Leading for Sustainability

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This thesis is presented for the degree of Doctor of Education
of Murdoch University, 2007.
I declare that this thesis is my own account of my research and contains as its main content work which has not previously been submitted for a degree at any tertiary education institution.
Abstract

Prelude

A short piece to prepare the way

(Sadie and Tyrrell, 2001)

Education for sustainability and educational leadership are the two faces to my research. Although there are differences between the concepts of environmental education and education for sustainability they are often confused. Environmental education deals with awareness raising and encouraging behaviour change to support environmental management and conservation. On the other hand, education for sustainability recognises the transformative role of education, while implicitly referring to intergenerational equity, ecological sustainability and the fair distribution of resources. The confusion is evident at the school level. Leadership is also a term fraught with confusion and misinterpretation. While there are many definitions of leadership, two common perspectives which have persisted over time are definitions of leadership as a matter of influence and of leadership as a skill. In educational terms sustainable leadership represents a shift to capture and merge contemporary leadership theory with the international pressure for sustainability through education.

There is a dearth of information available to describe education for sustainability despite recognition by both Australian and Western Australian governments of its importance in this, the early years of the Decade of Education for Sustainable Development (2005-2014). The aims of this qualitative research are to capture leaders’ understanding of how education for sustainability is conceptualised, incorporated across the curriculum and led in Western Australian government secondary schools. In addition this study seeks to
determine how education for sustainability becomes embedded and sustained in these schools.

The research re-conceptualises leading for sustainability. Four key concepts are identified as essential for embedding education for sustainability into Western Australian government secondary schools. These key concepts are: understanding sustainability; imagining the future; building relationships; and taking action. Combined, they enhance the meagre knowledge base about leading for sustainability in Western Australian secondary schools and provide a springboard for further research in the fields of sustainability and educational leadership.
# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Declaration</td>
<td>i</td>
</tr>
<tr>
<td>Abstract</td>
<td>ii</td>
</tr>
<tr>
<td>Table of Contents</td>
<td>iv</td>
</tr>
<tr>
<td>List of Tables</td>
<td>vi</td>
</tr>
<tr>
<td>Explanatory note</td>
<td>vii</td>
</tr>
<tr>
<td>Acknowledgements</td>
<td>viii</td>
</tr>
<tr>
<td>Chapter 1 Overture</td>
<td>1</td>
</tr>
<tr>
<td>Introduction</td>
<td>1</td>
</tr>
<tr>
<td>Background to the research</td>
<td>2</td>
</tr>
<tr>
<td>Purpose of the research</td>
<td>7</td>
</tr>
<tr>
<td>Significance of the research</td>
<td>8</td>
</tr>
<tr>
<td>Research questions</td>
<td>10</td>
</tr>
<tr>
<td>Overview of the research</td>
<td>11</td>
</tr>
<tr>
<td>Overview of chapters</td>
<td>20</td>
</tr>
<tr>
<td>Summary</td>
<td>21</td>
</tr>
<tr>
<td>Chapter 2 Allemande</td>
<td>23</td>
</tr>
<tr>
<td>(Part 1) Introduction</td>
<td>23</td>
</tr>
<tr>
<td>What is education for sustainability?</td>
<td>24</td>
</tr>
<tr>
<td>How is education for sustainability evolving?</td>
<td>26</td>
</tr>
<tr>
<td>How is education for sustainability conceptualised in Australian and Western Australian schools?</td>
<td>36</td>
</tr>
<tr>
<td>Summary</td>
<td>40</td>
</tr>
<tr>
<td>Chapter 2 Sarabande</td>
<td>42</td>
</tr>
<tr>
<td>(Part 2) Introduction</td>
<td>42</td>
</tr>
<tr>
<td>Leadership</td>
<td>42</td>
</tr>
<tr>
<td>Shifts in thinking in leadership</td>
<td>43</td>
</tr>
<tr>
<td>Leading educational change</td>
<td>49</td>
</tr>
<tr>
<td>Sustaining change</td>
<td>51</td>
</tr>
<tr>
<td>Sustainable leadership</td>
<td>57</td>
</tr>
<tr>
<td>Summary</td>
<td>66</td>
</tr>
<tr>
<td>Chapter 3</td>
<td><strong>Gavotte</strong></td>
</tr>
<tr>
<td>-----------</td>
<td>-------------</td>
</tr>
<tr>
<td>Introduction</td>
<td>69</td>
</tr>
<tr>
<td>Theoretical underpinnings</td>
<td>69</td>
</tr>
<tr>
<td>Research questions</td>
<td>74</td>
</tr>
<tr>
<td>Methodology and method</td>
<td>74</td>
</tr>
<tr>
<td>Summary</td>
<td>89</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter 4</th>
<th><strong>Fugue</strong></th>
<th>90</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td>Case 1 — Summer Springs College</td>
<td>91</td>
<td></td>
</tr>
<tr>
<td>Analysis — Summer Springs College</td>
<td>99</td>
<td></td>
</tr>
<tr>
<td>Case 2 — Valley Vista College</td>
<td>105</td>
<td></td>
</tr>
<tr>
<td>Analysis — Valley Vista College</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td>Case 3 — River View College</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>Analysis — River View College</td>
<td>130</td>
<td></td>
</tr>
<tr>
<td>Analysis — Across cases</td>
<td>138</td>
<td></td>
</tr>
<tr>
<td>Summary</td>
<td>146</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter 5</th>
<th><strong>Pastiche</strong></th>
<th>148</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>148</td>
<td></td>
</tr>
<tr>
<td>Key concepts</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>Findings</td>
<td>163</td>
<td></td>
</tr>
<tr>
<td>Implications</td>
<td>166</td>
<td></td>
</tr>
<tr>
<td>Limitations</td>
<td>167</td>
<td></td>
</tr>
<tr>
<td>Future research</td>
<td>168</td>
<td></td>
</tr>
<tr>
<td>Conclusion</td>
<td>170</td>
<td></td>
</tr>
</tbody>
</table>

