

***“We wrote a letter to Mrs T. to visit Australia and stay with our friends. We would work on the plane”:* The Postcards Across Borders Project in Scotland and Australia**

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Abstract

Since Louv’s 2005 introduction of the term, ‘Nature Deficit Disorder’, which refers to the growing disconnect between children and the natural environment, there has been a growing body of research into children’s perceptions of nature and understanding of sustainability. Further, educators are expected to find ways to ‘reconnect’ our students with the natural world.

This research sought to determine and enhance students’ local and global environmental understandings creatively, through postcards shared in a secure online environment, with students in another country. Using arts-based methods, students at each venue shared information about their environment and undertook activities to support their growing environmental understanding, such as researching animals from the other country and planning a trip to Australia to visit their online friends. This learning was not only engaging and motivational, but also demonstrated an increased understanding for the natural environment at each venue and globally.

Introduction

In 2005, Richard Louv’s seminal text, *Last Child in the Woods*, brought to the world’s attention the very real issue of children’s growing disconnection with nature, a state he called ‘nature deficit disorder’. Research in support of this notion abounds. For example, a 2002 survey conducted by the Children’s Play Council found that most of the 500 child participants referred to their local parks and playgrounds as ‘boring’ (Lester & Maudsley, 2006), preferring the indoor environment, with television, video consoles, and plenty of power outlets games for entertainment (Freuder, 2006; Brooks & Sorin, 2012). Brooks and Sorin (2012) recount how even when a child depicted her

special places as a camping site with her family, she commented that if her video game's batteries died, "I can't do anything cause I don't know what to do (p.8).

Louv (2008) notes that nature deficit disorder can be reversed and the process he suggests is through a positive physical re-connection with the outside world. Within this context, responsibility falls on educators and parents to reconnect children to the natural environment. Judson (n.d.) suggests, "We need to cultivate ecological understanding – an awareness of our interconnectedness with nature based on knowledge about, and emotional connections with, the local, natural world" (p. 2).

As future caretakers of the environment, children's behaviours toward the environment will determine the extent to which it can be sustained. It is essential, then, that these children have an understanding and appreciation of the environment, as their attitudes and perceptions will carry forward into adulthood and determine the ways in which they will interact with their world (Ewert, Place & Sibthorp. 2005). Judson (n.d.) states that "unless what students learn in school about the Earth is meaningful to them, there is little chance they will care enough to save it" (p. 8).

Louv (2008) asks, "Can we teach children to look at a flower and see all the things it represents: beauty, the health of an ecosystem, and the potential for healing?" (p. 137) He pinpoints the arts as stimulants to learning, particularly in learning about nature. He concludes that "Nature education stimulates cognitive learning and creativity, and reduced attention deficit" (p. 138).

The arts embrace emotion and imagination. Judson notes that "our emotions are one of the central ways in which we make meaning, orient ourselves to our world, make sense of experiences. So, feeling about one's world – in this case feeling part of a living world – requires emotion and imagination in learning about it" (p. 3).

This study, based on earlier studies of very young children (Sorin & Gordon, 2010, 2013; Sorin, 2012), sought to determine and enhance students' local and global environmental understandings creatively, through postcards shared in a secure online environment, with students in another country. The research question was, "How can we use arts-based methods in an online environment to support and enhance students' understandings of the environment and sustainability?"

Methodology

With the aim of the study to determine and enhance students' understandings of the

environment and sustainability using arts-based methods, this qualitative research took an arts-based approach to data collection, aiming to engage students' imagination and emotions to extend and deepen their learning (Judson, n.d.)

With the view of children as 'agentic'; capable and competent actors who learn through interaction with others, it used drawing and storytelling, along with emergent learning such as research, photography of the natural environment, trip-planning and letter-writing, to enhance understanding of the natural environment, locally and globally. It is noted that the story form and imagery are two "tools that leave students feeling something for what they are learning" (Judson, n.d., p. 6).

Venue/ Participants

The research took place in primary classrooms in Scotland (Aberdeen) and Australia (Cairns), from August to December, 2013. Aberdeen is a city of approximately 225,000 people in northeast Scotland. It is a centre for the oil industry and attracts migrant workers and fly-in, fly-out oil industry employees. Its climate is oceanic (warm summers and cool winters) but it is still the coldest city in the United Kingdom. Aberdeen has a very busy airport, heliport and seaport. The school involved is a public school, located in a leafy, middle class suburb. The class was a Year 4/5 class, with 24 students aged 9 – 10, whose school year began at the end of August, as the research commenced.

