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Sharing Postcards about where we live - Early Childhood Environmental Understanding

Introduction

In 2005, Richard Louv published *Last Child in the Woods*, a book that infamously coined the term 'nature deficit disorder', referring to an ever-widening disconnect between children and their natural environments. This resulted in widespread concern, with researchers questioning whether a generation of children, with neither interest in, nor knowledge of the outdoors would make responsible decisions in regards to the environment (Dighe 1993). Indeed, some believe that if an ethic of caring is not established during the first few years of life, then these attitudes may never be developed (White 2004). Environmental education would be more effective if educators/ researchers better understood how children see and conceive nature, so that learning can be more grounded in the child's conceptual framework (Martin 2007). However, researchers know very little about how environmental attitudes and behaviours develop during childhood (Evans, Juen, Corral-Verdugo, Corralize and Kaiser 2007).

Arts-based research is an alternative, qualitative method that can involve using the Arts as a method, subject and/or form of analysis (Huss and Cwikel 2005). Barazza (1999) used drawings as a research tool on several occasions to ascertain children's environmental understandings and awareness, with the researcher stating that "the content of children's drawings may provide insight into their thoughts and feelings about the world" (49).

With the aim of determining and even enhancing young children's environmental understanding, this research took a multimodal, arts-based approach to data collection. It took on the parameters of Action Research, as it progressed through cycles of reflection and action (MacNaughton and Hughes 2009). Through drawings and stories, in the form of postcards, children in Australia created postcards for their peers in Canada, constructing their knowledge and understanding about local and foreign environments in the process. The research question was, "*How can we use*

arts-based, multimodal methods in a cross-country online learning environment to determine and enhance young children's understanding about their and others' environments and environmental sustainability?"

Research was conducted in kindergarten/ pre-Preparatory classes (4 – 5 year olds) in Cairns, Australia and in Toronto, Canada, utilizing postcard creating and sharing, in an online learning environment. Children were engaged in the learning process through sending and receiving postcards to their overseas peers, and this form of pedagogy was developed through action research cycles. Researchers and teachers trialled various pedagogies during this process. Children's postcards (artefacts) along with semi-structured interviews, observations and critical reflections were collected as data and analysed using emergent coding and content/interpretive/developmental analysis of drawings.

By implementing an authentic task (drawing postcards and storytelling) and refining our pedagogical practices, we developed an approach that encouraged children to share their understandings in a confident, engaged and deep manner with their peers, and to generate rich, cross-cultural representations, understandings, concerns and perceptions of their local, natural environments from two different locations.

Conceptual Framework

This research positions the child as agentic; capable and competent actors who appropriate and reproduce aspects of their culture through interaction with others (Corsaro 1997). Within this framework, childhood has a social status of its own (James, Jenks and Prout 1998) and children are in a process of being, rather than becoming, during the early years of life. They are active participants in their world, making meaning and co-learning with other children and adults. Adults negotiate, challenge and guide children, and co-construct experience and ideas (Sorin and Galloway 2005; Corsaro 1997).

Positioning the child as agentic challenges the notion of the innocent, powerless child. As James, Jenks and Prout (1998) note, "Children are not

pathological or incomplete; they form a group, a body of social actors, and as citizens they have needs and rights” (32). Research is with children rather than about them (Sorin and Galloway, 2005; Sorin, 2005) and their voices ideally resonate in all phases of research, from design, through data collection to interpretation. Similar to the Reggio Emilia movement, “the child is seen as an active, curious and self-motivated learner and the curriculum is negotiated and emergent – actively designed with and by students focusing on their strengths and abilities” (Sorin and Galloway 2005, 19).

Along with child agency, this research took a sociocultural perspective. It focused on the socially negotiated and embedded nature of meaning-making (Murphy and Hall 2008), with the belief that knowledge exists between and among individuals in social settings. Learning occurs through interactions that are influenced by cultural and multimodal representations (language, pictures, etc) within and beyond the classroom. Children learn with understanding when they bring their diverse experiences, perspectives, expectations, knowledge and skills to their learning and are supported by peers and more knowledgeable others (Vygotsky 1978; Goos 2004).