| Appendices | **Coda** | 172 |
| References | **Concerto grosso** | 175 |
List of Tables

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 1</td>
<td>Links between the sustainable leadership framework and aspects of sustainable leadership</td>
<td>63</td>
</tr>
<tr>
<td>Table 2</td>
<td>Themes from narrative accounts</td>
<td>137</td>
</tr>
<tr>
<td>Table 3</td>
<td>Meta-themes across the cases</td>
<td>139</td>
</tr>
</tbody>
</table>
Explanatory note

Each of the chapters in this thesis has a musical term in the title. This is due to my interest in Baroque music and my pleasure in assuming the qualitative researcher or *bricoleur* role. The *bricoleur*, viewed much like the jazz improviser, reminded me of Bach and his contemporaries, who initiated improvisation in formal classical music. Each of the terms is used in the variety of musical forms composed by Bach.

I called my abstract the Prelude, as it is a short beginning piece. The Overture is the introduction to a musical work and provides a ‘taste’ of the work that follows. My literature review is presented in two parts which I call the Allemande and the Sarabande. Both are dance movements which may occur with other sections, but always in this order. I considered these apt for my ‘dance with the literature’. The Gavotte is another dance form which follows the Sarabande so I used this term for my methodology chapter. I called my data presentation and analysis chapter the Fugue which is a compositional technique used to present different voices. The different voices usually have a common theme – however, different and similar threads are also evident. For consistency I called my final chapter Pastiche. This term describes a collection of different styles or musical forms where a composer incorporates his or her own work in a new context. It can also refer to patch-working much as the term *bricoleur* does. To complete my thesis I called the appendices the Coda, and the references the Concerto grosso. In music the Coda is placed at the end of the formal material and the Concerto grosso is characterised by a number of soloists within a larger orchestral body.
Acknowledgements

I would like to thank my supervisors Associate Professor Helen Wildy and Associate Professor Irene Styles who willingly gave of their time to assist me with this thesis. I am especially grateful to Helen for her gentle guidance and strong support throughout all stages of this research. I truly appreciate her wisdom and leadership. Special thanks also to Irene for her interest in, and enthusiasm for, my research.

Thank you also to the staff of the Education Research and Academic Programs office, who provided support and facilitated the approval of funds for me to travel to interstate and overseas conferences, where I presented aspects of my unfolding research. I am also grateful to my colleagues Susan Roberts and Lucy Jarzabkowski, for their friendship, generous support and interest in my research.

Many thanks also to the educators who participated in my study. Each was willing to discuss his or her work for sustainability education and assist me to achieve my goals.

