Davis, Julie M. (2005) Educating for sustainability in the early years: Creating cultural change in a child care setting. *Australian Journal of Environmental Education* 21:pp. 47-55.

Educating for sustainability in the early years: Creating cultural change in a child care setting

Dr Julie Davis
Centre for Learning Innovation, Queensland University of Technology, Brisbane, Australia.

Email: j.davis@qut.edu.au

Bionote

Dr Julie Davis is a researcher in the Centre for Learning Innovation, and lecturer in the School of Early Childhood, at the Queensland University of Technology.

Abstract

The early childhood education field has been slow to take up the challenge of sustainability. However, Brisbane's Campus Kindergarten is one early education centre that is making serious efforts in this regard. In 1997, Campus Kindergarten initiated its *Sustainable Planet Project* involving a variety of curriculum and pedagogical activities that have led to enhanced play spaces, reduced waste, lowered water consumption and improved biodiversity. Such changes are not curriculum 'add-ons', however. A study of curriculum decision-making processes shows that a culture of sustainability permeates the centre. This has been by a process of slowly evolving changes that have led to a reculturation of many social and environmental practices. This study also shows that very young children, in the presence of passionate and committed teachers, are quite capable of engaging in education for sustainability and in 'making a difference'.

Keywords:
early childhood, collaboration, educational change, empowerment, leadership, professional development, sustainability

Introduction

There are very few early education centres, in Australia and internationally, that demonstrate exemplary environmental education practice and only a small number of research publications that actually focus on early childhood education for sustainability (Davis & Elliott, 2003; New South Wales Environmental Protection Agency, 2003). Consequently, there is also a lack of indepth studies of how an early childhood service - catering for children in the years before school - might actually go about incorporating sustainability into their day-to-day curriculum practices. This paper, based on a study undertaken in a long day care centre in Brisbane, Australia, seeks to fill this gap.

The research involved two university researchers who, with an eight-year professional relationship with the centre, undertook a focussed study in 2004. This utilised ethnographic inquiry to explicate the initial triggers for environmental education; how the curriculum has changed over time; how environmental issues/ topics are raised and acted upon; and how sustainability thinking and practices have been integrated into the cultural practices of the centre.

To explore these topics, the following research techniques were utilised: participant observation; indepth interviews and email conversations with key participants; focus group discussions with staff and with parents; a parent survey; and the collection of documents such as prospectuses, newsletters, planning guides, photographs and project notes. This latter also included the collection and analysis of curriculum documentation developed jointly by the children and teachers, including records of dialogue, photographs, drawings, stories and curriculum webs.

The study was conducted ‘with’ and ‘for’ participants rather than ‘on’ participants (Heron & Reason, 2001). Hence, data collection, analysis, and reporting employed processes designed to build relationships and dialogue within and between researchers, participants and the wider community. This partnership approach with and between the stakeholders was highly valued by both the researchers and the Campus Kindergarten community.

The research setting

Campus Kindergarten is an early education centre serving a culturally diverse, well educated community, situated on the St Lucia campus of the University of Queensland in Brisbane. Opening hours are from 8.00 am till 5.30 pm, Mondays to Fridays. The centre

caters for children aged two and a half years to around six years, from a wide range of language and cultural backgrounds. Each day around sixty-three children, many attending part time, are catered for, with seventy-nine children across three age groups attending weekly. There are nineteen staff members of whom six are full time. Thus the organization of both the staff and children's arrangements is quite complex.

The centre has an educational philosophy that is child-centred, holistic and futures-oriented, where rights, respect and trust permeate the culture and curriculum (Prospectus 2004, p. 1). This means that the teachers seek to interweave into everyday practices, their care and concern for children along with concern and respect for the centre's natural and built environments. These qualities underpin all facets of Campus Kindergarten's organisation and culture, including the centre's *Sustainable Planet Project.*

The Sustainable Planet Project

Origins

This project, a 'whole of centre' initiative, had its origins in 1997, the outcome of a facilitated team-building exercise. At the time, the teachers were seeking a shared project that would also create greater complementarity between their personal and working lives. As a past staff member commented, "I felt that I wasn't putting enough of my own personality into the room. It was great to give toward the children but there was none of me in there".