A multimodal framework was incorporated in this research. It included multiliteracies, allowing diverse ways of expressing thoughts and ideas. Multiliteracies include image, story, text, gesture, sound, etc. (Larson, 2006). In the Reggio Emilia movement, young children are encouraged to use “graphic languages and other media to record and represent their memories, ideas, predictions, hypotheses, observations, feelings” as ways to learn and demonstrate learning (Katz in Edwards, Gandini and Forman 1998).

Utilising multiple modes of expression extends children’s abilities to learn and to express that learning (Binder 2011; Sorin and Gordon 2010); offering them narrative tools to help them to order and understand their worlds (Blizard and Schuster 2007). Storytelling accompanying drawings, the method chosen for this research, helps to ensure that the child’s, rather than the researcher’s, intended meaning is revealed (Benson, 2009).

Children and the Environment

Australia holds some of the most unique, diverse and valuable ecosystems in the world. This is particularly true in Far North Queensland, where Cairns is situated, with ecosystems range from the Great Barrier Reef to tropical rainforests and naturally air conditioned tablelands (Westoby 1993). These ecosystems are sources of clean air, water and primary production, so their maintenance is essential to our survival.

Today's children are the future caretakers of this valuable, but fragile environment. Therefore it is essential that they have an understanding of, and appreciation for, the role, value and function of the environment. Sobel (1996 in Miles 2008) stated that the protection of nature is dependant upon not only environmental organisations but also quality relationships and attachments between children and nature. Nurturing a positive environmental ethic at an early age can serve as a critical step in developing an environmentally literate and concerned citizen.

But children today, rather than being active in and appreciative of the environment, have at best a reduced understanding of the environment and the role it plays in the wellbeing of society. This is what Louv (2005) called "nature deficit disorder", referring to the ever-widening disconnect between children and their natural environments. As White (2004) noted, "Children of today have few opportunities for outdoor free play and regular contact with the natural world."

While it is important to determine how children can best be stimulated and encouraged to reconnect with local, natural environments, it is also important to understand how children conceptualise the environment (Martin 2007). This research sought to determine and even extend these understandings by focusing on children's 'place consciousness', or consciousness of one's immediate environment and an awareness of other places beyond one's own locality (Gruenewald 2005).

Method

This research was qualitative, taking a multimodal, arts-based approach that including artefacts such as children's drawings and stories, semi-structured

interviews, observations and researchers' journals to collect data (Bamford 2003; Rose 2007). It took on the parameters of Action Research, as it progressed through pedagogical cycles of reflection and action (MacNaughton and Hughes 2009). The research question was, *"How can we use arts-based, multimodal methods in a cross-country online learning environment to determine and enhance young children's understanding about their and others' environments and environmental sustainability?"*

Data were collected from kindergarten children and their teachers in one classroom in Australia (Cairns), and one in Canada (Toronto) over a 10-week period. Initially, the researchers attended the classrooms to interview children about their environmental understandings. These preliminary pre-interviews asked children what they knew about their local environment, other environments, including any benefits or concerns about the environments. Teachers were asked about what children knew about their environment, what they need to know and what curricula or actions were being taken to teach children about environmental sustainability. At the end of the 10 weeks, children and teachers were re-interviewed, asking similar questions.

By implementing an authentic task (creating postcards for the children in Canada) and refining it through three action research cycles, we developed an approach that seemed to encourage children to share their understandings in a confident, engaged and deep manner with their peers in the other country. Children created visual and verbal texts in the form of large postcards and accompanying narratives that depicted their understandings, concerns and perceptions in relation to their local, natural environments and in response to environments described by children in the other country.

