

# Enhancing environmental awareness through the arts

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**THIS PAPER REPORTS ON** a recent action research project, *Enhancing environmental awareness through the arts*. This project involved working with two early childhood professionals and 28 children in a long day care centre in the Sydney CBD at the end of 2006. Its aim was to assess the outcomes for the early childhood professionals, and for the children they worked with, of using arts-based pedagogies for enhancing environmental awareness. As the children in this centre had considerable indoor space but no outdoor space at all, the participating staff in the two–three-year-olds’ room were interested in how this project could help to incorporate the natural environment into their programs.

This paper outlines the theory that underpins the research, the processes involved in developing and conducting it, and the findings. The findings show that the arts-based pedagogies applied throughout the project had a definite effect on the children’s awareness of the natural environment (also referred to as the ‘natural world’ throughout this paper). This was demonstrated through how much the children talked about the natural environment, the way they incorporated concepts about it into their play and their attitudes toward it. The findings also show that the action research approach used throughout the project resulted in the two early childhood professionals developing new techniques for creating meaningful content for the program. This report also considers the questions that arose as a result of the research and suggests how they could be further explored.

## Background

**YOUNG CHILDREN’S PERCEPTIONS** of the natural world and their engagement with it (or lack thereof) are emerging areas of research in the early childhood field. Cutter-Mackenzie and Edwards (2006) highlight the relevance of the environment becoming deliberate content in early childhood settings, given that it has become such a prominent aspect of our social and cultural lives. This is consistent with the increasing concern about the effects of past and present environmental mismanagement and the enhanced understanding of the importance of the relationship human beings have with the natural world (Louv, 2006; Phenice & Griffore, 2003; Roszak, 1992; World Wildlife Fund, 2006). Much of this literature, particularly that related to children and education, is based on the premise that children need to become environmentally aware citizens in order to understand and constructively manage the environment, both as a resource and for future generations. While this may be so, what is not often considered is the daunting responsibility this imposes upon them. The Australian Government document, *Educating for a sustainable future: A national environmental education statement for Australian schools* (2005), advocates the stewardship role as the fundamental purpose of environmental education. The document also contains

statements that reflect the aesthetic value of the land and the cultural significance of tracts of land (particularly those identified as significant by Indigenous peoples). On page 2 of *Educating for a sustainable future* (2005), the emphasis on stewardship is further highlighted by including a quotation from the United Nations Decade of Education for Sustainable Development project. The purpose of including this quotation appears to be to describe the nature of the Australian document and the purpose of environmental education:

*There can be few more pressing and critical goals for the future of humankind than to ensure steady improvement in the quality of life for this and future generations, in a way that respects our common heritage—the planet we live on ... Education for sustainable development is a life-wide and lifelong endeavour which challenges individuals, institutions and societies to view tomorrow as a day that belongs to all of us, or it will not belong to anyone.* (UNESCO, p. 9.)

The message that ‘we are doomed if we don’t’ is quite clear, although it is also evident that there are many aspects of environmental education necessary for children to develop an appreciation of how they are to live. However, the limited scope children have as agents of change in this field—and the sheer weight of the

responsibility the current educational focus places on them to repair the damage already done and to develop new ways of living—may hinder them in doing so.

The view of the natural environment taken by this research project differs from the utilitarian premise that often sees nature as a resource that needs to be managed for mankind's use (Macy & Brown, 1998, 2000). This research sought to examine the effects of enhancing children's understanding of the natural world through the arts in an optimistic, creative manner, without a subtext of remediation or responsibility for management of the environment into the future. This approach is supported by Macy (1983, 2000), who highlights the impossibility of constructively knowing or acting in concert with the environment when one is in a state of overt concern or despair about it. This concern, while justifying the need for environmental education, risks leaving participants in a state of environmental helplessness or denial (Cohen, 2000; Macy, 1983; Macy & Brown, 1998). In contrast, the approach taken throughout this research was to help the children to understand and develop a positive connection with the natural world, particularly in their local area.