I must also mention an extra special thank you to my husband, John, for all the assistance and encouragement he has given me in numerous different ways throughout my Doctoral journey.
Chapter 1

Overture

An introduction to the joys of the composition

(Sadie and Tyrrell, 2001)

Introduction

Step into any secondary school classroom, and either you will see innovation, or you will see well rehearsed and familiar practices underway. Do innovations deepen and strengthen or do they simply fade away? Too often, I fear, it is the latter. Many innovations create short term flurries of activity that result in little lasting or widespread influence. Furthermore, such innovations seldom continue when the initiator leaves and teachers revert to their established routines. Well rehearsed, familiar practices are comforting to both teachers and their students.

In this introduction chapter I begin with a brief background to explain the circumstances leading to my decision to undertake this research and the educational context in which it is set. An explanation of the purpose of my research, which addresses the international and national sustainability agenda, follows. Next, I offer four significant reasons for my research. Prior to undertaking the research I posed four overarching research questions. While these have evolved since their first airing they have driven my research. Further questions arose during the research and these are articulated throughout my thesis. In this chapter I also include an overview of previous research into educational leadership and education for sustainability to place my research in context. This is followed by an outline of the methodology adopted for the research and an introduction to my data presentation.
and analysis. A short overview of each chapter’s contents is provided to conclude the chapter.

**Background to the research**

For as far back as my memory serves me I have been aware of the widespread wasteful consumption of our natural resources. This is probably due to an upbringing where lights were switched off on leaving a room, food was not wasted, clothes were ‘handed down’ to extended family members when no longer suitable for the original owner and the car was used only if the required destination was not within reasonable walking distance. With hindsight I suspect these measures were adopted due to financial restraint rather than conservation values. However, these and similar values remained with me into adulthood. On leaving secondary school my interest in conservation and managing our natural resources strengthened while studying my Biology major to complete my Arts degree. Due to my strong interest in the biological sciences I completed a teaching qualification so I could teach biology and general science in secondary schools. In my fourth year of teaching I returned to university part-time to complete a post-graduate qualification in natural resources. Eighteen months later I resigned from my teaching position in preparation for the next stage of my life - motherhood. Over the next twelve years I remained outside the formal workforce and cared for our three children. During this period my interest in natural resource issues remained strong and I completed numerous community environmental courses. Simultaneously, I furthered my Australian Music Examination Board qualifications to teach children the delights of playing the piano.
The year my youngest child began her primary schooling I returned to teaching secondary 
science and biology. At this College I introduced several environmental initiatives, for 
example, a re-vegetation program along a local creek line and a community service element 
into the Tertiary Entrance Examination (TEE) Biology course. Alternative years I was 
responsible for the Biology camp and attended the Geography camp with upper school 
students. In addition I attended numerous professional development sessions to involve my 
students in programs such as ‘Ribbons of Blue’ (Government of Western Australia, 1999) 
and ‘AirWatch’ (Government of Western Australia, 1997). During this period I observed 
colleagues in this and other schools introduce programs, take full responsibility for them, 
become disillusioned when no further assistance or support was offered, suffer ‘burn out’ 
and then allow the initiative to lapse. I cared a great deal that the pattern was consistent 
across schools but did not seriously consider any explanation. Six years after returning to 
the workforce I again enrolled in part-time post-graduate studies, this time in natural 
resource management. On completion of this Master of Science degree I resigned from my 
teaching position to seek new challenges. I later learnt that the initiatives I introduced at the 
College ceased on my departure and I wondered why this happened.

During the next few months I volunteered my time to the newly established State 
Government Sustainability Policy Unit, accepted a temporary Environmental Officer 
position in local government and continued as voluntary coordinator of our local 
community ‘Friends’ group. Unexpectedly, I was offered then accepted, a research position 
in a Western Australian university School of Education. My new role was to manage an 
Australian Research Council project investigating performance standards in school leaders. 
I worked closely with an investigator who modelled leadership. I read widely about
leadership theory and began to understand why the initiatives teachers introduce into schools so often falter. Eager to increase my understanding of leadership and its relevance to sustainability I enrolled in part-time doctoral studies.