Throughout the process, researchers and teachers trialled various pedagogies such as drama, painting, group letter writing and murals to support learning. Artefacts produced by the children were collected, along with observations by researchers and teachers made in class, and notes recorded in teachers' and researchers' journals. Textual data were

examined through emergent coding and visual data through content, interpretive and developmental analysis (Haring, 2012).

This process generated rich, cross-cultural representations, understandings, concerns and perceptions about children's local and global environments.

Findings

Findings from this research support the benefit of multimodal, arts-based methods for research with young children. Multimodal, arts-based methods gave children choices for communicating and expressing their ideas about the environment, and in some cases gave a voice to children who would otherwise not engage with or express their learning. Further, through action research cycles of trialling and evaluating pedagogical strategies, teachers and researchers felt they became better able to understand and extend children's learning about the local and global environments. Each of these points is elaborated below.

Multimodal, arts-based methods gave children choice

Multimodal, arts-based methods are often overlooked in research and pedagogy with young children. Due to the general assumption that anything people think, feel or sense can be said or written in language (Kress 2000) the arts as a form of expression have been undervalued, under-researched and under-represented (Anning 2003). Further, Rose (2007) reports that despite a large amount of academic work being published on the visual, there remain remarkably few guides to possible methods of interpreting visual materials, and even fewer explanations about how to actually conduct these methods.

In this research, child participants were offered numerous ways to participate, some teacher and many child-initiated. Arts-based methods included: postcard creating and responding to postcards through images and stories; life drawing of the classroom outdoor environment; taking photos of the class environment; participating in group mural making;

dramatisations of the overseas environment; and creating a videod song about the other country.

Other, multimodal ways to participate included class, small group and individual discussion; book sharing led by the teacher or between children; examining a globe of the world; viewing slides and postcards from the children in the other country; creating word charts; composing a letter to a child in the other country; and bringing in artefacts of the other country to share with the class.

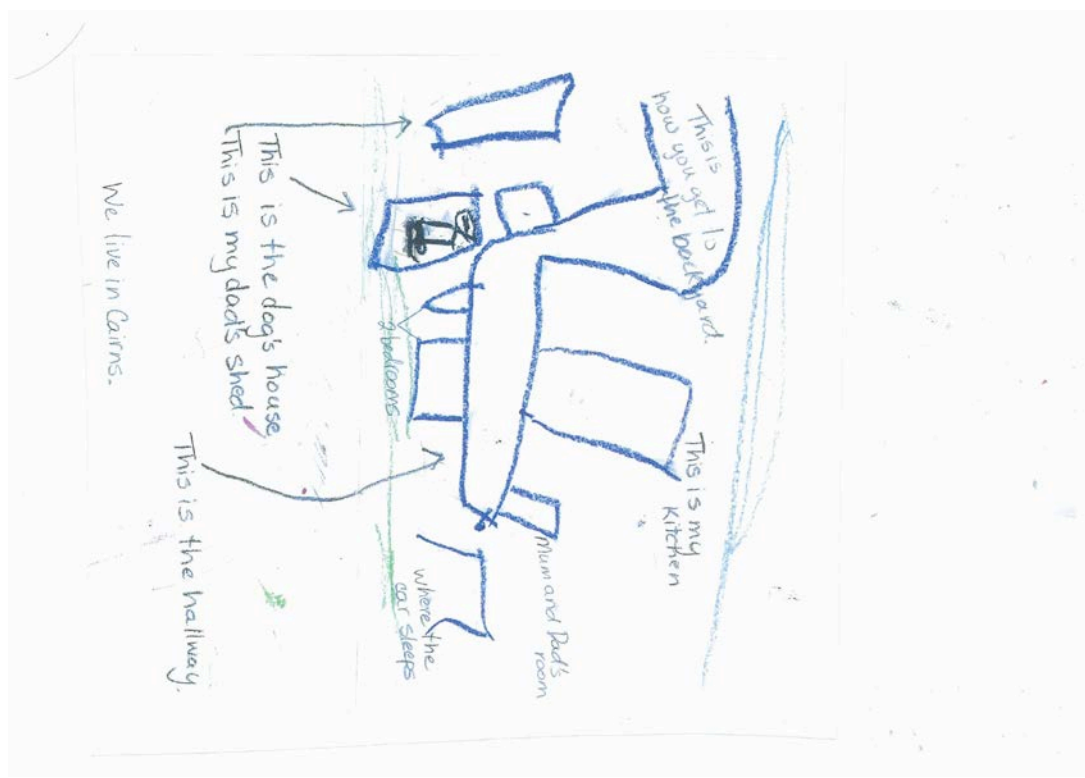
The most obvious arts-based mode was, of course, creating the postcards. This involved drawing and story telling. One of the teachers noted, "Drawing is like their writing. It's like their pre-writing. It's taking that thought and putting it down in a symbolic form on paper." Figure 1 below is an example of a child's postcard. This postcard depicts through a drawing and story features of the child's house, including outdoor stepping stones, a bamboo tree, a blue bedroom and pink bed sheets.