### **Connection with the natural world**

The premise that having a sense of connection with the natural world is a constructive condition is supported by old and new educational and psychological theory. Dewey (1926, 1930) describes a connection with the natural world as being a primary source of experience and cognitive development. He relates the ability to apprehend the qualities of natural phenomena and matter to the development of thinking processes, primary cognition and a sense of place. The qualities of a given phenomenon include sound, texture, colour, movement, smell and proportion. They are all apprehended through sensory impressions. This is directly relevant to the artistic approach this research used, as exploration of natural phenomena through the arts involves developing an understanding of the subject through the senses, the emotions and thought. A more contemporary expression of this is discussed by Phenice and Griffore (2003), Roszack (1992), Ingunn (2004) and Capra (2002), who discuss the notions of the ecopsychological self and ecoliteracy. They talk about an inherent connectedness to the natural world that helps to shape our identity through an innate 'biophilia or affiliation with other living organisms' (Clinebell, cited in Phenice and Griffore, 2003, p. 167).

Another key relationship between the natural world, the arts and children's comprehension is that of play. Through play children build cognitive schema, explore their understandings, question concepts and test theory (Berk & Winsler, 1995; Vygotsky, 1978). They respond instinctively to sensory impressions and express their

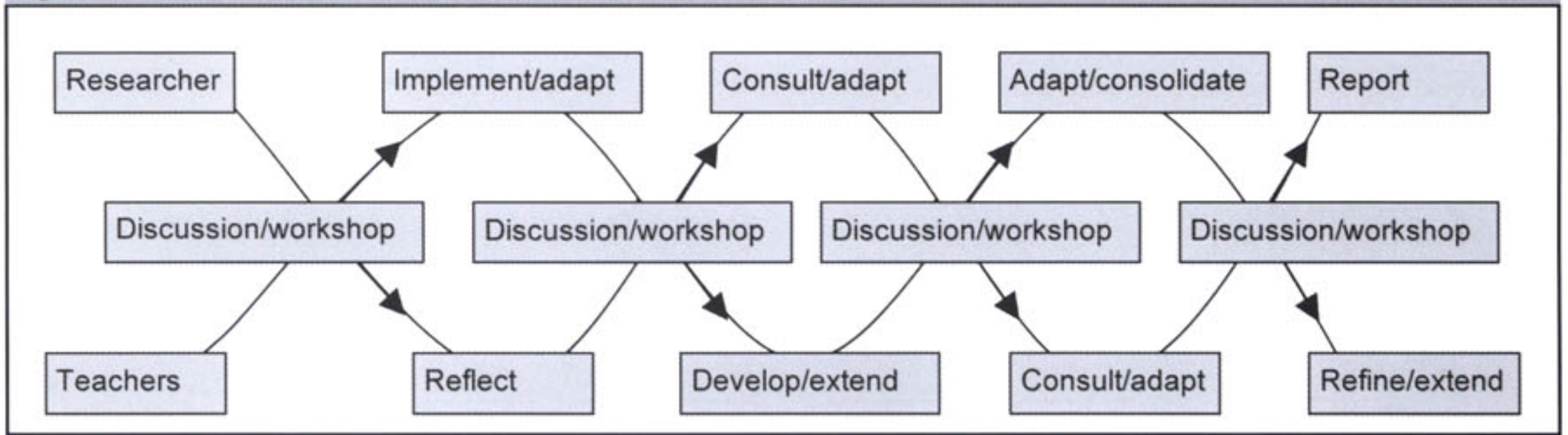
experiences of them in play. They develop a sense of social dynamics and an understanding of what is or is not appropriate behaviour in a given setting (Dockett & Fler, 1999; Hamilton & McFarlane, 2005). Children express and refine their understandings of their experiences in the world through play, and this includes playing with or exploring artistic media (Kolbe, 2001, 2005). With this in mind, play becomes a key measure through which their understandings can be observed.

### **Implementation**

This research was aimed at understanding the extent to which the early childhood professionals felt that arts-based pedagogy could help children to engage with concepts and develop understandings of the natural world. The researcher met with two early childhood professionals (who worked together in the same room) for five two-hour workshops over a two-month period. During these workshops, with the assistance of the researcher, the early childhood professionals explored techniques for using the arts (storytelling, movement, music, painting, drawing and handwork) to incorporate concepts and representations of the natural world into their programs. There were no children present during these workshops. In between workshops, the early childhood professionals incorporated their newly developed self-generated creative environmental content into their daily program with the 28 children in their group. At each subsequent workshop with the researcher they reported on the success of the implementation of the new content in their program and worked together to build on those successes and to explore additional arts-based techniques.