Cairns is a regional city in far northeast Australia. Its population is approximately 143,000. As it is located parallel to the Great Barrier Reef and close to rainforests and the Atherton Tablelands, tourism is a main industry. It is also a shipping port for sugar cane and tropical fruit, has an international airport, seaport, and railway, and is a fly-in, fly-out centre for the mining industry in northern Australia. The climate is tropical and prone to monsoons and cyclones in the wet season, from November to May. The school involved is a private school, located in a beach suburb in the city's northern suburbs. The class was a Year 3 class, with 22 students aged 8 – 9, whose school year began at the end of January. By the start of the research, they were well into their last semester of the school year.

The teacher in each class participated in the research, by being interviewed and facilitating learning based on student interests and their integrating the sustainability theme into their curriculum. Researchers at both venues attended at the beginning of the research, to begin the postcard sharing, and during the research to distribute postcards from the other class to the students, and guide further postcard creation.

Data Collection

Ethics approval was obtained and data were collected in a variety of formats, to support trustworthiness. At the beginning of the project, semi-structured interviews were conducted with student and teacher participants. Students were asked:

- What does the word 'environment' mean?
- Tell me about where you live?
- What are the best things about your environment?
- Is there anything that worries or concerns you about your environment?
- Do you prefer inside or outside environments? Why?
- What do you know about other environments?
- What would you like to know about other environments?

Teachers were asked:

- How do you define 'environment' and 'environmental sustainability'?
- What do students in your class know about their environment?
- What do they know about other environments?
- What do they know about environmental sustainability?
- What do they need to know about environmental sustainability?
- What curricula or actions are being taken to teach children about the environment and environmental sustainability?

Following the preliminary interviews, the *Postcards Across Borders* project was introduced. In Australia, this involved a discussion about Scotland and invitation to create a postcard about where they to send to a student in Aberdeen.

In Scotland, picture books about Australia were read and discussed and students were asked if they would like to create a postcard about where they live for students in Cairns. These postcards were illustrated and a brief description of Aberdeen written, but students were asked to leave part of the text section blank. Then they were given a postcard from a student in Australia to read, and to respond to in the unused part of their postcard text. They added the name of the student in Australia, introduced themselves, answered any questions from the Australian student, and posed their own questions to the student in Australia.

From August to November, each class sent a total of three postcards to a student in the other country. Classroom teachers at both venues scaffolded student learning, in multimodal ways, based on student interest and the context of the Postcards project. For example, the Aberdeen students were guided by the teacher to research Australian

animals. They also expressed an interest in visiting their Australian friends, so did some travel planning and wrote a letter to the principal asking if they could do an excursion to Australia. For their third and final postcard, they photographed the natural environment and sent the images to students in Australia.

At the end of the project, students and teachers were re-interviewed. Students were again asked to define the word 'environment'; describe their environment and its best features; any worries or concerns they had about their environment; whether they preferred the indoor or outdoor environment; what they had learned about the other environment; and what they liked/ would change about the Postcards project. Teachers were asked to again define 'environment' and 'environmental sustainability; but then to comment on what their class had learned about their local environment and environmental sustainability. They were asked to identify what worked in the Postcards project, what could be changed, and how they would follow-up learning in the class

Data Analysis

Textual data were analysed using open, or emergent coding, where concepts were identified, applied to further text, and refined to produce emergent themes. Images were analysed for content and interpreted based on elements of design, mood and impression. Some of the findings are presented in the following sections.

Findings

Findings from this research demonstrate that the learning, which was arts-based and incorporated emotional/imaginative learning, was engaging and motivational for the students. Further, students demonstrated an increased understanding of the environment, locally and globally. Each of these topics is elaborated below.

Learning was engaging and motivational

Findings indicated that learning in the Postcards Across Borders project engaged learners and motivated them to further learning. Student engagement was particularly successful because learning through the Arts was fun, and this project allowed students to make an emotional connection with someone in another country. Motivation was demonstrated through student-directed and teacher-directed follow-up activities about environmental issues. Each of these points is elaborated below.

