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**Exploring the resistance: An Australian perspective on educating for sustainability  
in early childhood**

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**Exploring the resistance: An Australian perspective on educating for sustainability in early childhood:**

**Abstract: 101 words**

~~Climate change and sustainability are issues of global significance. While other education sectors have implemented education for sustainability for many years, the early childhood sector has been slow to take up this challenge. This position paper poses the question: Why has this sector been so slow to engage with sustainability? Explanations are proposed based on a review of research literature and the authors' long engagement in seeking to bring early childhood education and education for sustainability together. The imperative is for the early childhood sector to engage in education for sustainability without delay and to 'get active' for a sustainable future.~~

**Key words:**

~~Sustainability, early childhood education, education for sustainability, environmental education.~~

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**Introduction**

~~In recent years, a range of national and international media events, reports and conferences such as Al Gore's film *An Inconvenient Truth* (2006), the *Stern Review* of the economics of climate change (2006), the reports of the Intergovernmental Panel on Climate Change (2006; 2007), the Garnaut Climate Change Review (Commonwealth Government of Australia, 2008) and most recently, the United Nations Climate Change Conference in Poznań, Poland (December, 2008) have heightened awareness of how humans are over-stretching the Earth's life support systems. As has been reported about the findings of the 2007 United Nations Global Environment Outlook 4 Report, (Australian Broadcasting Corporation, Oct 2007) 'Humanity is changing Earth's climate so fast and devouring resources so voraciously that it is poised to bequeath a ravaged planet to future generations'. Global warming is not just about the state of the natural~~

environment; it is increasingly recognised as having significant health, security, economic and social justice dimensions.

The long term health and survival of human populations and the health of global natural systems are closely entwined. The need for fundamental changes in how we live has become impossible to ignore. Education has a key role and all sectors - including early childhood education - must be a part of re-imagining and transforming current [unsustainable](#) patterns of living ~~that are unsustainable~~. The year 2005 marked the beginning of the United Nations Decade of Education for Sustainable Development (2005-2014), but it is not likely that many early childhood educators have heard of this significant initiative. Yet, there is no greater global concern impacting on the lives of young children – with ramifications for both present and future generations - than the state of the environment and the equitable and sustainable use of its resources.

### **Sustainability and early childhood education**

It is recognised that education has a major role in aiding societies to make the transition to sustainable ways of living. Furthermore, there is evidence – over thirty years – of educational sectors including schools, universities, technical colleges and the community education sector, making concerted efforts to raise awareness of, and to seek to implement environmental/sustainability education in their programs and practices. For example, Australia, at both national and state levels, has committed to a Sustainable Schools initiative, mirroring other ‘whole school’ approaches underway around the world such as [Europe’s Eco-schools](#), the Green School Project in China, Enviroschools in New Zealand and the Foundation for Environmental Education’s (FEE) Eco-schools, the largest internationally coordinated effort with members in 48 countries (Henderson &

Tilbury, 2004). This same period has seen the rise of a vigorous international research community around environmental/sustainability education, paralleling the theorising and debates that have emerged over the past few decades in the educational field more generally. Yet, a scan of contemporary research journals in early childhood education finds little reference to environmental and sustainability issues, their impacts on young children or how early childhood education might contribute to changing unsustainable ways of living (Davis, forthcoming).

Perhaps, this omission is because the benefits of living in a globalised, technologised material world have so colonised our thinking and acting that we cannot see the harms; or perhaps the issues are just so overwhelming that early childhood educators feel they are powerless to ‘make a difference’. Perhaps, we have become ‘hard wired’ to respond only to the most imminent threats rather than the long term, cumulative ones; or perhaps we think we are already ‘doing environmental education/education for sustainability’ and, therefore, the matter is being taken care of? **Whatever the reasons for the lack of interest in or action on sustainability issues, there are clearly some members of the early childhood field who do recognise that the that the early-childhood years are are foundational to the development of lifelong skills and attributes, and are a pivotal period when understandings of sustainability and the ethics of living sustainability are constructed (UNESCO, 2008).**

There is growing awareness that only a small window of opportunity exists – perhaps just ten to twenty years - to reduce global carbon dioxide emissions that have the potential for catastrophic consequences.