Figure 1 – Postcard with drawing and story



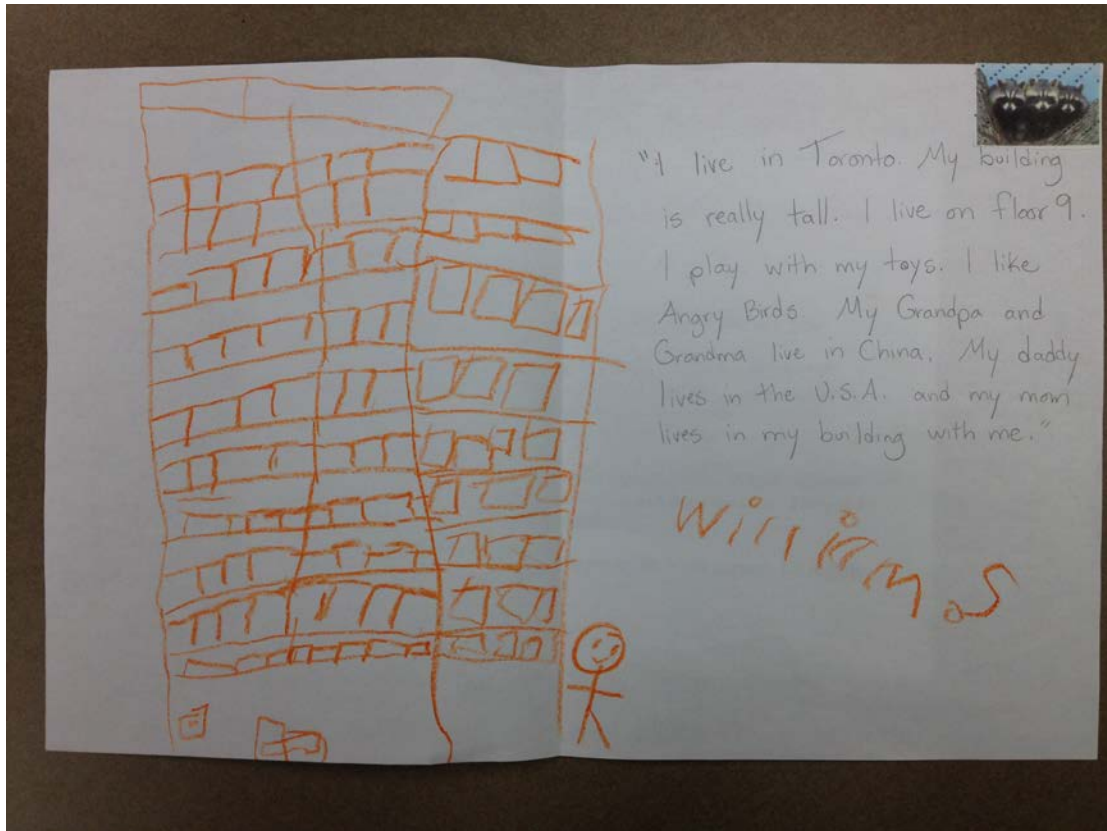
Drawing seemed to be the most favoured form of expression. In the post-program interviews, most children named drawing as their favourite part of the Postcards project. But even within the postcards, there were different ways of presenting the information. For example, the postcard in Figure 2 is created like a map, where the story is almost entirely descriptions of features on the map, such as the dog house, hallway, and kitchen. It is followed by a single sentence: "We live in Cairns."