The team-building process revealed a common interest amongst the staff - the environment. Consequently, under the banner of the *Sustainable Planet Project*, individual staff members were able to 'add value' to their work as early childhood educators by including personal interests such as gardening, wildlife conservation and recycling into their day-to-day work at the centre. From the start, the project had an action-oriented focus, encapsulated in the sub-title of the project "Saving our planet: become a conscious part of the solution".

First steps

Once the idea of the *Sustainable Planet Project* was formulated, the teachers began working with the children on numerous small-scale, mini-projects allied with their own particular environmental interests. These included:

So what are we doing?

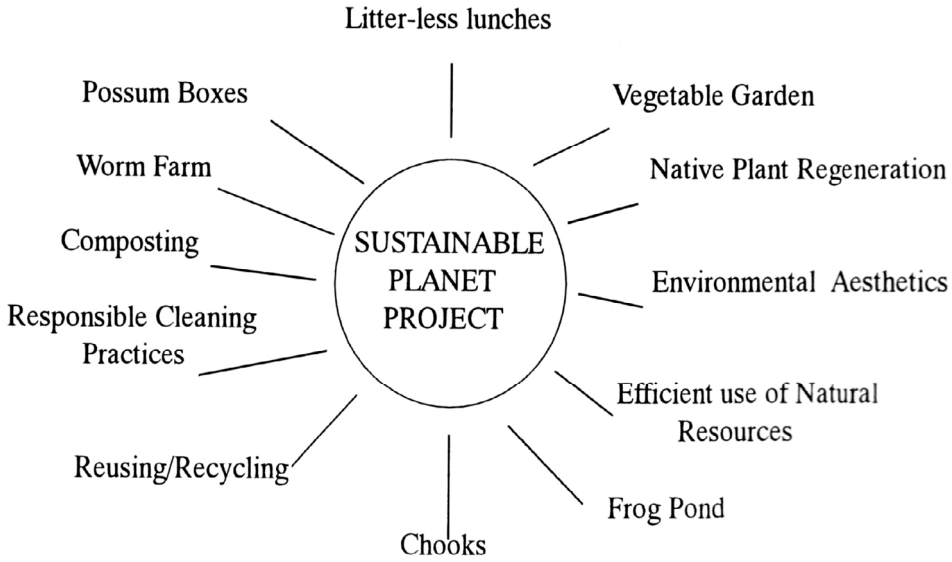

Figure 1: Initial mini-projects in the *Sustainable Planet Project*
(Campus Kindergarten teachers, 1997)

While all these mini-projects still continue, initially the *Sustainable Planet Project* had its operational challenges. A key barrier was the variable levels of knowledge and experience regarding environmental matters amongst the staff leading to periods of great activity and times when interest and energy waned. There were times when other priorities and projects demanded time, energy and resources. There have also been frustrations with the level of parental commitment to some initiatives, especially the 'litterless' lunch' policy which requires parents to pack the children's lunches – brought daily from home – in ways that minimise pre-packaged food. Some parents have resisted the concept, seeking to explain why changing one's lunch-making habits was an unreasonable demand applicable to others but not to themselves. These days, the teachers are prepared for such resistance and seek to work collaboratively with families rather than adopting a strict policy position.

Later developments

As time has progressed and the project has evolved, all these mini-projects have become inculcated into everyday routines at the centre and new projects are continually added. In effect, the centre operates with an 'environmental ethic' that has become part of its

culture. To exemplify how this has happened, two newer projects, ‘Water Conservation’ and the ‘Shopping Trolley Project’, are outlined.

The Water Conservation Project

Central to curriculum practices at Campus Kindergarten is the belief that children can be active, informed learners, capable of impacting positively on their local environment. A project about water conservation, for example, was sparked when concerns were expressed by both children and teachers about excess water use. At a time when drought was well advanced across Australia, it was noted that the “Kindy friends were pouring out more than they could drink and then tipping the rest into the garden” ("Water Conservation" Documentation, 2002). A group meeting was held to discuss the issue, eliciting responses that demonstrated the children’s already quite sophisticated understandings about water matters. In following weeks, discussions, problem solving opportunities and experimentation further built upon what the children and teachers knew. Then, after an interval of several months, the topic of water conservation was rekindled with the reading of a book about rivers. Consequently, a ‘whole centre’ project about water conservation emerged, organised mainly by the preschoolers.