## **Overcoming the rhetoric: defining education for sustainability and early childhood education for sustainability**

The term ‘environmental education’ emerged in the 1960s and was defined by the Tbilisi Declaration in 1977 as a comprehensive lifelong education that should be responsive to changes in a rapidly changing world. ‘It should prepare the individual for life through an understanding of the major problems of the contemporary world, and the provision of skills and attributes needed to play a productive role towards improving life and protecting the environment with due regard to ethical values’ (UNESCO, 1978: 1). In practice, environmental education has tended to focus on ‘green’ issues such as nature conservation and the promotion of human connections with the natural environment. However, reexamination of the Declaration suggests that its original intention does, in fact, align with the intentions of the newly emerging ‘education for sustainability’ – seen as replacing ‘environmental education’. In effect, the recent change in terminology from environmental education to education for sustainability (EfS) seeks to redress the perceived ‘greenness’ of environmental education and to focus more explicitly on the pedagogies of humans as agents of change.

While there is no ‘right’ definition for EfS, or even any consensus as to a definition, a prevailing view, particularly in Australia, is that it emerges out of critical theory. Critical theory provides a basis for investigating power relationships and the marginalisation of some social groups (Freire, 1972; Habermas, 1971). As it relates to education for sustainability, marginalised groups include children and future generations as well as non-human species, places, and even natural elements, such as water, soil and air. Critical theory also assists in understanding how education systems have played their part in this marginalisation (Stevenson, 2007). In other words, challenging the status quo in

education is a fundamental tenet of EfS. As Orr, a leading advocate of education for sustainability has commented: ‘The crisis [of sustainability] cannot be solved by the same kind of education that has helped create the problems’ (1992: 83). Over a decade later, UNESCO Director General Koichiro Matsuura reiterated that ‘education will have to change so that it addresses the social, economic, cultural and environmental problems that we face in the 21<sup>st</sup> century’ (Australian National Commission for UNESCO, 2005: 2). Essentially, then, EfS is education with a transformative agenda – it is about creating change towards more sustainable ways of living even though we may not yet know what these changes will look like. It has both humanistic and ecological values including: living within ecological limits, action-oriented for social change, participation and democratic decision-making, and equity as an intergenerational value or goal (UNESCO, 2005).

In Australia, two important initiatives that provide pedagogical support for the implementation of EfS are the UNESCO Decade of Education for Sustainable Development (2005-2014) and the National Environmental Education Statement for Schools in Australia (2005). The related documents provide curriculum principles and strategies that imply a pedagogical advantage in early childhood education with respect to the implementation of EfS. The National Environmental Education Statement for Schools (2005), for example, suggests experiential learning, values clarification, creative thinking, problem solving, story telling and inquiry learning as important in EfS, while the UNESCO Decade of Education for Sustainable Development (2005) document cites the following key education principles as pivotal: interdisciplinary and holistic, values-driven, critical thinking and problem solving, multi method, participatory decision making, applicability, and locally relevant. Both sets of characteristics clearly align with

early childhood pedagogy (Arthur et al, 2008) and suggest that what is required is a deeper understanding of the links between the pedagogies of EfS and early childhood pedagogies.

Drawing on these similarities, a description of early childhood education for sustainability (ECEfS) is proposed. We claim that ECEfS is an empowering approach to education underpinned by both humanistic and ecological values that promotes change towards sustainable learning communities. Consequently, ECEfS seeks to empower children and adults to change their ways of thinking, being and acting in order to minimise environmental impacts and to enhance environmentally and socially sustainable practices within early childhood settings and into homes and the wider community.

Nevertheless, despite these similarities the early childhood sector has been slow to engage with EfS. This makes our question ‘Why?’ very pertinent. In our reflections about both early childhood education and EfS, it is not so much about radically changing what early educators do, but understanding that there are strong reasons why it is important that sustainability be urgently addressed in and through early childhood education.