Soon after beginning my doctoral studies in 2004 I understood why I had struggled with my work in my new university position the previous year. Many of the early tasks I was expected to undertake did not follow the scientific method, a concept I had espoused throughout my teaching career and my post-graduate studies. I believed deductive research was completely scientific and truly objective. For many years I believed research, including my own, to be objective and with little personal bias. My long established views were challenged as I grappled to understand the real possibility of obtaining rich and meaningful data from other than the scientific method approach. My positivist blinkers were finally removed when I comprehended Schwartz McCotter’s (2001) description of theory as similar to using a map, where the map guides decisions and provides directions. She suggests that because mapmakers choose which natural features to highlight and which to ignore the map produced is not unbiased.

On reading further I was impressed to learn of the many forms qualitative research may take. To learn that narratives, life stories, case studies, interview and visual texts are all valid forms for research was enlightening. The description provided by Denzin and Lincoln (2000) of the qualitative researcher as a *bricoleur*, much like a maker of quilts or jazz improviser, I thought delightful and felt an immediate resonance. The concept of improvisation began formally with Bach *inter alia* during the Baroque period of music (Lloyd, 1968) and was my inspiration to include musical phrases in my chapter headings.
My initial embarrassment upon realising I thought only in positivist terms was short lived as I began to embrace the wide variation in qualitative research methodology. I could now appreciate that the interpretive framework or paradigm of any researcher (including myself) brings into the research an established set of beliefs and feelings about the world. A major awakening was to realise that true objectivity is not possible in research and that being subjective is not necessarily a weakness if acknowledged. I now understood that, like all researchers, I brought pre-existing knowledge and experience to my work. At this point I became enthusiastic about conducting qualitative research of my own to investigate sustainability and leadership in Western Australian government secondary schools.

Public education in Western Australia has been in a state of flux during the past two decades. Efforts to decentralise authority to schools and their communities were aimed at improving their efficiency (Ministry of Education WA, 1987). However, competing pressure to recentralise authority ensured limited change occurred. Simultaneously, attempts to exert increasing influence in local settings were made by the federal government and resulted in all states and territories reaching agreement about the outcomes of schooling (Curriculum Corporation, 1999). In Western Australia an extensive revision of the curriculum resulted in the development of a Curriculum Framework (Curriculum Council, 1998). Currently, many teachers are troubled by the perplexing and unsettling implementation of outcomes based courses of study in the upper secondary years.

Thus public education remains centrally managed by the Department of Education and Training. Schools are clustered into 14 Districts where 25 District Directors and their staff support the teachers and students in the districts.
WA (DETWA), 2007a). Students in Western Australia generally attend 5 years of secondary schooling, referred to as Years 8-12, after completing seven years of primary schooling. Most students enter the secondary system the year they turn thirteen years of age and graduate at the end of the calendar year that they turn seventeen.

Secondary education occurs in a variety of school configurations which includes senior colleges, secondary high schools and district high schools. Senior colleges cater for students in the two final years of schooling, known in this context as Years 11 and 12, and also accommodate students wishing to repeat the final years. District high schools are usually located outside the metropolitan area and cater for students in Years 8, 9 and 10 as well as the primary years. In Western Australia the majority of students complete their secondary education in government secondary high schools and this was the setting for my research. The private, non-government, secondary school sector is increasingly attractive to parents in Western Australia but this was not the setting for my research.

Attendance at secondary school is compulsory for all students until the end of the year they turn 16 years of age with legislation in place to increase this age to 17 in 2008. State Government policy is that “Young people must be in school, training, an apprenticeship or a traineeship, or approved full-time employment - or combinations of part-time education/training and employment” (DETWA, 2007b). For some students completion of the Tertiary Entrance Examinations (TEE) late in Year 12 qualifies them to further their education at university. Consequently, this shapes the delivery of courses and timetables in many secondary schools. Many other students with qualifying school results also continue their education at Technical and Further Education (TAFE) colleges, while others continue
with or commence apprenticeships. Some students take up permanent positions in the work force. I offer this background information to clarify the educational context in which my study is located.

**Purpose of the research**

My research addresses the national and international sustainability agenda. The aim of my qualitative research study is to contribute to the existing knowledge base relating to education for sustainability in Western Australian secondary schools in terms of two aspects. The first aspect is the leadership involved in establishing education for sustainability in Western Australian secondary schools not unlike those in which I had introduced sustainability initiatives earlier in my career. The second aspect is how education for sustainability may or may not become embedded across the curriculum and sustained in teaching and learning practices as I had experienced with my own initiatives.