The teachers worked with the children to conduct research on where household/centre water comes from, revisited earlier classroom documentation on the topic, discussed the concept of drought, and explored photographs and newspaper articles featured in the local weekly community newspaper. As the children’s knowledge about water issues grew, their inquiries turned to water conservation actions. They made signs, drew pictures and wrote messages about what was needed to conserve water at Campus Kindergarten. These were located at all the water points around the centre, for example, near the sandpit, beside the washbasin tap, and on toilet cisterns, reminding everyone to be careful users of water. Examples of signage included:

> *Mia*: Please don’t leave the tap running.
> *Layla*: When you flush the toilet, press the small button.
> *Andrew*: Turn the hose off when you are finished.

Figure 2: Greta's sign for saving water.

This project shows that even very young children are able to critically respond to environmental issues. With appropriate guidance from supportive staff, the children learned that water was precious, noticed they were using a lot of it, recognised community concern about water use, and did something about it. Furthermore, water conservation habits also transferred to home. As a parent commented during a focus group discussion:

> The water issue… he's bringing it into bath time. We're only allowed to fill the bath to a certain level and we're not allowed to put the tap on again!
>
> (Parent focus group, July 2004)

The Shopping Trolley Project

This project is another example of how sustainability principles and child empowerment pedagogies have developed at Campus Kindergarten. This project originated when the children arrived at the centre one morning to find a shopping trolley dumped in the playground, raising many questions about why and how it happened to be there. The preschoolers' initial brainstorming came up with the following ideas:

Ryan: A burglar dressed up as a normal person, got the shopping trolley and took it to Campus Kindy.
Emily: He put it in there in the night and quickly ran away.
Teacher: Well what should we do about it?
John: Ring up.

Hamish: Take it back to the shop.
Fizza: Ring them and let them know.

("The Trolley" Documentation 2003)

The children were concerned not only about the morality of stealing, but also about the visual impact and damage that dumped trolleys and other rubbish have on the local environment. It was decided to write a letter to the 'Coles people' – operators of the local supermarket - informing the store manager that their shopping trolley had been found and that there were more 'stolen' trolleys in the area. The children also listed ideas for stopping such behaviour as well as offering to return the trolley to the store.

They also wanted to write to 'the burglars' expressing their concerns about their behaviour. Not knowing their addresses, alternative ways of sending a letter were explored. In the end, a decision was made to write to the local newspaper in the hope that, with its local community readership, the burglars would read of their concerns.

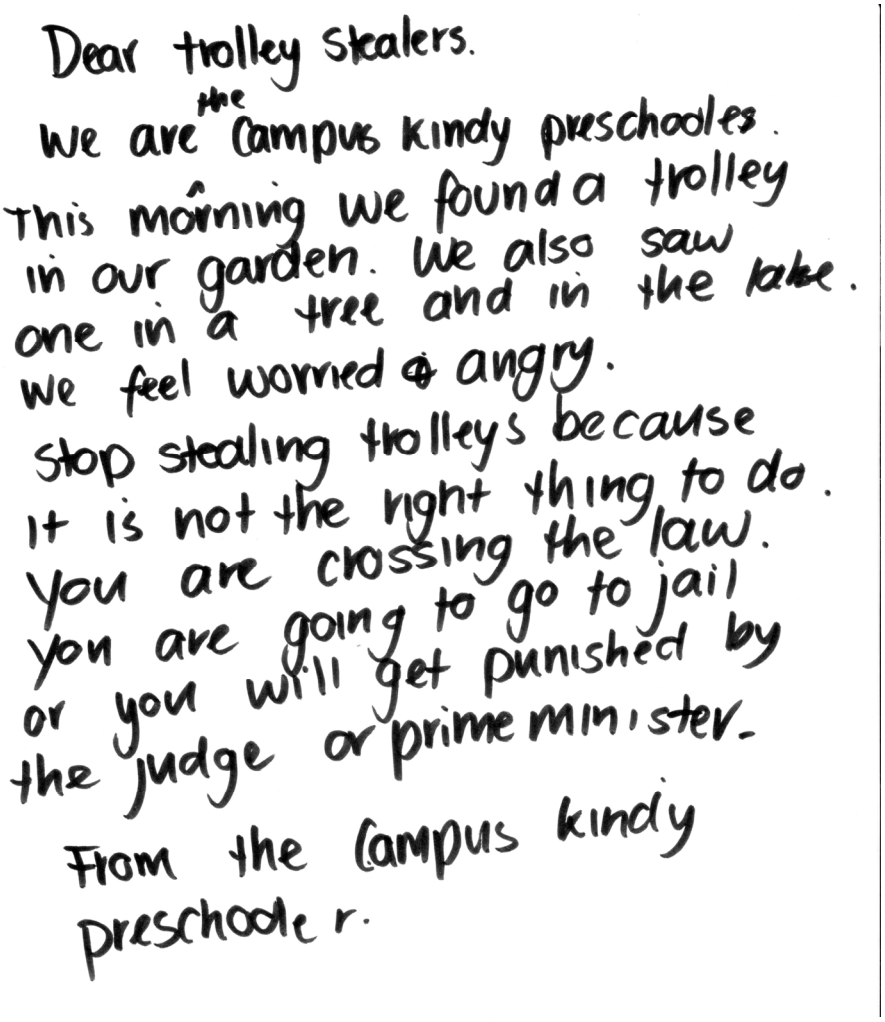
Dear trolley stealers.
We are the Campus kindy preschoolers.
This morning we found a trolley
in our garden. We also saw
one in a tree and in the lake.
We feel worried & angry.
Stop stealing trolleys because
it is not the right thing to do.
You are crossing the law.
You are going to go to jail
or you will get punished by
the judge or prime minister.
From the Campus kindy
preschooler.