### **Examining the resistance: Why the sector has been slow to engage with EfS?**

As noted earlier, recent international reviews of early childhood EE/EfS have shown that the early childhood education field has been slow to engage with thinking and practice around sustainability issues, despite uptake by other educational sectors. In the only [national](#) review of early childhood environmental education in Australia (the New South Wales Environmental Protection Agency’s 2003 report ‘Patches of Green’) – [conducted before the term ‘education for sustainability’ became more common but focussed on EE](#)



within a socio-political educational framework – green patches were described as ‘exemplary individuals, organisations and centres that share a passion and commitment to the importance of early childhood environmental education’ (NSW EPA, 2003: 1). These green patches were found to be very localised, disconnected, with limited support, resources or research, and rarely acknowledged within either the environmental education or the early childhood fields. Later, in 2006, Elliott reported on a growing number of initiatives at local and state level and the emergence of some interest from both early childhood and environmental organisations at the national level via their professional associations. However, this growing interest and engagement is yet to be constructively supported by state and federal governments – seen as central to widespread systemic uptake. Thus, mobilisation of the sector continues to be ad hoc. In order to further confirm the low level of interest in ECEfS Davis (forthcoming) surveyed a set of research journals in EfS and ECE looking for research at their intersection. The results simply confirmed that there has been very little research related to ECEfS or early childhood environmental education - in sharp contrast to other sectors of education where these areas have been developing over decades.

In seeking to understand why the field of early childhood education has been slow to engage with the challenges of sustainability both nationally and internationally, the authors propose the following explanations:

~~1. Children traditionally play in nature outdoors so issues related to environment need not be explicitly addressed.~~ Traditional outdoor play in nature eliminates the need for environmental issues to be addressed.

There is a long history of children learning through play both in and with nature outdoors and this is deeply embedded in early childhood education. Educational theorists such as Froebel and Dewey espoused the virtues of learning outdoors in natural settings for children. Froebel (1782 - 1852), often regarded as the father of the kindergarten movement, identified analogies between the work of educators and gardeners, describing kindergartens as 'gardens for children' where close contact with nature was foundational to children's education and children were nurtured akin to plants. Later, Dewey (1859 - 1952) lamenting the impact of the industrial revolution on children, suggested that a school surrounded by natural environments was to be encouraged. Rivkin (1998) summarises thus 'good schooling for Dewey was dependent on the outdoor world, because that is where life occurs' (p. 200).

While the tradition of play in nature outdoors in early childhood education does persist, this tradition is being eroded. For example, in Western countries, in particular, there are perceptions that 'real learning' takes place indoors. There are concerns about safety and litigation and new learning technologies offer attractive alternatives that militate against rich experiential learning in natural outdoor playspaces (Furedi, 2001; Gill, 2007; Louv, 2005; Malone, 2008; Palmer, 2006). Internationally, there have been urgent calls for the traditions of play outdoors in nature to be reinvigorated (Elliott, 2008; Gill, 2007; Lester & Maudsley, 2006; Louv, 2005; Palmer, 2006; Wilson, 2008). However, there are concerns that these may be too late for children already being reared in 'safe', often synthetic playspaces that are devoid of direct nature experiences. The possibility of adults and children embracing EfS in such unsustainable playspaces appears remote.

Further, where ‘play in nature’ traditions do remain, educators may succumb to the notion that EfS is only about venturing outdoors to play, and nothing more. Case studies of natural playspace development in early childhood services (Elliott Ed, 2008) have revealed that while, at first glance, the learning focus may seem to be only on nature connections with ‘plants, rocks and logs’, underlying themes of sustainability abound in the collaborative processes of natural playspace development. In these case studies, children, parents and educators, together, explored values, problem solving, a sense of place, local relevance and participatory decision making, strategies and principles reminiscent of those previously noted (National Environmental Education Statement for Schools in Australia, 2005; UNESCO, 2005). These themes have the potential to be further expanded upon, and made even more explicit, by educators who are aware of and concerned about sustainability issues. However, the opportunities are easily overlooked. A view of play in nature outdoors as being *sufficient* to address the challenges of sustainability is inadequate (Chawla, 2006; Elliott Ed 2008). As Davis (1998) has stated ‘... thinking about the environment is just not expansive enough to embrace the broad range of ecological and social concerns that we are facing’ (p.120).

2. *Sustainability issues are conceptually beyond the grasp of young children and are too dire* ~~*EfS is conceptually beyond the grasp of young children: sustainability issues are just too dire to convey to children.*~~

The next explanation is based on two misconceptions that, in our experience, frequently come to the fore when engaging with early childhood educators, environmental educators and the wider community. Environmental education or EfS is often perceived as comprising abstract concepts beyond the cognitive grasp of a developmentally-defined Piagetian pre-operational child, aged 2-7 years (Berndt, 1997). For example, how can a

four-year-old construct an understanding of the greenhouse effect, climate change or a hole in the ozone layer when such concepts are not readily observable and cannot be experienced first hand? How can a child possibly engage with these burdensome issues? Such questioning reveals two misconceptions.