The early childhood professionals were encouraged to incorporate the natural world in a manner that highlighted inherent biological or physiological connections and interrelationships (e.g. photosynthesis, the water cycle, soil nutrients for plant growth), the animals and their habitats, animal social dynamics and the interdependence of flora and fauna. They also sought to build on the children's current understandings of the natural world, including any misconceptions they may have, and to highlight flora and fauna in the local area. The content included was not based on any specific environmental curriculum or hierarchy of concepts. The vehicle used to incorporate these concepts was directly related to the modes of experience and activity children are encouraged and seen to naturally engage in—that is, visual and dramatic arts and play (A'Beckett, 1991; Catron & Allen, 1999; Dockett & Fler, 1999; Kolbe, 2001; Kolbe, 2005).

**Figure 1. Model of collaborative action research process used**



## Teaching about the environment through the arts

The early childhood professionals participating in this research presented concepts about the natural world to the children through songs, stories, verses and visual and dramatic art experiences they created. They based the content of these creative artefacts on the natural world, maintaining the integrity of the subject at all times. However, they did this with reference to the children's current levels of understanding and interest, which were determined through discussions with, and observations of, the children. This was considered essential so that the material presented was meaningful and accessible (Davis & Elliott, 2003; Palmer, 1994; Wals, 1994). The capacity of the early childhood professionals to create and deliver this content, and observe its effect, was supported through an action learning process. The inherent cycles of investigation (exploring new ways of representing the natural world), application (using new content and pedagogical techniques in the classroom) and reflection and reporting (in subsequent workshops with each other and the researcher) supported the development of new content for the program that could be adapted and implemented at the discretion of the participating early childhood professionals (Goodfellow, 2005; Groundwater-Smith, 2008; Yorks, 2005). The model of interaction, while not representative of the number of meetings, is depicted in Figure 1.

## Recruitment

The process outlined above clearly positioned the early childhood professionals as the key instruments for implementing the research, adapting it where they felt it necessary. This level of involvement necessitated the participants' interest and willingness (Henderson-Kelly & Pamphilon, 2000; Rodd, 1997; Shoemaker, 2000). Initially it was thought that participants were more likely to be recruited by pursuing professional connections where there were related interests (Graue & Hawkins, 2005), i.e. environmental education in early childhood. However, the centre that participated

was not part of a network, nor did it have a particular focus on environmental education, but was referred by a key organisation in the early childhood field. The early childhood professionals were interested because of their own commitment to professional development. They also felt it was particularly relevant research for them as their centre had no outdoor space and limited scope for expressing the environment in their programs.

## Overview of content in the meetings/workshops

There were five evening workshops over a two-month period, each consisting of discussion and workshop content. The initial meeting included the researcher outlining the research project and process and a workshop on storytelling. Subsequent meetings/workshops consisted of the early childhood professionals discussing and/or reflecting on their experiences of implementing the research with the children, and workshops to explore additional creative mediums for doing so.

Storytelling, the focus of the first workshop, was a useful starting point as storytelling provides unlimited scope to introduce concepts about the natural world that are accurate, contextual and creative (Capra, 2002; Curtis, 2007). This meeting emphasised the importance of research by the storyteller to ensure that the subjects chosen were accurately and contextually represented. Discussion focused on researching and representing all manner of natural phenomena, flora and fauna, and included topics such as photosynthesis, rainbows or the water cycle, and ways of characterising plant growth, animals and their social dynamics. The phenomena, flora and fauna the early childhood professionals chose to research and ultimately represent in their stories were based on their knowledge of the children's interests and/or current understandings.

Once the stories were being implemented as part of the regular program, the early childhood professionals gathered and recorded information about the children's

play and interactions, and samples of their creative work. They also recorded relevant aspects of their conversations with the children and their parents. This type of record-keeping was part of their normal practice and, in this context, helped to show the extent to which new content about aspects of the natural world was being incorporated into the children's understandings. These records were brought to the next and to each subsequent workshop for discussion. The researcher assumed the role of facilitator, supporting the participants in sharing their reflections about the effects of the stories, and in deciding which topics or characters to extend through stories or through other creative mediums such as drawing, painting, sculpture, song, verse or movement. These were, in turn, the focus of the workshops.

