. They added aesthetically appealing awnings, water features, bird feeders and birdhouses to attract local wildlife. Alverson and Swanhal wanted to attract more community members to recognise this area as a natural, serene and calming place.

Students Joan Miller and Sandra Germain redesigned a preschool playground. Their intention was to bring children back to nature and introduce it to them in a more relaxed and innocent way. They used mainly natural and recycled materials to construct the playground equipment. In particular, they hoped that the call for the donation of recycled materials would capture the community’s attention and lead to the involvement of many community members for this redesign project. Miller and Germain said they were careful to consider both the ecological and aesthetic implications of redesigning the playground, much like Johanson did in her designing or shaping of public landscapes.

Students Kristen Cuttone and Ashley McPherson researched the empty space between a subway station and an adjacent
building. This particular location was a dark, dingy and dirty area both during the day and at night that was not an inviting space at all. Cuttone and McPherson decided to redesign it with stepping-stones on grass, a rock fountain on the wall and a wooden bench. They also installed a ‘Solar Tower Charging Station’ that would use solar energy to supply electricity to outlets that can be used by passersby who want to take a moment to sit down and enjoy the outdoors. Cuttone and McPherson hoped to incorporate some plants that would also bring some of the wildlife back to the area. Such design practice encourages students to think about the creation of public art as both a socially constructive and intellectual pursuit (Green 1999).

Students Ronja Geilen and Nicole Yokum redesigned a community park by incorporating a garden and a pond. In particular, this pond was to have a natural purification system by using moss. This was decided upon because, according to their research, some types of moss have an efficient purification function. Furthermore, the pond was to be used to water the garden and the grass.

One student, Timothy Hourihan, designed a growing and living wind spire. He said:

This art piece will not only be something unique to look at, but it is also a living, sustainable energy resource that not only creates energy but also provides oxygen and habitat within its micro-ecosystem. While I think my project is very simple in its mechanical and biological stages, I do think its structure could be a precursor to advance concepts within art and technology.

The students in this course were not all students majoring in visual art or design. Several were majoring in environmental science, elementary teacher education, community art education or human development. Despite the variety of backgrounds, they were able to view and discuss Johanson’s work, understand the important role of public art, and try to address current local issues and community necessities in their own design projects. This was natural because arts-based experiences ‘encourage contemplative, reflective thought, which can extend environmental awareness, an essential basis for environmental understanding’ (Adams 1991, 21).

By observing the students and their works, it was evident that scholars of art education can influence not only art and design students but also many others to view public artists’ works and think about issues like community involvement, the local environment, public safety and the aesthetic appeal of public art. Public ecological art exposes viewers to new ways of seeing, feeling and thinking about local issues. This can lead to greater awareness of, and motivation to act on behalf of, their communities.

Conclusion

These research findings demonstrate how important it is carefully to research the surrounding landscapes and local housing structures in addition to the local history and culture when designing a project. This is because every place has a unique cultural backdrop. In addition, it is useful to hold meetings for community members to voice their opinions in an open discussion. This gives the site a special importance and guarantees its use when the project is done. It is also important to consult with all constituencies, and to patiently work with the remarks that each constituency brings. People like to be heard and like to be consulted about their own place. It is important for the artist to have the patience and the willingness to listen and work with many people. Through this process, it is possible to build relationships with and foster the interest of community members. When a public artist researches, understands and applies the symbols and metaphors that are captured in their local culture and cultural heritage, together they can create artworks that embody greater meaning and significance.

For a successful collaboration in creating public art projects, artists (including art and design students) must be involved in the process from the very beginning of the proposal stage. They must anticipate and plan for chal-
Challenges in each stage of the process and be able clearly to articulate the benefits of their work to all stakeholders. Artists must extricate themselves from the idea that their role is to beautify an infrastructure project or to add a symbolic art sculpture in front of another project. Even with a slight shift in such thoughts, public landscaping may come to involve and serve an entirely different constituency from what we have generally seen so far.

Already in the 1960s, Johanson believed that these kinds of projects would be needed in the future. Even in her collegiate years, Johanson had a strong calling for art and design and wrote in a college essay that ‘The world itself would be designed as a work of art.’ This kind of active thinking about the future of the discipline is something that may be important for current art and design students to engage in. Johanson believes that ‘the new wholeness and harmony lies not in design perfection but in our ability to bring competing populations, interests, and points of view together harmoniously in the real world’ (Johanson to author, 2010). Her artworks have the power to stimulate a new vision within art and design students to design or create functional, self-sufficient and inclusive landscapes that are capable of supporting life as well as cultivating human understanding.

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