

Lance Holt School Inc, Fremantle, Western Australia

Ecological sustainability project

Synopsis

Sustainability has been defined as meeting the needs of current and future generations through simultaneous environmental, socio-cultural and economic improvement. We aimed to explore how:

- the core values of the Lance Holt School related to sustainability values
- sustainability values could be expressed in two case studies in the broader community
- sustainability values could inform and be interpreted in practice in Lance Holt School.

Background

The Lance Holt School was established in 1970 to provide innovative education in a community. It now has an enrolment of nearly 100 students including the kindergarten. Social justice, community participation, environmental awareness and best practice teaching has been the focus of the school during its 32-year history.

Values are embedded in our whole school approach to educating our students. These values can be seen in our:

- child-centred teaching and learning programs
- behaviour management approach based on fundamental rights and responsibilities
- consensual and participatory operation of the School Council and its committees
- collegiate approach of staff
- whole school camps, meetings and events
- support for parent involvement
- problem-solving approach to conflict resolution.

During 1996 the school participated in the NPDP Values Review Project. The school established a committee to reflect on the school's core values. This involved consultation with the school community (students, teachers and parents), a series of workshops and an agreement on shared core values.

In 2000 and 2001 an Ethics Committee ran workshops with parents to explore the rights and responsibilities of school community members as a means of sharing and sustaining the school's core values. The findings of the Ethics Committee are published on the school's website www.lanceholtschool.wa.edu.au.

Sustainable development

Sustainable development received a global mandate in 1992 at the United Nations Conference on Environment and Development when the largest ever meeting of Heads of State gathered to endorse a blueprint for development in the 21st century called Agenda 21. As a part of that process the Government of Australia produced its National Strategy for Ecologically Sustainable Development in 1992. The Government of Western Australia has also recently released a substantial report called Sustainability which calls on schools in WA to engage with the sustainability debate within their curricula and to practise sustainability within their own buildings and playgrounds.

Lance Holt School lies within the traditional country of the Whadjuk Nyungars and within the local government area of the City of Fremantle. The school is located in the historic West End of Fremantle, very close to the port at the mouth of the Swan River, and only five minutes' walk from Bathers' Beach aka Manjaree. The contexts for any project on sustainability are deep, broad and complex.

Nyungars have cared for the coastline around Manjaree for tens of thousands of years and still recount dreaming stories of the ice age when sea levels fell, and rose again as temperatures warmed. Their stories account for the islands we can see from Bathers Beach/Manjaree and other features of the coastline. Bathers Beach/Manjaree was also a place of historic significance for white settlers as it is where Captain Stirling first landed

and planted a flag in the name of the British Empire. On the cliff above Bathers beach/Manjaree, the British also built their first building in Western Australia: the Round House, an octagonal prison largely used for Aboriginal prisoners. Bathers Beach/Manjaree, and the associated coastal zone, have provided Nyungars and continue to provide the whole multicultural community of Fremantle with an important economic resource (eg, tourism and fishing), cultural development and recreational opportunities.

The economic, social, cultural and environmental pressures on this high-use area provide the local context for a sustainability project. Inappropriate urban, transport and infrastructure planning means that very little native vegetation remains in Fremantle; Perth's Swan River experiences algal blooms resulting from eutrophication; and the physical coastline is highly modified.

Social and cultural impacts have also resulted from the displacement and killing of Nyungar people, and from the changing demographics within the port town including recent 'gentrification'. However, Fremantle also has many strengths in terms of sustainability. It has a strongly participatory community. There is easy access to the beaches, river and adjacent parklands. Air and water quality, though needing improvement, are relatively good for a city by global standards. Multiculturalism and Indigenous status have received close attention in recent years. Education has also become an important sector within the larger Fremantle area with two universities located close at hand. One of these is Murdoch University, which offers programs in environmental science and sustainability. Murdoch University enjoys significant amounts of native vegetation on its campus, a strong Indigenous presence on the faculty, and an Environmental Technology Centre (ETC) which demonstrates sustainability through the use of permaculture gardens and appropriate technology.

Definitions and assumptions

Values education is defined as the process of deeply engaging with what it means to be a human in relationship with other humans and with the world around us. It means recognising the links between rights and responsibilities. It means building links among abstract values, actions within the broader community, daily practice within the school, the educative process within the school, and the substantive content of our curriculum.

Values education at Lance Holt School means critically analysing the values underlying texts and media of all kinds. It means having open-ended discussions with the children about values and behaviour. It means that while accepting that diverse values exist within any community, and that this is a good thing, teachers will actively challenge, for example, ideas or behaviours that are rooted in values of violence, exploitation or sexism. Values education means being aware that education deals with facts in a world of values, not just values in a world of facts.

Values project

Sustainability is an area that is closely compatible with the school's values and which also has a political mandate at all levels of government. It relates directly to many aspects of the WA Curriculum Framework. The key aims are to bring the concepts and practices of sustainability explicitly into the curriculum at our school and into our daily practice where possible.