## Data

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In childcare settings, early childhood professionals use a variety of record-keeping methods. They include diary and journal entries, anecdotes and learning stories (Carr, 2000), formal written observations and audio/visual records, work samples from the children, and records of conversation with the children or their family members (Arthur et al., 2008; Puckett & Black, 2000). As all of these methods are valid forms of recording data (Arthur et al., 2008), the research project did not prescribe the methods the early childhood professionals used; rather, it incorporated their current practices.

Another form of empirical data was generated through a brief questionnaire. The early childhood professionals were asked about their familiarity with the natural environment, the methods they used to convey information on this topic to children, and the ways the children reflected their understandings of the environment. This schedule of questions was used on two occasions throughout the research period and was used to compare and contrast the changes in attitude to and awareness of the environment, and the development of new skills by the early childhood professionals.

Data was discussed and analysed at each workshop and at the final meeting. During this meeting the early childhood professionals were asked to summarise the key outcomes from each workshop—the content, the extent to which they found the subject matter and techniques appropriate for use in their programs, how techniques and content were adapted, the benefits for themselves as professionals, and what they felt the outcomes were for the children. Throughout the discussion, they referred to the items in the journal they had created to document the project. This contained formal observations, learning stories, photographs and anecdotes about the children's experiences, and work samples from the children.

## Outcomes

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Each of the meeting/workshop sessions focused on specific mediums for presenting information about the natural world. The following section discusses each workshop in sequence.

### Storytelling

The first workshop focused on storytelling. The researcher led a discussion on methods for finding out about the children's current interests or understandings of the natural world, as a starting point for creating stories. Factually and creatively representing natural phenomena, flora and fauna, and notions of narrative, plot, characters and settings were also discussed. Identifying the qualities of plants and animals was discussed and included elements such as growth cycles or gestation, colours, habitats, movement, sounds and textures. The workshop also focused on ways to weave these attributes into stories.

The early childhood professionals also used props for telling their stories or representing the characters. These items often became part of displays or items for play afterwards. The props included puppets, bark, shells, leaves and twigs, polished and rough stones, and coloured silk scarves for rivers, grassed areas or sunshine. Some of the characters created as key players for the stories were Charlie Kookaburra, Frog, Fred Koala and his family, Clickity Crab, Little Lady Beetle, Salty Seaweed and Hoppy Kangaroo. The early childhood professionals also used reference books to explore the characters with the children, and took over the director's office on several occasions to extend their exploration on the internet. For example, they looked up the movement of whales migrating along the east coast of Australia and the habitat of Clickity Crab (a hermit crab).

The children quickly engaged with these characters and asked for more stories about them. The second workshop discussed which animals or natural features interested the children and why this might be so. It examined the content of the stories, the way the children identified with the action in the stories and/or the fate of the characters. The early childhood professionals concluded that the stories, particularly those about groups of animals, were a model of social cooperation. This was not so much the intention of the storytellers but perhaps an outcome of faithfully representing the animals' (in this case, story characters') social groupings. The symbiotic relationships and/or the story characters' attributes were also qualities the children could identify with.

The story medium was one that the early childhood professionals found developed a life of its own as they created stories that built on each other and reflected the

degree of the children's interest in the characters. They found this process gave them additional insight into the children's interests and personalities. Most notably, they found that aspects of the children's behaviour, both individually and as a group, changed as a result of the stories. One of the early childhood professionals said:

*The group were quiet and thoroughly engaged—they're quiet and interested—with none of the normal jostling for position or asking each other to move so they could see the page.*

The children also began to reflect the story characters and their qualities in their play. They played at telling stories to each other and talked about the different environments:

*It was so hot and blowy on the beach it stinged my face* (Child, two years five months, talking to another child).

They talked about the characters, their habitats and how they needed to be treated:

*... and you have to be careful because the egg is going to hatch soon and it needs looking after.* (Child, two years four months, being the storyteller to a small group of children).