Figure 2 – Postcard presented as a map



Most children were eager to respond to postcards from the children in the other country. Between pairs of children, a partnership seemed to develop, where they responded to specific details of a postcard, questioned the child in the other country, and shared further information about their own environment. An example is the partnership that developed between W in Toronto and R in Cairns. W's first postcard (Figure 3 below) described his life in Toronto and immediately engaged R. His drawing depicted a large, several-storey building with many windows. A figure, presumably him, is standing beside the building, smiling.

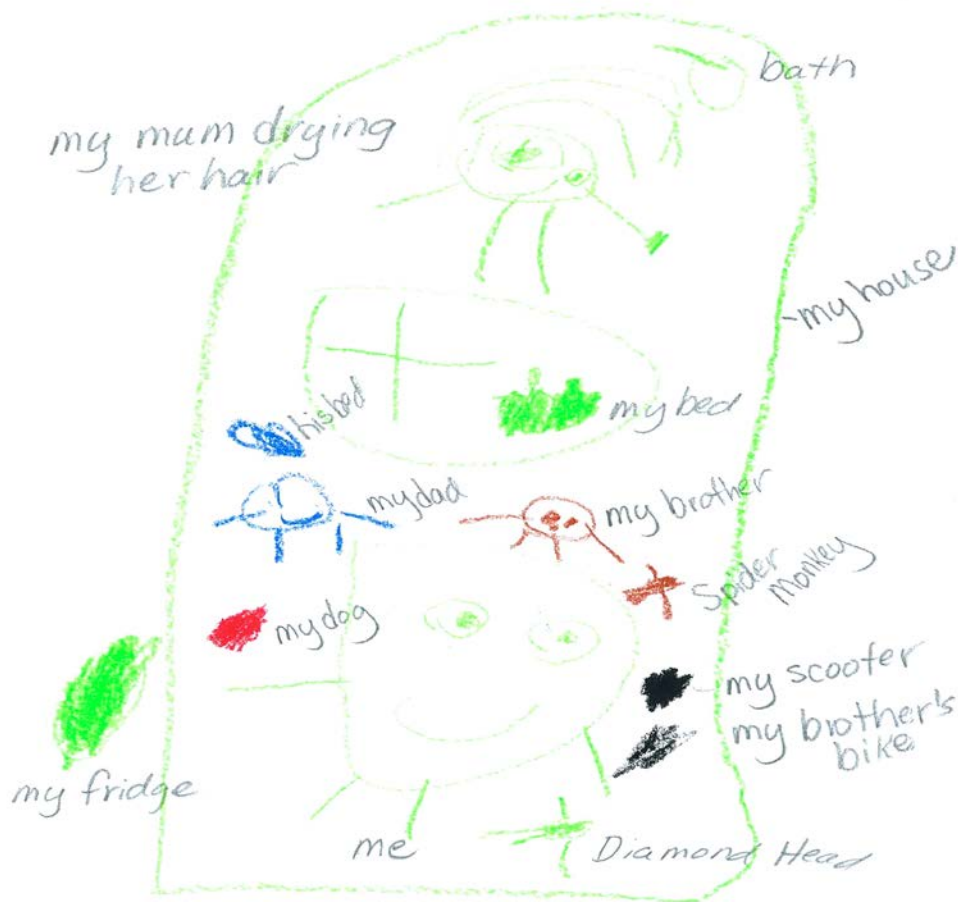
Figure 3 – W's first postcard



The story W wrote to accompany his drawing says that he lives on the ninth floor of the building with his mother, plays with his toys and likes the Angry Birds game. His grandparents live in China and his father lives in the United States.