Learning through the Arts was fun

The Postcards Across Borders project met with an overwhelmingly positive response. All children in both countries reported that they had enjoyed the project. Because this project incorporated visual art (drawing) and storytelling, it was seen as a fun and engaging learning experience. Comments included:

- I liked drawing the pictures on the postcards and colouring them in.
- We got to draw pictures, write things about us and make friends.
- We got to draw and share information about us and they responded to us.

A student in Scotland mentioned that he enjoyed the drawing in follow-up activities that incorporated Aboriginal dot painting: "I liked drawing creatures and I liked something new like pointillism that they do."

Many students reported that they enjoyed the writing of the postcards, which, as functional literacy, was described by students as "better than normal writing." An Australian student commented, "We got to write to our friends in Scotland and we're much different to them."

The research was introduced with a book about Australian animals, and one student mentioned that as a favourite. Others mentioned making kangaroos, sharing photos of themselves, viewing drawings of the Sydney Harbour Bridge and other things in Australia and other, arts-based classroom activities as favourites.

Learning was engaging through establishing emotional connections with someone in another country

A large number of students reported that they very much enjoyed the experience of getting to know their overseas 'friend', thus establishing an emotional connection. Teachers also noted that they referred to the student in the other country as a 'friend', even from the first postcards.

Student comments about what they liked best about the project included:

- Learning stuff about each other
- Being able to write to other people we don't know and learn more about them.
- Getting to know our postcard person more.
- Making new friends
- Talking to our friends on our postcards
- [Getting] to make a new friend.
- Meeting new people

- That we can find out different things about their life.
- That I got to meet M. and she's a nice person.
- That I could meet a new person.
- I got to meet a new friend and learn more about what they do (not people I already know).

J said he liked to "get letters from people in a different country. [I] get to see what they like, their pets and what their family are called." F liked writing postcards "cause I have been getting to speak to my friend and see what they do. I got to see what their environment is like." M. said she liked "sending the postcards to people in Australia, cause they get to tell you what their names are, what they have been doing and what's around there." Others connected through things in common. For example, J said that he "liked making friends with T and chatting to each other and we had a lot in common. I play golf and he plays golf. His dad always wins golf when he plays and so does my dad. He likes the same TV programs as me."

The fact that the recipient was in another country was also picked out as a positive point: "It is not in our continent – its somewhere different. Sending our stuff somewhere else" and "we could talk to people somewhere else in the world."

The emotional connection was not only with the 'friend' in the other country, but also with students in the same class. One student said, "We write and draw pictures and send them. Then we get others back. We get to talk with our friends about it and in class."

Motivation was demonstrated through student-directed and teacher-directed follow-up activities about environmental issues

Motivation, by both the teacher and students, was demonstrated through the development and implementation of both student-directed and teacher-directed follow-up activities about environmental issues. Throughout the research, teachers at both venues picked up on student interests and also introduced their own activities to extend student learning about the local environment and the other country's environment.

The Australian teacher noted,

They have learnt about earthworms this year and their importance in our environment. We have 2 earthworm factories and the children collect scraps from lunch sheds and feed them every day. We also have a garden. They have learnt about the hemispheres and how it is colder as you get further from the equator.

The different styles of houses are because of the different climates. They are now learning about Christmas around the world.

The Scottish teacher gave a similar report:

We have looked at native plants and animals to Scotland. We have learned about our climate and how it effects our use of our environment. We have compared the climate of Cairns to Aberdeen. We have learned about native animals in Australia. We have learned about what grows in the school garden in Cairns. Mainly local issues such as maintaining native trees in local areas and how to reduce number of car journeys to school.

A teacher-initiated activity that was referred to by a number of students was a research activity, where students had to use a computer to research an Australian animal, and present their information in a booklet. A. said that he liked “doing the poisonous spider (Redback Spider) booklet. We had to find information about the redback spiders, had to research on the computer.”

A student-initiated activity was a travel plan and letter to the principal, asking for permission to go to Australia. One student reported, “We wrote a letter to Mrs T. to visit Australia and stay with Reesa or our friends. We would work on the plane.” The idea of a trip to Australia came directly from the students and, through teacher facilitating, became a great source of learning. Travel plans and itineraries were put together, considerations made for the time away from school, and the required permission from the principal sought in writing by the class.