In home corner and during other games, it was often observed that it was 'raining' or 'windy'. These expressions were particularly apparent after weekends when the children had been outdoors with their families. The items the children brought from home began to change and included leaves, a ladybug and a piece of bark, and on one occasion a snail as a gift for the director. The early childhood professionals concluded that the stories, as well as providing a wealth of factual information about the characters and their habitats, were useful as a tool for supporting the social dynamics of the group and providing behavioural models for the children. They said they tell stories every day now and 'hardly read the books any more'. They went on to say, 'We'll never stop telling stories.' While the aim of the research was not to limit the number of books read to the children, the comments from the early childhood professionals highlight their enthusiasm for creating and telling stories of this nature.

### **Movement and music**

The stories provided the content for the activities conducted in the other workshops. The second session focused on movement, music and verse. It provided examples of how one can extend on a given character by exploring its rhythms, sounds and movement dynamics, and how these might give rise to auditory and movement-based experiences. These qualities were based in fact but interpreted artistically. For example, how does the wind move when in the form of a gentle breeze compared to a blowing gale? What movement

dynamics, sounds and melodies could accompany this? The characters in the stories were the focus of this session, which looked at the ways they might be expressed in songs, verses and movement.

The early childhood professionals said music and movement were the areas where they were most out of their comfort zone. During the final assessment (meeting five) they initially said they hadn't really used these techniques much because of time constraints and/or lack of confidence. However, after further questioning, it emerged that they did in fact use movement experiences with the children each day during transitions between group activities. For example, they used the flight of the soaring eagle to switch to a quiet activity, and the rapid, more erratic flight of the butterfly to segue into a busy activity.

The creation of songs and verses was not an activity the early childhood professionals engaged in following the two-hour workshop covering movement, music and verse. Unless one is already skilled in or has a natural predisposition towards these areas of activity, it is unlikely that they will be taken up with any confidence, and the workshop participants did not find it easy to do so. They were surprised, however, when it was pointed out that, while using movement based on that of animals was a new practice for them, they had shown a degree of confidence in incorporating it into their sessions with children. It appears that they had thought only of what more they could do, and were not doing, when it came to their own assessment of their proficiency in this area.

### **Visual arts**

The third workshop focused on how the visual arts could be used to reflect and/or express elements of nature such as growth or form, and how to interpret the natural world through colour and composition. The concentration was on painting and drawing, with sculpture being a minor area of focus. When painting (watercolour on wet paper), the emphasis was on colour representing the qualities of the characters or environment. For example, an egg in a nest might simply be a roughly oval area of red in the middle of yellow (sunrays) surrounded by tranquil blue. These techniques were practised during the workshop. The early childhood professionals then incorporated painting into their storytelling, with the intention that the children would explore this medium for themselves. One storyteller/artist later reported that the fluid nature of the movement of colour in a particular painting frustrated one child, who wanted to see a more definite representation of Clickity Crab. So, more colour had to be added quickly as the story proceeded. The storyteller/artist said the children 'all enjoyed this and have been asking to do it themselves since'. This is something the early childhood professionals intended to explore further.

Drawing (using wide block crayons for dramatic effect and ease of grip) focused on colour, form and process. For example, when telling stories about a seed growing into a tree, the early childhood professionals drew the earth, the sky and the sun, the seed in the earth, the roots coming down from the seed into the earth, and the shoots moving up through the earth and developing into a tree with branches. They then added leaves. The children appeared to embrace this experience, drawing their own pictures while telling the early childhood professionals, and the other children, stories about the characters or processes they were representing. It was correctly predicted that the children would continue to draw their stories in this way. The children also appeared to be using this medium to demonstrate to their peers what they knew about their favourite characters and their environments.

### Handwork

The final practical workshop focused on handwork and was conducted two weeks before the final assessment of the whole project in mid-November. The workshop looked at how the content of stories could provide the children with opportunities for creativity through handwork or craft, thus enhancing their fine motor and coordination skills. Ideas for creating representations of the story characters through a variety of mediums were explored. They included a 'Clickity Crab' made from a seashell and beeswax (for the legs, head and pincers); a 'Fred the Koala' made from woollen pom-poms; and nests with eggs made from twigs and beeswax. The materials explored were natural, providing an experience of texture and form, consistent with the aims of the research.