The Upper School project was located at Murdoch University's Environmental Technology Centre. The short-term objectives of this project were to learn the basics of permaculture gardening and environmentally friendly technology, and embodied democracy and cultural exchange. The long-term objectives were to empower children to care for their world in a constructive and guilt-free manner and to create lasting partnerships between the school and members of the community.

The Lower School project was located at Bathers Beach/Manjaree, a five-minute walk from the school. It is important to remember that this project built on a long history of

the school's association with Bathers Beach /Manjaree and that the children involved in the project had already spent a lot of time there with their teachers and families. For this project, the short-term objectives were to formally establish the Lance Holt School as a Coastcare group responsible for the monitoring and care of Bathers' Beach/Manjaree. We wanted to explore with the Lower School what it means to become stewards of a place, and the values and actions necessary for this.

Coastcare at Bathers Beach/Manjaree will be an ongoing project for the whole school. The long-term objectives are to:

- empower children to care for their world in a constructive and guilt-free manner
- create lasting partnerships between the school and members of the community
- continue to develop a sense of place at the beach
- learn about coastal ecology through scientific monitoring
- learn about Indigenous and non-Indigenous cultures and histories by listening to stories from community members
- care for the beach by planting trees and collecting litter from the beach.

Project activities and methods

The project was launched with a ceremony at Bathers Beach/Manjaree. The children had previously made a large representation of the longstanding school mascot, a sea dragon, which they now carried down to the beach in a long procession together with parents and teachers. At the beach Mrs Marie Taylor, a local Nyungar Elder, conducted a friendship ceremony and presented the school with a handmade friendship stick. She reminded us that we were sitting on Aboriginal land but that she was happy to be sharing it with us. She then conducted a smoking ceremony to banish the bad spirits and welcome the good spirits. She pointed out that the school dragon corresponded closely to a key character in the Nyungar dreaming story. The sea dragon has also become a symbol of coast care in Australia.

Upper School project

The Upper School project consisted of three two-hour visits to the Environmental Technology Centre (ETC) at Murdoch University. The ETC has developed over the last 12 years with the aim of providing a research, development and demonstration site for permaculture and appropriate technology. Most of the labour and creativity has come from a strong volunteer student base (the MUPETS) with the leadership and vision of Dr Martin Anda. Recently the success of the ETC has been recognised by a United Nations grant for future works. The aim of the project was to introduce children to the principles and practice of simple environmentally friendly gardening and technology that they could put to use in their own lives, at the same time employing the values underlying the technology.

The first visit was an orientation tour of the ETC including the gardens and climate sensitive buildings. The workshop focused on the principles and practice of making chocolate cake and nachos in a solar oven. At the end of this activity, Mrs Marie Taylor came to the ETC and talked to the children about bush tucker and the Nyungar use of what is now Murdoch University Campus, and taught them some Nyungar stories and language.

The second visit focused on the principles and practice of making a worm farm, and on using worms and their castings in the garden.

The third visit was a more intensive look at the features and significance of the permaculture garden and the climate-sensitive building technology. The children were asked to fill out worksheets as they went on self-guided or semi-guided tours.

Lower School project

The Lower School project consisted of a series of trips to Bathers Beach/Manjaree with supporting activities in the classroom. The activities at the beach and in the classroom included the following:

Nyungar studies

We met with Mrs Marie Taylor under the trees at the beach and she told a dreaming story about the spirit crocodile that came down from the north and created the Cockburn Sound and the barrier islands we can see from the beach. She told us a bit about Nyungar lifestyles, culture and food, and she taught us some Nyungar words related to the beach.

Mapping

The children studied the landmarks along the walking route from the school to the beach and made maps of the beach itself. The goal here was to encourage the children to locate themselves physically in the place. We discussed the geographic relationships of the beach to the port and the Swan River.

Environmental monitoring

The children were shown the basics of monitoring three aspects of the coastal environment. We monitored relative water clarity with a secchi disc in Fishing Boat Harbour, adjacent to Bathers Beach/Manjaree. We measured water and air temperatures using a wet and dry thermometer. We assessed the relationship between wind speed and wave height using the Beaufort scale. The idea here was to provide a forum for discussing scientific ways of knowing the world and how humans can impact on the environment.

Beachcombing

We trolled the tide line for interesting plants, animals, rocks and other objects washed up by the tide and the children were encouraged to experience a sense of wonder and interest in the origins and lives of these found things and to get past the reaction of 'Yuck, that's gross!' that people usually have when they see seaweed or dead animals on the beach. We compared the dead things with photographs of their live counterparts in

books and posters that the teachers put on the walls. The teachers also asked the children to do detailed drawings of the found things.