The research seeks to capture participants’ understanding of first, how education for sustainability is conceptualised in Western Australian secondary schools; second, how education for sustainability is incorporated across the curriculum in Western Australian secondary schools; third, how education for sustainability is led in Western Australian secondary schools; and fourth, which processes enable education for sustainability to become embedded and sustained into Western Australian secondary schools. These understandings are articulated further and in more detail as my research questions. While the leadership of education for sustainability in the primary sector is also of interest to me, my knowledge of and experience in secondary education was greater. At the time of
embarking on the research my concerns were focused clearly within the secondary sector.
In the next section I explicate the significance of my research.

**Significance of the research**

The significance of my research is fundamentally linked to the declaration of the Decade of Education for Sustainable Development (2005-2014) by the United Nations (Tilbury & Goldstein, 2003). The pathway leading to this declaration can be traced back to the 1960s (A. Gough, 2006). In Australia, the National Conservation Strategy for Australia (NCSA) was designed to educate the Australian community about sustainable development and conservation (Department of Home Affairs and Environment, 1984). Today, education for sustainability has a higher profile in both the national and state educational landscapes than in the past and it is timely to investigate how sustainability is being addressed in Western Australian secondary schools.

My research is significant firstly, because the Australian Government recognises the importance of environmental education and then education for sustainability in its policy documents. For example, the ‘National Action Plan Environmental Education for a Sustainable Future’ was released in 2000 (Department of the Environment and Heritage (DEH), 2000) and ‘Educating for a Sustainable Future’ was released in 2005 (DEH, 2005a). Practical initiatives introduced include the National Environmental Education Network (NEEN) established in 2001 and the pilot National Sustainable Schools Initiative (AuSSI) introduced into schools in January, 2003.
My research is significant, secondly, because the importance of education for sustainability is reflected in the ‘Western Australian Curriculum Framework’ (Curriculum Council, 1998). This is the framework which addresses the learning outcomes for compulsory schooling in Western Australian schools. In also aiming to reshape post-compulsory education in Western Australia, the Curriculum Council is introducing new courses of study. One of these is Earth and Environmental Science, which has a strong emphasis on sustainability issues. Several other courses of study, for example, Geography and Biology, also incorporate the concept of sustainability as a learning issue. Similarly, the Department of Education and Training recognises the importance of education for sustainability and in 2005 piloted the National Sustainable Schools Program (Flinders, 2005).

This study is also significant because there is no documented material available to explicate the teaching of education for sustainability in secondary schools with a paucity of relevant research in Western Australia. My study is a small step towards filling that gap. It also highlights the tension or mismatch between the desired (policy) and actual situation in secondary schools. In my own experience new initiatives are often encouraged in secondary schools but seldom is timetabling or financial input provided to support them. Indeed, I learnt early in my own teaching career that much of the education for sustainability occurring in secondary schools happens out of class time rather than during class.

Finally, my research provides a richly descriptive analysis of how education for sustainability is conceptualised and may be embedded across the secondary curriculum and culture. In this way my study is significant because it helps add to the existing knowledge base of education for sustainability and hopefully inspires and provides a model for others.
Research questions

Numerous questions sprang to mind when embarking on this research. I wondered, for example, What does education for sustainability look like in Western Australian schools? What do teachers understand education for sustainability to mean? What do teachers do to teach education for sustainability? Why do many programs collapse when the teachers responsible for education for sustainability leave? Why do teachers teach education for sustainability? Who leads education for sustainability in schools? How is education for sustainability led in schools? While pondering these and other questions I realised my questions were not in any form to conduct research. Western Australian schools are complex and designed to cater for specific ages, locations and ability groups. As expressed, my questions required refining.

I began by identifying the government secondary school sector and metropolitan location as foci of interest. This was territory I was familiar with from earlier in my career. Initially I merged and reshaped my questions to ask, for example: What does effective education for sustainability look like in Western Australian secondary schools? What does effective leadership of education for sustainability look like in Western Australian secondary schools? Again, I reconsidered these questions as the word effective raised many issues. For example, I understood that something I consider effective might not be viewed in a similar light by someone else. I also understood that because research questions do not necessarily require a reply but instead an answer, it is important that they are answerable (Andrews, 2003). As stated my research questions were too broad and still not easily answered. I broke them down into more manageable and specific questions so my research was shaped around the following questions:
1. How is education for sustainability conceptualised in Western Australian secondary schools?