Learning in this way; through drawing, storytelling and follow up activities, was engaging and motivating for students. Along with their teachers, they extended the experience to further learning that was student as well as teacher- directed and still engaging and motivating. G. concluded, “I never thought I would get a postcard from Australia!”

Students demonstrated an increased understanding of the environment, locally and globally

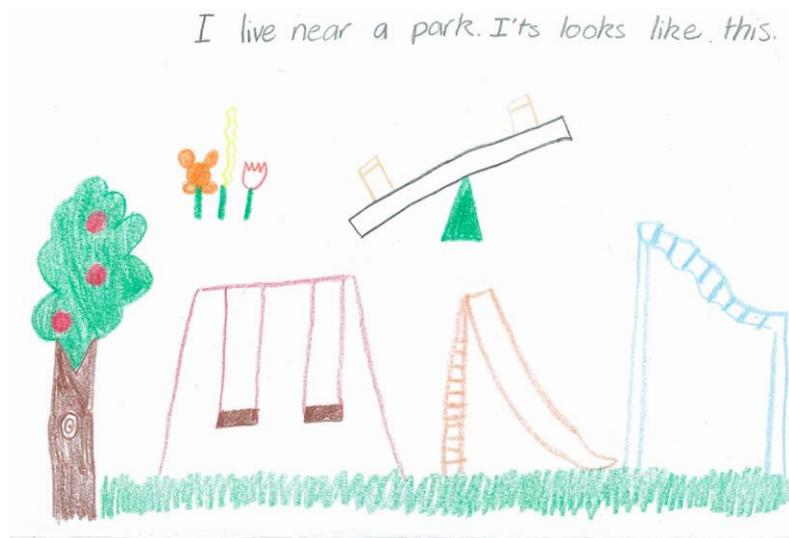
A second finding from this study was that not only did students engage in the learning and feel motivated to learn more, but they were able to describe and demonstrate their increased understanding of local and global environments. In the postcards, depictions of the natural environment became more prolific with each round. For example, A’s first

postcard (Figure 1 below). She stated her name, age, the suburb in which she lived, and named her family: mum, dad, a cat and a goldfish.

Figure 1. A's first postcard



A's second postcard (Figure 2 below) depicted playground equipment, a tree and some flowers. It was labelled, "I live near a park. It looks like this." She wrote about her birth date (7 May), her pet ("a cat named Jupiter") and her hobby ("gymnastics").



By her final postcard, (Figure 3 below), both A's drawing and story had become more elaborate, and detailed more intricately features of the environment.



Her story demonstrates awareness of a very important environmental feature of Cairns, the Great Barrier Reef, but it also demonstrates understanding of her immediate environment, namely the school garden. She wrote:

At Cairns there is a very popular reef. It's called the Great Barrier Reef and about 20 000 people come to swim in [it] and if you were over here you'd love it! When I'm at school I go visit a garden that our class planted and in it is pumpkins, tomatoes, basil, parsley, mint, rosemary, lemon grass, rocket, lettuce, snap peas and snow peas (they are flowers). They are a nice salad to have for lunch!

At first, many students, particularly in Scotland, illustrated their postcards with pictures of their house and other human-made objects such as buildings, a slide, swings, and sports equipment. Only 13% of the Aberdeen postcards and 30% of the Cairns postcards were entirely composed of natural objects. In this first round, one student in Aberdeen and one in Cairns depicted images that represent the country's natural environment; deer and thistle in Scotland and Australian map with Ayers Rock, the desert and the Great Barrier Reef in Australia. The postcard texts were similar, with minimal references to the natural environment.

In the next postcard rounds, the natural environment was increasingly depicted, to the extent that in the last round, the Scottish students photographed the natural environment, which was in the season of autumn, as their postcard illustrations. The text included the effects of autumn: leaves falling from trees, colours changing, snow and getting dark earlier. In Australia, there were more illustrations of outdoor scenes, including the beach, the school vegetable garden and fishing. Text made more references to the Great Barrier Reef, which is located close to Cairns, the climate, the vegetable garden and Australian animals.