Figure 3: Letter to the supermarket (Campus Kindergarten preschoolers).

Their story made front page news in this local newspaper, along with a photo story outlining the children's ethical and aesthetic concerns about stolen and dumped shopping trolleys. There was also editorial comment entitled '*Young teach us a worthwhile lesson*', where the editor praised the children for their social responsibility.

With local attention adding momentum to the children's interest, a visit to the supermarket was then organised. During a tour of the car parks, the children identified that existing signs discouraging customers from taking shopping trolleys outside the shopping centre could only be read if customers actually utilised the car parks. However, the children had already determined that those who had 'borrowed' the trolleys were not car owners. Consequently, they suggested to the supermarket management that they (the children) make new signs which were then posted on the supermarket's main doors, targeting the 'shopping trolley thieves'.

Figure 4: Example of children's signage to the 'trolley thieves' (Alexander).

What this project shows is that, as Hart (1997) proposes, even young children have the capacity for active participation in decisions and actions about their education which helps build their political literacy. Using Hart's 'ladder of children's participation' as a measure, the children and teachers at this centre appear to be operating at the top rungs of

the participation ladder where the lowest rungs signify non-participation while the top rung identifies the highest levels of political literacy and participation. At this top level, children are highly active politically, both as curriculum decision-makers and as social and environmental activists.

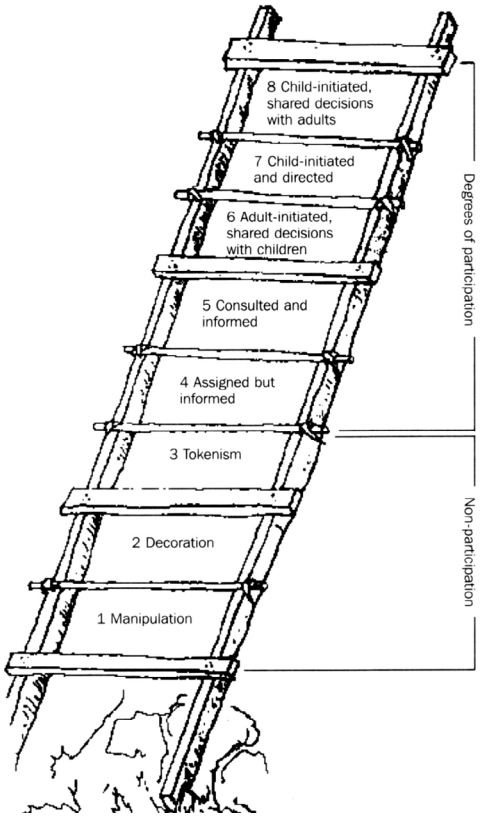

Figure 5: Ladder of children's participation (Hart, 1997)

Environmental Outcomes

No only does the *Sustainable Planet Project* promote active citizenship in these young learners, but it has also led to tangible environmental outcomes. These include: enhanced play spaces; over two hundred new native plants in the grounds; removal of weeds and other inappropriate plants within the grounds; and improved 'eco-friendliness' for local native animal species. Another major benefit resulting from the improved outdoor environment is that multiple new opportunities for provoking curiosity and rich environmental learning have also emerged.