2. How is education for sustainability incorporated across the curriculum in Western Australian secondary schools?

3. How is education for sustainability led in Western Australian secondary schools?

4. What are the processes which facilitate education for sustainability to become embedded and sustained into Western Australian secondary schools?

My research was designed to study the perspectives of those who might be leaders in education for sustainability. Furthermore, it sought the perceptions of those (would-be) leaders about their own experiences, rather than the implication or impacts of those experiences on others. I make no attempt to address the perspective, for example, of students, parents, executives of the Department of Education and Training or curriculum writers. Notwithstanding this, throughout my research additional questions surfaced and answers to them were sought. However, the four questions stated above formed the drivers to conduct my research to capture the understanding of teachers engaged in leading education for sustainability.

**Overview of the research**

There are two faces to my research. In 2004 I began by investigating policy documents dealing with the first, education for sustainability (and environmental education) at international, national, and local levels. During that year and the next, I also completed comprehensive background reading for the second face, leadership theory, educational leadership and leading for change in education. Mid way through 2005 I began my data
collection and developed my narratives. Early in 2006 I analysed my data then began the task of writing my thesis. Fortunately, there was international and national interest in my research. I was encouraged to attend three international conferences where I presented aspects of my research. The first conference was in Shenyang at the First International Conference in School Effectiveness and School Improvement in China, during September, 2005. The second was in Auckland at the New Zealand Association for Environmental Educators Conference during January, 2006. During September 2006 I presented my preliminary findings at the European Conference in Educational Research in Geneva. I also presented elements of my research to Western Australian audiences.

During October 2005, I delivered a brief presentation at the First National Landcare Conference in Denmark (WA) and during September, 2006 I presented my early findings to the Australian Association for Environmental Educators in Bunbury (WA). In presenting my developing ideas and data analysis to this range of audiences I received invaluable feedback from engaged and supportive peers which helped me reshape and refocus my research. For example, I revisited the themes I identified in my cases which then impacted on my re-conceptualisation of Education for Sustainability.

Four subsections are included in this overview. In the first I provide an introduction from the literature about perspectives on education for sustainability, followed in the second by an introduction from the literature about perspectives on leadership. Brief details about my methodology and data analysis complete the overview.
Perspectives on Education for Sustainability

I believe there are important differences between the concepts of ‘education for sustainability’ and ‘environmental education’ although the terms have been used interchangeably in curriculum documents, policy documents and within community groups. Environmental education in the 1970s aimed to inform the world population about the environment and to resolve current problems. Although the concept of sustainability emerged during the 1980s the term was not commonly used until the 1990s. Major differences between the concepts are due to the nature study focus of environmental education and the contemporary three-pronged approach of sustainability (Fien & Tilbury, 2002). The three-prongs of this approach are the long term future of the environment; the economy; and the social justice of communities (Fien, 2001).

While the concept of sustainability is still evolving the three key areas described are foundational. The social element requires an understanding of social institutions and their role in change and development. In addition an understanding of participatory systems with opportunities to express different opinions and to resolve differences is essential. Sensitivity to the boundaries of economic growth and its impact on society and the environment form the economic element. The environmental element requires an awareness of the impact of human decisions and activity upon resources. An awareness of the sensitivity of the physical surroundings is also necessary (Tilbury & Wortman, 2004).

While efforts to define education about the environment as a specific endeavour began during the 1960s and continued for the next two decades, it was the 1992 Earth Summit in Rio de Janeiro (United Nations Conference on Environment and Development, (UNCED))
1992a) which accelerated the awakening of millions of individuals around the world to the urgency of sustainable development. ‘Agenda 21’ (UNCED, 1992b) was one of several significant documents signed at the Earth Summit as many countries, including Australia, committed themselves to promoting sustainability in a variety of ways, including education (Fien & Tilbury, 2002; Huckle, 1991). Despite this widespread recognition that education has a critical role in achieving sustainable development only a small number of countries developed and implemented an Education for Sustainable Development strategy. In the hope of pressing this agenda forward again the United Nations declared the years 2005-2014 the United Nations Decade of Education for Sustainable Development (Tilbury & Goldstein, 2003).