The first relates to learners and learning. There is no recognition, for example, that daily experience with the air we breathe and the water we drink might underpin later learning of abstract environmental concepts. This misconception also proffers the idea that education for sustainability prioritises conceptual knowledge over values and skills such as problem solving, creativity and collaboration. This is an erroneously narrow view of EfS as being simply about the acquisition of knowledge about environmental topics. We suggest that this is founded on outdated transmissive modes of learning and does not reflect current pedagogical thinking. Further, this misconception is not aligned with current socio-cultural perspectives of children as capable and competent learners (Arthur et al, 2008; Edwards, Gandini & Foreman, 1998). Indeed, researchers such as Palmer and Suggate (2004) have been able to demonstrate that even 4 year olds are capable of thinking about complex environmental issues and topics.

A second misconception derives from images of the young child as innocent, vulnerable and immature. Childhood is seen by many as a transition period, the time prior to adulthood and therefore, less valued. From this perspective, it could be argued that the health woes of the planet are topics that are just too dire to be presented to young children and who are deemed incapable of acting to protect it. Sobel (1996) asserts that a 'doom and gloom' approach that focuses on environmental issues may be counter-productive and lead to 'ecophobia' - a fear of environmental tragedies and alienation from nature

(Sobel, 1996: 5). In contrast, however, there are now documented examples of ECEfS as a positive, transformative and empowering process (Davis, Gibson, Pratt, Eglington & Rowntree, 2005; Davis & Elliott, 2003; Elliott, in press; Vaealiki & Mackey, 2008; Young, 2007). In these examples, critical and transformative theories are foundational, and gradual change and collective action are the hallmarks of the approaches being taken by early childhood communities that have embraced Efs. With appropriate pedagogies, young children have been shown to be significant players in the changes needed for creating sustainable futures. Adults can encourage children to be ‘problem seekers, problem solvers and action takers in their own environments’ (Davis 2007 on line). ECEfS can be viewed, then, as an antidote to doom and gloom with the potential to empower in support of repairing and healing the planet.

### *3. Current ECE research is based in anthropocentric worldviews that blind researchers to environmental concerns*

#### ~~*Early childhood education researchers hold anthropocentric worldviews that blind them to environmental concerns*~~

Contemporary early childhood researchers, predominantly the poststructuralists, have been instrumental in shifting the paradigms in early childhood education in order to effect theoretical and pedagogical change (Cannella, 1997; Dahlberg, Moss & Pence, 1999; Lambert, 1995; Mac Naughton, 2000). Indeed, Woodhead (2006) attributes social constructionist, post modernist and poststructuralist perspectives as being influential in liberating early childhood from narrow conceptualisations of what is ‘natural, normal and necessary’ (p. 21). As a result, there have been significant changes over the past decade or so, with respect to how issues such as gender, class, culture and ability equities are constructed and ‘taught’ in early childhood settings (Arthur et al, 2008; Dau, 2003; Mac

Naughton, 2003). Intergenerational equity – a central concern of those working in the field of education for sustainability – is a concept that proposes that each successive generation should live sustainably, so that future generations might experience a similar quality of life to that of past generations. This is a temporally-located equity founded on the sharing of the planet's resources, not only with future human generations, but also with non-human species. It is apparent, though, that the thinkers and researchers who have been at the forefront of reconceptualising early childhood education have ignored intergenerational and inter-species equity as discussions about these equities are virtually non-existent in this newer early childhood literature. Hence, we postulate two 'blind spots' (Wagner, 1993: 16) that we attribute to an (unreconstructed) underlying human-centred or anthropocentric worldview.

First, poststructuralist perspectives privilege humans and human meanings through a focus on language. What is not conscientised or conveyed through language seemingly has little relevance. Methodologically, text and the deconstruction of text reveal meanings and relationships that place humans at centre-stage. Such a placement denies agency to the biosphere. Yet, the biosphere exists, and impacts on human life and constructions of meaning, in profound ways on a daily, – even moment by moment, basis. Acknowledgment of the agency of the biosphere and the way humans interact with, and feel, the biosphere is fundamental to intergenerational equity. In summary, Berry (1988: 240) states:

The natural world is subject as well as object. The natural world is the maternal source of our being as earthlings and life-giving nourishment of our physical, emotional, aesthetic, moral and religious existence. The natural world is the larger

sacred community to which we belong. To be alienated from this community is to become destitute in all that makes us human. To damage this community is to diminish our own existence.