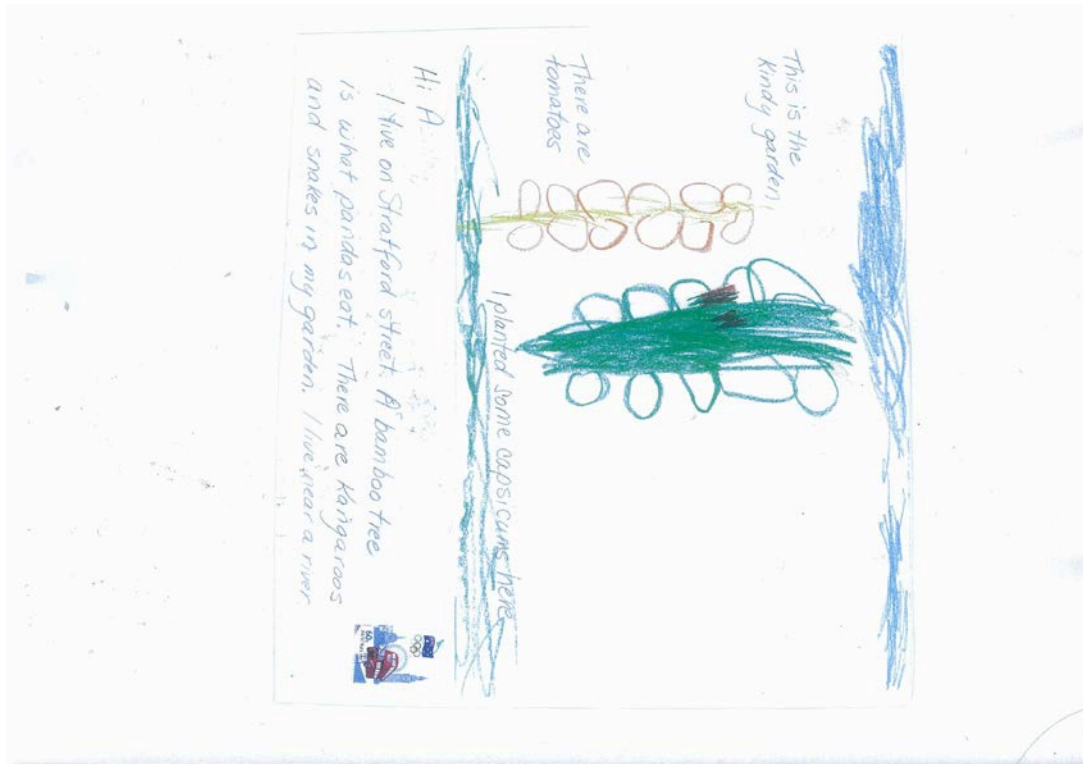
When R in Cairns 'read' the postcard (viewed it and the words were read to him), he was intrigued by the apartment building, as most people in Cairns live in separate, low set houses, and with W having grandparents in China. R's response postcard, with an illustration of family members and places in his house (Figure 4 below), begins with questions to W: His story continues with a description of a "monster hunter game" he had played, that had a big bird in it. He goes on to talk about his own grandparents, who live in Japan, and his favourite toys – an alien called 'Diamond Head' and 'Ultimum Spider Monkey'.