In Australia, research indicates that the ‘first wave’ focus remained on education in and about the environment rather than for the environment (Spork, 1992). A ‘second wave’ occurred after the Earth Summit, and Heck (2003) describes this as the point heralding the shift from environmental education towards education for sustainability. In 1997 the Australian national discussion paper ‘Today shapes tomorrow: Environmental education for a sustainable future’ was released (DEH, 1999). It was followed in 2000 by a National Action Plan, entitled ‘Environmental education for a sustainable future’ (DEH, 2000). These papers were intended to provide assistance towards summarising, better coordinating and enhancing the national effort in support of Australia’s ecologically sustainable development.

In Western Australia, international and national expectations were acknowledged and an innovative government established the Sustainability Policy Unit with the intention of
focusing on sustainability as an integrated, whole-of-government approach (Government of WA, 2003). As a consequence an Environmental Education Strategy and Action Plan was released through the Department of Environment which views the context of environmental education more broadly than before, with a more holistic sustainability focus than previously and where environmental issues must be considered along with social and economic contexts (Government of WA, 2004). The Curriculum Framework in Western Australia which determines the expected learning outcomes of all WA children through primary and secondary schooling is oriented towards sustainability. For example, two of the core values contributing to the principles which underpin the overarching statement of the Framework state a commitment to sustainability. The two core values include “a commitment to regenerative and sustainable resource use” and “social and civic responsibility, resulting in a commitment to exploring and promoting the common good and meeting individual needs in ways which do not infringe the rights of others” (Curriculum Council, 1998, p. 16).

Currently, Western Australia has an extensive range of locally initiated, school based environmental programs with numerous educational kits available to teachers. These include Landcare: In Your Hands (Department of Agriculture, 1991), Salinity in the Classroom (Department of Agriculture, 2001) and the Swan River Action Kit (Swan River Trust, 2000). How extensively such materials are used by classroom teachers is dependent on school policy in addition to teacher and student interest.
Perspectives on Leadership

Leadership as a matter of influence and leadership as a skill are two common perspectives which occur in definitions of leadership. For example, a mid 20th century definition is “Leadership is a process of influencing the activities of members of an organisational group in its efforts towards goal setting and goal achievement” (Stogdill, 1950, p. 3). By the 21st century different definitions of leadership abound, but a central point agreed upon is that leadership involves the exercise of influence over others to achieve goals, and can take place outside as well as inside formal organisations (Lingard, Hayes, Mills & Christie, 2003). Although the basic concept of leadership as influence and skill has not changed, theories of leadership have varied markedly over the past decades. Contemporary theories focus on values (Day, Harris, Hadfield, Tolley & Beresford, 2000) moral authority (Sergiovanni, 1992) and capacity for change (Leithwood, 1994) rather than the central bureaucratic and managerial focus of the past.

While educational leadership is a term with many meanings, for example, leadership in schools, instructional leadership and head or principalship, my focus is on educational leadership in schools. Theories of transformational leadership have had considerable impact on studies of educational leadership (Leithwood, Jantzi & Steinbeck, 1999), possibly because moral principles and a commitment to vision are intrinsic to these theories. While the concept of transformational leadership involves a concentration on building relationships and actively influencing the culture of a school (Huber, 2004), distributed leadership is promoted as a separate concept (Bennett, Wise & Woods, 2003). According to Spillane, Halverson and Diamond (2001), distributed leadership is a sophisticated web of interrelationships and connections where leaders are inspirational and able to support others
to believe in what they can achieve themselves. Distributed leadership also forms one of the three components of sustainable leadership, a new focus emerging from North American educational researchers (Hargreaves, 2005a; Hargreaves & Fink, 2005).

In educational terms sustainability “involves a way of thinking that is integrative, holistic and ecological” and is further described as “an intellectual paradigm about the complex nature of human and natural systems crucial to addressing the complexities of a knowledge society” (Hargreaves & Fink, 2003, p. 697). This understanding of sustainability in education views the concept as more than a temporal matter and is in keeping with the Brundtland Report perspective (World Commission on Environment and Development (WCED), 1987) which views sustainability as a moral and spatial issue as well as a temporal issue (Hargreaves, 2004).