Although there was limited time to implement these ideas before the final analysis of the project, one of the early childhood professionals made a 'Clickity Crab' during a story session, and there are now many crab relatives made by the children. Over the two-month research period the early childhood professionals also developed a range of environments made from natural materials. They used coloured materials for defining areas, natural seedpods, shells, bark, stones and branches. These areas depicted the settings for their stories, and later became play areas where the children continued exploring the characters by manipulating the environment according to their interpretation of it (Hauser-Cram, 1998).

### Responses to the questionnaire

The early childhood professionals' answers to the questions asked at the beginning and end of the research reveal interesting changes in understanding and attitude toward the natural world and its place in the early childhood program. When asked why it was important for young children to develop an understanding of the natural world, the answers were initially focused on protecting the environment for others. The answers

towards the end of the program were more aimed at understanding the environment and how things grow and live. When first asked about the role that childcare environments can play in supporting children's understandings of the natural world, one early childhood professional did not answer and the other gave a general answer: 'by including aspects of it [the environment] in different parts of the program'. Their answers to this question the second time were comprehensive and encompassed all of the activities outlined above. Both early childhood professionals believed they had a much better understanding of the natural environment and 'a greater respect for it and what it can teach us about life', as a result of their participation in the research.

### Findings

This project showed that arts-based pedagogies were effective for teaching young children about the natural world, and that there were benefits for the early childhood professionals involved as well as for the children they worked with.

The benefits for the early childhood professionals included:

- an enhanced understanding of the natural world
- new techniques for developing child-centred curriculum through creative media
- an increased understanding of how the natural world can be incorporated into all aspects of the program for the children
- an increased understanding of the children and the elements of the natural world with which they identify
- an increased interest in, and new techniques for, storytelling
- additional tools for recognising and guiding the social dynamics in the group and for supporting individual children in understanding social behaviours through the content of the stories.

The limitations of the current research process are also apparent. The short time spent with the early childhood professionals made it difficult to support them in developing confidence in all of the techniques involved. This was particularly evident in the development of songs, verses and movement, as neither participant was naturally inclined toward these types of expression. They appeared to be more comfortable with storytelling and visual arts. Given that the research sessions were few in number and held after work, it is not surprising that there were areas where additional time could have been spent in developing technique.

The children appeared to embrace the environmental content of the project and the mediums through which it was introduced. They appeared to develop:

- an enhanced understanding of aspects of the natural world such as life cycles, growth, habitats and environmental features
- an increased ability for recognising features of the natural world
- additional techniques for using creative mediums for expressing elements of the natural world
- new ways of talking about the natural world, expressing new ideas about care and nurture of environmental features with which they identified
- additional tools for understanding personality characteristics and managing social dynamics (based on analogies in the stories).

## Conclusion and future directions

The findings give rise to many new research questions. They point to an association between the children's understanding the natural world and understanding social dynamics. To some extent, this echoes Dewey's (1926) sentiments about the natural world being a primary source of cognition and understanding, and those of Cohen (2000), who claims our disconnection from nature has a profound effect on our psychology. This research also shows that children take a greater interest in their immediate natural environment when they experience the sort of exposure to the natural world inherent in this project. Future projects may ask if this kind of exposure would also support the development of a greater sense of 'identity in place' (Prohansky & Fabian, 1987) or feeling of belonging in the natural environment.

The experience of the early childhood professionals also suggests that artistic exploration of the natural world enhances one's sense of it being important for its own sake and deserving of our respect. The outcomes suggest that using arts-based pedagogies for teaching young children about the environment are effective but may be limited by the capacity of early childhood professionals to employ them. This has implications for their pre-service education. Future projects may ask to what extent can artistic media be used to assist early childhood professionals to share their understandings of the natural world with the children they work with. This is an interesting question from the perspective of ecopsychology and ecoliteracy.

A finding that also gives rise to new questions is that of the effect of the storytelling (and its content) on the behaviour of groups of children and/or individual children. Given the challenges often faced by early childhood professionals in guiding children's behaviour (Porter, 2003), a practical extension of this research would be to explore the link between creatively presented stories about the natural world and social dynamics in childcare settings.

These questions now form the basis for a PhD project the author has embarked upon with the University of Western Sydney.

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- CCMS registered and compliant software, ChildcarePro
- Localised marketing programs
- Recruitment and traineeship coordination
- Industrial relations advice and support
- Improved buying power

**Early Learning Services can manage your Centre for a low weekly fee.**

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