Figure 4 – R's second postcard



While having the freedom to create postcards as they wished engaged most children, the researchers found that a number of children seemed to repeatedly draw a stereotypical house (triangle above a square), a sun in the sky and grass at the bottom of the page. So the adult-initiated activity of life drawing was introduced. Some children chose to join a researcher in the outdoor area of the school, and to draw what they saw there as their postcard image. Figure 5 is an example of this, where the child focused on the garden at the kindergarten and drew some of the vegetable grown there. The story, however, was not about the garden itself but answers to questions posed by a child in Toronto.

Figure 5 – Life drawing of outdoor environment



Children at both venues were offered the chance to photograph their school environment. While this gave children another way of expressing themselves, it was also in response to a few children who demonstrated a hesitance to draw. For example, S. told researchers, "I don't want to [draw] cause it's too hard." A few, when offered the chance to do life drawing in the outdoor environment, also appeared very hesitant. So adding photography to the arts-based methods gave some children a more comfortable way to express what they saw. Figure 6 below is a photograph of the kindergarten outdoor environment. Photographs led to stories written to describe the outdoor environment.

Figure 6 – Photograph of the outdoor environment



Another form of expression chosen by some children was group mural making. On two occasions children were given the option of helping to create a mural; the first of the Cairns environment and the second of the Toronto environment. Figures 7 and 8 (below) show the results of these sessions. Figure 7 is dominated by a large cassowary bird, native to far north Queensland. The children were keen to tell their colleagues in Toronto about cassowaries. The mural includes plants and wildlife of the region and was done using paint and collage.

Figure 7 – Mural of the Cairns region



The mural was accompanied by the following, 'The Story of our Place':

*We want to tell you about a special bird that lives only near our place.
He is called a Cassowary. He lives in the rainforest and eats the fruit*

from the forest so if we cut down the forest he would die. Sometimes the Cassowary comes to the picnic area at Etty Bay and wants to eat people food but that is not good for them and they are big and dangerous so we have to stay away from them. We have waterfalls in the rainforest, they tumble over the rocks and trees so the Cassowary can get a drink. We read a story called 'Calvin' and learned that the Dad Cassowary sits on the eggs until they hatch. E told us that a Cassowary crashed into her Grandma's car at Kurrumine Beach. It ran off so we hope it was O.K. It rains a lot here and sometimes we have big storms.

This mural and story demonstrate children's understandings about the cassowary, gleaned from books, a papier mache sculpture in the kindergarten, and personal experiences.

Teachers reported that children's understandings about the overseas environment came through in their dramatic play, as they dressed themselves in mittens and hats and pretended to be in a winter environment. Children also self-selected to complete a mural about Toronto (Figure 8 below). Again, they composed a story, 'What we have learned about your place':

You have tall buildings where people live, they have lots of windows. Some houses have chimneys because you need fires to make hot food and keep you warm when it snows. You also have big trees and the leaves fall off when it gets cold. You have a lot of leaves on the ground. You have flowers, we have flowers too. We like your playground. We like the double slide and the steps made of trees. You have a big fence in your kindergarten and bikes and a sandpit like us.

Figure 8 – Mural of Toronto in Canada



Figure 8 includes painting and drawing of snow, high rise buildings, pine trees, and central to the image is a picture in red of the double slide in the Toronto kindergarten's playground. These mural images were shared online with the class in Toronto.

Children in Toronto reciprocated, by video recording themselves singing "Over in Australia", a song they had learned through reading the book by the same name, as a teacher-scaffolded activity to supplement the postcards. So music, as well as drama and visual arts, became ways that children could express their learning.

Multimodal, arts-based methods gave children voice

For some children, having the opportunity to express their understandings in non-verbal ways gave them a voice that they may not have had before in the learning environment. For example, C rarely spoke or participated in class; it was unclear what she knew or learned. She had initially refused to create a postcard and did not participate in the first round of postcard-making. However, after viewing the Toronto children's postcards, listening to class discussions and working one to one with a researcher, C began creating colourful, detailed drawings and elaborate narratives that clearly demonstrated her understanding of the environment. Figure 9 (below) is C's first postcard.