Life drawing

The children were asked to spot and draw living things, both plants and animals. Here we were asking the children to think about the full community of life at Bathers Beach/Manjaree, the habitats plants and animals live in and how they depend on each other. Life at the beach includes everything from insects to sea snails to pine trees. Habitats include the dunes revegetated with native plants, the intertidal zone (between high tide and low tide), the beach itself and the park with its introduced grass and Norfolk Island pine trees. We introduced the idea of the difference between native and introduced species and the concept of belonging, which we followed up later in the classroom.

Litter collection/garbology

This activity was one of the more direct and practical exercises in coast care. We gave the children gloves and asked them to collect plastic, rope, paper, smooth glass, etc. We collected all the rubbish in a pile and discussed where the rubbish had come from: ships, stormwater drains, swimmers (a bikini top excited great interest). We also discussed the rate at which things degraded, from plastic (slow) to paper (quick). Back in the classroom the teachers had the children draw the rubbish and label it with its source and rate of decomposition. The point of this activity was to develop active stewardship – as well as the children not dropping rubbish they could pick up other people's.

Sand sculptures of self

Using seaweed, sand and any other found objects, the children sculptured representations of themselves on the beach. The idea here was to metaphorically show that we are part of the beach and that it is part of us.

Swimming

We felt that it was important in developing a sense of place that the children just have fun at times without set tasks. However, the children found a lot of rocks with their toes and we ended up having a discussion on the beach about rocks and their origins.

Snorkelling and rock studies

Here the children were introduced to plants and animals of the intertidal and shallow subtidal zones, many of which were previously unknown to the children. Learning the names of species deepened the sense of place and the understanding of relationships between elements in the coastal community, including people. We also talked about zonation in the intertidal zone – some animals live high up and only need a few splashes from the waves to stay alive while others live low down and need to be wet most of the time.

Playing

There is a wooden adventure playground on the beach that was built by a local sculptor, the late Joan Campbell. It depicts marine life and history of the area, and is itself a reference to the now defunct Long Jetty that was once the heart of colonial maritime life in Fremantle. The children spent many hours on this playground and it has become very much a part of their sense of place at the beach.

Weaving and coiling

One of the parents is a professional textile artist. She taught the children to make nests and baskets by coiling seagrass and found bits of rope. She also showed them how to weave fish using dead maram grass and sea grass. Using seagrass and the found objects helped to deepen understanding about the materials and our cultural relationship with the beach.

Classroom activities

The art teacher organised the children to put together a big mural depicting coast care at Bathers Beach/Manjaree.

Teachers spent time 'wondering' with the children about questions posed by the children themselves such as 'Why is the sea salty?' and 'What makes the waves?' The wondering was an exercise in natural philosophy as much as science and was meant to encourage the children to think openly and independently about causality and patterns.

We had several discussions with the children about sustainability values. The first topic was on the inter-relationships within our 'catchment community', extending from the wheatbelt hinterland through the urban areas surrounding the Swan River, out the port and on the coast. We also talked about belonging, and the possible differences between 'native' and 'introduced'. We talked about how we can care for the beach and why we care. This led to discussion about instrumental values, intrinsic values and ecosystem values (although we did not use these words).

Key values addressed in the project

- a. Sustainability integrates the cultural, social, economic and environmental dimensions of our lives.
- b. Sustainability requires an explicit concern for 'futuraity', that is, a concern about the impacts of our current activities on future generations.
- c. Sustainability requires 'equity', and a commitment to a creative economics that nourishes at least the vital needs of the whole of the present generation by limiting the created wants of a few.
- d. Sustainability requires the political involvement of all 'stakeholders' in society.
- e. Sustainability recognises our ecological embeddedness, and therefore that in caring for, and developing an attachment to, our local 'place' we are also caring for the wider world.

- f. Sustainability depends on peace, which comes from respect for cultural and social diversity and human rights.
- g. Sustainability depends on enabling expression of the inherent rights of Indigenous peoples and their cultures.

In particular, with the Upper school focus on technology and permaculture, the key values b, c and g were emphasised. The project focused on the ways in which appropriate technology can save material resources and energy, thus taking into account the needs of future generations.

Lance Holt School Values Statement

- We are committed to developing a wonder of the natural world and encouraging a care of the environment which reflects a global stewardship.
- We recognise the importance of learning as a life long process.
- We actively pursue cooperation and the peaceful resolution of conflict.
- We encourage creativity, curiosity and the questioning mind.
- We recognise the special vulnerability of children and their need for a safe and healthy environment.
- We see the education of children encompassing their social, emotional, academic and physical development.
- We encourage self responsibility, self knowledge and self reflection.
- We promote shared responsibility with regard to the relationship between self and community.
- We understand the diversity and uniqueness of the Fremantle community and respect the special relationship between ourselves and that community.
- We affirm the equal worth and basic right of all persons. In doing to we recognise individual differences and the uniqueness of the individual.