Thus, like most paradigms, poststructuralist thinking alienates from the biosphere and reinforces anthropocentrism, blinding adherents to the alternative perspectives that arise from a biocentric worldview or ontology that does not place humans centre stage, but rather promotes the intrinsic value of all life, now and into the future.

Second, dichotomies such as male and female, or rich and poor that reveal human power relations are fundamental to poststructuralist research. The human/nature dichotomy is another ‘blind spot’ that highlights an underlying anthropocentric ontology. The two challenges inherent in this dichotomy are the diverse contextually driven human/nature power relations that are possible, and the absence of nature’s voice in the dichotomy. To illustrate the first, events such as Hurricane Katrina and the Indonesian tsunami, as depicted by Al Gore’s *An Inconvenient Truth*, show that ‘nature’ cannot be controlled by humans. Indeed, humans experience extreme disempowerment in relationship with natural events. Yet in other human/nature interactions - such as irrigation, mining and clear felling - nature is perceived of as an untamed resource that humans must control and conquer in order to survive, a position of empowerment for humans. Hence, a dichotomous view of human/nature relations does not represent the real complexity of human/nature relationships. Also, nature is invisible does not have a voice and does not provide a text for deconstruction of power relations between humans and nature. Only conscientising humans can create texts. As a result, non-human species and natural elements are automatically and fundamentally ‘silenced’ from conceptualisations that

rely on voice and text for authenticity. Thus, to think in terms of a human/nature dichotomy is anathema to ecologists and environmentalists who view the world as a complex web of self-regulating systems where humans are part of nature not its master. Based on these 'blind spots', we contend that a poststructuralist theoretical perspective that has informed early childhood research in recent years cannot adequately provide the philosophical and research framework needed to support a paradigm shift towards education for sustainability. The challenge is to create a unique theoretical space underpinned by biocentric ontology to progress thinking, research and the uptake of ECEfS.

Fortunately, theoretical support for EfS research can be drawn from contemporary systems theorists including Bateson, Maturana and Capra who have provided significant input into bridging the academic silos between the study of biological systems and the study of social systems to forge what is known as systems theory. According to Capra (2005: 4) 'living sustainably means recognising that we are an inseparable part of the web of life, of human and non-human communities, and that enhancing the dignity and sustainability of any one of them will enhance all others'. Systems theory incorporates notions of stability, adaptability and co-evolution. Capra (1999) also adds that, at critical points of instability, new structures and relationships may creatively emerge. Stern (2006) and Gore (2006) would conclude we are on the cusp of a critical point of instability right now! In accepting the value of systems theory, one leaves behind reductionist approaches and embraces the notion that the sum of the whole is more than just the sum of the parts. There is no room for dichotomies and relationships of power in systems theory. Human relationships are researched, then, as one part of the complex social and ecological systems in the biosphere, not as the central set of relationships.



Systems theory, we assert, offers a new theoretical space for ECEfS thinking and research. It offers the potential to redefine relationships between people and nature, and between children, educators and parents. These are fundamental relationships needed to drive transformative change in early childhood learning communities.

## **Conclusion**

In this paper we have sought to impress upon readers the urgency surrounding global environmental issues and the need for early childhood educators to ‘get on board’ in helping to address these major concerns. We have also sought to overcome the rhetoric around EfS and to explain why we think the early childhood sector has been slow to engage with EfS when some other educational sectors have been engaged for decades. Further, we have highlighted the transformative potential of EfS in early childhood communities and for ECEfS research to be informed by critical theory and systems theory. As each successive public report on the state of the planet creates a more dire global picture – with severe potential impacts on children and future generations - we have no hesitation in affirming the imperative for early childhood educators to engage with EfS. The time for stalling has passed.

## **Acknowledgement**

Sue Elliott lectures at RMIT University. She is a doctoral candidate at the University of New England, Armidale, NSW, Australia and aspects of this article are based on her EdD research.

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