Additionally, the project has led to improved resource use and waste management including: bottle and cardboard recycling; reductions in A4 paper usage (from three reams/ month in 2003 to one ream/ month in 2004); bulk-ordering of products; the litterless lunch policy; and the establishment of a composting system and worm farm for food scraps. As a direct result of such measures, the number of large waste bins requiring collection has been reduced from two bins/ day to half a bin/ day. Other environmental changes include switching to less environmentally-harmful kitchen and cleaning products, and, recently, the installation of a large water barrel (around 50 litres) into the sandpit. This is filled only once a day and the children learn to monitor its use. Although water consumption figures are not available, the teachers surmise that this strategy has dramatically cut water consumption. Collectively, these changes have considerably reduced the centre's 'environmental footprint'.

Creating a learning culture for change

As this study has shown, creating change at Campus Kindergarten has been incremental, iterative and small scale - an evolutionary rather than a revolutionary process, advancing slowly over almost a decade. Educational change theorists, influenced by chaos-complexity theory applied to social systems, explain this by recognising that (in this case) the childcare centre is a complex, adaptive system, rather than a stable, rigid organisation. Rather than change occurring through revolutionary processes where the old is quickly ushered out by radical reforms and replaced by new processes and structures, it emanates from the history of the organisation and the people interacting in it; a combination of tradition and innovation underpinned by the quality of the people and relationships already in an organisation (Larson, 1999).

For these reasons, change is much more likely to be slow, small scale and imperfect, reflecting the complex, dynamic nature of the setting in which change is occurring. This signifies a process of slowly-emerging cultural change with success vacillating between stability and disorder (Stacey, 2000); where uncertainty is seen as inevitable; and creativity, innovation and change are normal rather than aberrant. Larson (1999) comments that innovation created by changing the *culture* of an organisation does not usually create momentous changes but rather, 'small wins' which have the capacity to magnify into large-scale changes into the future.

According to Stacey (2000), one of the leading organisational change theorist working with chaos-complexity theory, change that takes account of complexity emerges by spontaneous self-organising evolution, requiring political interaction and learning in groups, rather than from systematic progress towards someone else's predetermined goals or 'visions'. It is through such devolved, dynamic and inclusive processes that 'professional learning communities' (Fullan, 1999; Senge, 1990) are created and sustained. This is not a top-down change model, nor one designed to fit a number of settings. It is unique, belongs to the participants, and they are responsible both individually and collectively for what happens. The process is one of local capacity building for change and innovation.

Leadership

Underpinning such reculturing change processes is the leadership and management framework of the organisation. Learning organisations require patterns that develop self-organisation and ownership, rather than top-down hierarchal processes. As Fullan (2001) comments "effective leaders are energy creators, creating harmony, forging consensus, setting high standards, and developing a 'try this' future orientation". According to Fleener (2002), citing Stacey (1992), problems are conceived as communicative obstacles or barriers to creativity, not issues to be overcome in order to re-establish stability and order. As Megan, the Centre Director, commented in interview, "I've been mindful of giving staff support and encouraging understanding…I've tried to motivate them so that they have felt they've got time to participate and coordinate projects and that they have understood what the project is about". This approach is corroborated by one of the teachers who said of Megan "She really encourages us to think... and you actually work through a lot of issues" (Teacher focus group, March 2004).

Another important element of leadership developed within a learning organisation approach is that all members of staff are viewed as leaders, each with their own distinctive abilities to initiate and implement change. Such democratic, self-generating notions of leadership are built upon trusting and collaborative relationships between colleagues. At Campus Kindergarten, teamwork and mentoring are now just part of the centre's normal social practices.

Professional development

Leadership based on an understanding of complex systems also shapes approaches to staff development. At Campus Kindergarten, for example, staff members have numerous opportunities to learn about and critically reflect upon their teaching and learning. This includes regular attendances at conferences and workshops, undertaking courses to upgrade qualifications, networking through professional associations, and actively seeking visitors to the centre who can share expert knowledge. At staff meetings and team planning sessions, issues of curriculum and pedagogy are regularly discussed and debated. The teachers also comment that they learn a great deal from each other in lunch room conversations and through other informal exchanges. Together, both formal and informal approaches to professional development have generated a 'grass roots' collaborative learning culture which supports learning for everyone – the children, teachers, families and the community at large.