Figure 9 – C's first postcard



Being allowed to express herself in the first instance through visual images made a difference to C being able to express herself. She chose bright, strong colours and worked diligently on her drawing. When she had completed the drawing, she dictated the following story to the researcher:

We go camping. That's our tent and a table outside. We go bushwalking. There's a frog on the rocks. At night the possums come out. Daddy is in the tent and Mummy. That's me here and M [sister]. She is two. There is a creek – cannot be cold water. They are trees and there is a dog. Snow doesn't come to our house.

Following the success she felt with her first postcard, C continued to make other colourful postcards with elaborate stories. Other children, who had been unwilling or unable to participate in previous class activities found a voice through the Postcards project, where they could express themselves in ways other than words, and so participated and demonstrated their learning.

Learning was extended by teacher/researcher trialling and evaluating new strategies

Another finding of this research was that through action research cycles of trialling and evaluating pedagogical strategies, teachers and researchers felt they became better able to understand and extend children's learning about local and global environments. This was the case, for example, with postcard creation. We originally worked with groups of children to create their postcards and the whole class to examine postcards from the Toronto children. We found that in large groups, a number of children became disengaged. So with critical reflection and discussion, we changed our practices. In a researcher's journal, she wrote, "This time, we worked one on one and showed each child 3 or 4 of the Toronto postcards. Then they responded to at least one of them. So some of our second set of postcards are directed to specific children." From this learning we have decided to match children up with specific children in the other class, from the start of the project.

Further, we moved from 4 or 5 children working to create postcards with the researchers, to pairs working with two researchers. A comment in a researcher's journal confirms this choice:

After the first two children, the researchers divided into two groups of 2, and each group worked with 2 children, using half the hard copies of the Toronto drawings. This seemed to work better, particularly when we worked one on one with children scribing their stories.

For next week we've decided to work one on one, but with two researchers and two children at each table (4 researchers in total). We will show each child about 5 or 6 of the Toronto images, record their responses and help them to develop their second postcard. If we finish on time, we'll also do a class activity where we write a group story with questions and comments for the Toronto children.

Teachers and researchers followed up the postcard creating and sharing activities with other activities, such as books about other cultures, class and

small group discussions, looking at a globe of the world, creating word lists, and writing letters to the other class. A Cairns teacher recounted a group discussion, following a book about animals and their environment: “A group of about 8 children participated. Their work and discussions represented their growing knowledge. Eggs and baby chicks [are] a strong interest that could be followed through.” Following the book and discussion, the teacher reported that during play time, a number of children had independently created nests and baby birds, using collage materials.

Informal activities included children bringing in artefacts of the other country. For example, after a discussion of the Toronto postcard stamps, which showed three raccoons, animals not native to Australia, children wondered whether raccoons had spikes. L brought in his toy raccoon from home to show the children. Another child, S, told us: “L showed us one of them [raccoons]. They don’t have any spikes, they just have smooth fur.”

Conclusion

Multimodal, arts-based methods used in this research gave children a variety of ways to express their understandings. Some drew, both from memory and from life; some made maps and diagrams of their environments while others chose to represent people and activities; some painted as they participated in group murals; some photographed the environment; most told stories, listened to stories and participated in discussions and dramatisations about the environment. Through these processes, children’s understandings and learning about the environment were demonstrated. Further, we found that some children, who did not seem to have a voice within the classroom environment, were able to find a voice through the arts.

The researchers and teachers in this study were able to learn and to improve their practices through Action Research cycles as the project progressed. Further studies in this area will utilise learnings from this research and teachers have reported changes to their practices based on this research.

The study concluded that multimodal, arts-based methods for research and pedagogy can support young children to better express their understandings and to further their knowledge of environmental issues, encompassing a range of different perspectives and possible solutions to their own and others' environmental concerns.

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