Further, in interviews, students demonstrated greater understanding of their own and the other environments. While in the preliminary interviews many students could not define 'environment', or only gave a definition after being given a prompt, by the post-program interview all but one student gave a definition. A number of other items were mentioned in these definitions, as shown in Tables 1 and 2 below.

Table 1. Definitions of Environment in Preliminary Interviews

Item	Scotland	Australia
Could not define 'environment'	17%	0%
Defined 'environment' after prompt	17%	17%
Defined 'environment' without a prompt	60%	82%
Trees/ Plants	13%	55%
The world around us	9%	18%

In the preliminary interviews, a number of students in Scotland made reference to particular issues of sustainability as part of their definitions of 'environment'. These included: "how much rubbish, how clean"; "care for the world so we don't leave bins and rubbish lying around"; "you don't throw rubbish away" and "try not to drop litter". A few students talked about animals getting their heads stuck in discarded cans. These notions seemed to come from prior teaching about sustainability, as the wording was fairly similar amongst the students.

Australian students' references to environmental issues were: "nature, to look after it"; "about nature and about treating nature good (not chopping down trees); and "like to keep our environment clean like....the trees, the animals in it, the flowers and stuff like that."

The post-program interviews showed expansion of definitions of 'environment', with all but one student giving a definition without being prompted (Table 2 below). More items in the environment were mentioned, and by increased percentages of students.

Table 2 – Definitions of Environment in Post-program Interviews

Item	Scotland	Australia
Trees	43%	35%
The world around us	39%	39%
Plants	30%	26%
Animals, birds, butterflies	26%	35%
Flowers	9%	13%
Sustainability issues	9%	14%
Other	Leaves, nature, grass, bushes – 4%	Soil, land, ocean – 13% Buildings – 13% Outback, Rainforest – 13%

Sustainability issues mentioned in Scotland were tidying up and rubbish removal, as in the preliminary interviews. In Australia, students described protecting the trees and

plants; learning about how to keep the environment healthy, and why we need it; and looking after animals and not littering.

In defining 'environment', one Scottish student went further, comparing the Scottish environment to the Australian one: "Environment to us is not cold, but in Australia it's good cause it's hotter."

From preliminary to post-program interviews, students' ideas about their own and the other environment expanded and shifted from long descriptions of indoor activities, such as computer and Wii games, to discussion of the outdoor environment. In Scotland what emerged were descriptions of the weather which, in the time approaching Christmas, was cold, the leaves had fallen from the trees, and "it gets dark really soon at Christmas time". J. described his environment as, "really cold. It rains a lot. We need to wear lots of gloves and hats." A number of students also mentioned other types of weather in Scotland, such as hail, rain, fog and sunshine.

The Australian students, who had mainly described their houses and gardens in the preliminary interviews, were much more descriptive of the broader, local environment in the post-program interviews. Besides references to trees, plants and flowers, they used words such as "lots of space", "windy", "sunny" "beautiful" and "clean". Fourteen percent of the students described the creeks nearby, stating, "There is a creek and you can swim in it and catch fish and red claws"; ""There's a few frogs around"; and "There's lots of snakes down at the creek."

Discussion/ Conclusion

The *Postcards Across Borders* program took an arts-based approach to teaching and learning, utilising primarily drawing, storytelling, but incorporating multimodal methods to enhance learning about local and global environments, and environmental sustainability.

Learning was engaging and motivational. Because of the arts-based, participatory nature of the program, students found it a fun and enjoyable learning experience. They particularly enjoyed drawing, as well as writing the stories for their postcards and other activities.

The arts, and establishing a friendship with someone in another country, seemed to foster an emotional connection the learning and served as a tool through which students could imagine and express themselves. Students referred to the person in the other country as their "friend" and demonstrated a genuine interest in getting to know

them and where they live.

Teachers and students all seemed very motivated to learn through *Postcards Across Borders*. Both groups thought about and initiated follow-up activities that extended learning about local and global environments. From these activities, students gained an increased understanding about environments and sustainability.

Teachers and students all enjoyed the program and many wanted to continue it, or do another, similar program. A number of students, particularly in Scotland, recommended that future *Postcards Across Borders* programs, they would like to actually visit the other country, meet their online friends in person, and learn first hand about the other environment. T. suggested, "We could go on a trip and see how different their environment is.

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