'Small wins' and 'scaling up'

As the *Sustainable Planet Project* illustrates, creating cultural change in a setting is, at best, a process that builds over years rather than weeks or months, so appreciating that change start slowly and is likely to be of small scale is pivotal, lest frustration sets in. Ultimately, such change is the key to continuous organisational renewal (Larson, 1999) and is also a strategy that works now, when we cannot afford to wait for large-scale systemic changes that eventually fail to arrive. It is also a strategy that offers leverage beyond the immediate context as small-scale changes become the route to more substantial organisational improvements. Provided the changes go deep enough in terms of large numbers of people in an organisation making such changes, 'small wins' can be potent as springboards for deeper and wider organisational change and renewal. Thus, chaos-complexity theory informs us that at some indefinable, critical point, small changes become magnified and cascade upwards through the system. Furthermore, these critical points are everywhere. As a result, small wins can set in motion further processes for continued small wins – a strategy that strengthens organisational capacity and the ability to solve larger-scale problems (Larson, 1999, p. xxiii). This is because there is a flow of *capabilities* rather than products that are transferred (Fullan, 1999). This happens both within the setting, enhancing its capacity to tackle bigger, more complex issues, but also outside, where people who become inspired by changes in the original setting, start to create changes in new settings and situations. At Campus Kindergarten, an expanding

range of environmental issues have been tackled as people have grown in knowledge and confidence.

However, scaling up must progress beyond the original setting if there is to be the magnification of capabilities needed to create large-scale changes into the future. To this end, staff at Campus Kindergarten actively participate in a broad range of outreach activities with their professional peers, aimed at encouraging others to reculture for sustainability. For example, they regularly present at conferences, give lectures and conduct workshops based on their philosophy and practices. They provide opportunities for student teachers and others to visit the centre, to see for themselves what they do and how. Furthermore, they willingly support and contribute to the publication of articles and papers (such as this) in order to share their experiences more widely.

Conclusion

This paper has sought to highlight how one early education centre has faced the challenges of sustainability. Rather than ignore the issues, the teachers at Campus Kindergarten have engaged the support of children, families and the broader community in making changes – 'small wins' - to many of their day-to-day practices, and are playing a part in creating a new generation of stewards of Earth. This has come about because a culture of sustainability has been created, built on an educational philosophy that deeply values young children as active participants in a learning community, and where open and trusting relationships permeate what the teachers do. The staff also encourage others to think about sustainability – and support *their* actions - by engaging in a broad range of professional and community education activities. As a consequence, they are helping to change the environmental attitudes, values and practices of many other adults who work with, and care about, young children. In summary, Campus Kindergarten is a learning community with a culture that deliberately engages in pro-people, pro-environment and pro-futures education for sustainability.

References

Campus Kindergarten. (2002). Water Conservation Documentation. Brisbane.
Campus Kindergarten. (2003). The Trolley Documentation. Brisbane.
Campus Kindergarten. (2004). Prospectus. Brisbane.
Davis, J., & Elliott, S. (2003). *Early Childhood Environmental Education: Making it Mainstream*. Canberra: Early Childhood Australia.

Fleener, M. J. (2002). *Curriculum dynamics: Recreating Heart*. New York: Peter Lang.
Fullan, M. (1999). *Change Forces: The Sequel*. London: Falmer Press.
Fullan, M. (2001). *The New Meaning of Educational Change* (3rd ed.). New York: Teachers College Press.
Hart, R. (1997). *Children'sparticipation: The theory and practice of involving young citizens in community development and environmental care*. New York: UNICEF.
Heron, J., & Reason, P. (2001). The practice of co-operative inquiry: Research 'with' rather than 'on' people. In P. Reason & H. Bradbury (Eds.), *Handbook of Action Research: Participative Inquiry and Practice* (pp. 179-188). London: Sage.
Larson, R. L. (1999). *Changing Schools from the Inside Out* (2nd ed.). Lancaster, PA: Technomic Publishing.
New South Wales Environmental Protection Agency. (2003). *Patches of Green*. Retrieved 15 August, 2003, from http://www.environment.nsw.gov.au/whocares/patchesofgreen.htm
Senge, P. M. (1990). *The Fifth Discipline: The Art and Practice of the Learning Organisation*. Sydney: Random House.
Stacey, R. (2000). *Strategic Management and Organisational Dynamics: The Challenge of Complexity* (3rd ed.). Harlow, UK: Pearson Education.