Much of the current research surrounding sustainability issues in leading education arise from North America where sustaining change has presented serious challenges for educational reformers (Hargreaves & Fink, 2003). There is a shift in the literature to describe the problem of institutionalisation (Huberman & Miles, 1984) as the complex problem of sustainability (Hargreaves & Fink, 2003). Institutionalisation is the third phase of a model for educational change proposed by Huberman and Miles (1984). This phase involves the ongoing process of embedding an innovation into the routines of the organisation. New practices are therefore integrated into school policies and budgets so that progress is not lost when new priorities arise. What Huberman and Miles have written about for more than 20 years, and called institutionalisation, is now more fashionably referred to as sustainability (Fullan, 2005).
As indicated previously, sustainable leadership is a relatively new term which also surfaced early in the 2000s among North American educational researchers (Fullan, 2005; Hargreaves & Fink, 2004). The term represents a shift to capture and merge contemporary leadership with the international pressure for sustainable development through education. Unlike earlier descriptions of leadership with their emphasis on personal characteristics and capacities, sustainable leadership is represented as a concept and a strategy with foundational principles (Hargreaves, 2004; Hargreaves & Fink, 2004). The next section describes the methodology adopted to conduct my research.

Methodology

During 2005 I gathered my research data. In doing so I recognised the appropriateness of, and was enthusiastic about, adopting a qualitative approach. I understood that I brought my values and attitudes to the study so acknowledged this from the outset. Taking ownership of ones’ own perspective and acknowledging the importance of self questioning is defined by Patton (2002) as reflexivity. I welcomed the qualitative research approach as it reminded me to give a voice to my participants and present their view through their own lenses rather than my own. Thus my research methodology took a phenomemological approach to guide my research (Patton, 2002). This interpretive framework permits the exploration of how humans make sense of their experiences and transforms those experiences into consciousness, both individually and as shared meaning (Denzin & Lincoln, 2000).

I visited three Western Australian government secondary schools to interview individual teachers of education for sustainability and obtain an understanding of what they understood to be happening in each setting. In my university research position, I became
skilful conducting individual interviews, so used these skills to gather data from participants for my research. During semi-structured interviews I explored experiences, including the successes achieved and trials faced, by recognised teachers of education for sustainability. Collecting data in this form ensured I obtained information describing ‘the lived experience’ from participants and enabled me to develop case studies. Case studies are frequently used in qualitative research for both environmental and educational studies (Conle, 2003). I allocated pseudonyms to each school and each participant to ensure anonymity. In my position as research associate I also developed skills in creating narrative accounts from interview data and the expertise to present then analyse my data.

Narratives permit participants’ stories and descriptions of experience to be honoured and given status. In addition, narrative accounts are recommended for studies in several fields of education including art, moral and environmental education (Conle, 2003). With the idea of *bricolage* (Denzin & Lincoln, 2000) in mind I also interviewed several colleagues of my initial participants. Narratives were returned to each participant for feedback and approval of their use in my thesis. In taking this step I ensured no misrepresentation of information occurred and demonstrated my research integrity. I was also offering participants the opportunity of self reflection. In the next sub section I outline the process of my data analysis.

Analysis

After constructing the narrative accounts obtained from each participant and preparing a brief summary of each I began my analysis. To do this I identified the themes evident in each of the cases. Initially, themes were identified after open coding (Glaser & Strauss,
then followed by a second analysis, termed axial coding (Strauss & Corbin, 1990). Sorting the data in this fashion ensured I identified a number of themes and documented an audit trail. Through this form of inductive analysis, issues, patterns and themes were identified for discussion. I undertook further analysis across the cases to identify overarching or meta-themes. I called the four meta-themes I identified key concepts. For the next stage of my research I sought links between the elements of my key concepts with the education for sustainability and leadership literature. I retain my optimism that the new understanding gained from my research is transferable beyond my participants and will resonate with others while also contributing to the growing body of knowledge about leading for sustainability. I now outline the content of the thesis chapters which follow this introductory chapter.

Overview of chapters

Chapter 2 contains my review of the literature for the two faces of my research – education for sustainability and educational leadership. The chapter is separated into two sections. Education for sustainability is reviewed in Part 1 which I call the Allemande and educational leadership is reviewed in Part 2, which I call the Sarabande. Current use of the term sustainability reflects a shift in focus from the environmental education of old to a three-pronged concept that considers the long term environmental, economic and social future of communities. Similarly, there are many ways to describe leadership and numerous theories of leadership exist. In my research I trace the genealogy of sustainable leadership and seek to position the concept in the context of contemporary leadership.
In Chapter 3, the Gavotte, I provide an outline of the theoretical framework underpinning my research. Included is an overview of the epistemology, interpretive framework and methodology driving and influencing my research. This chapter also includes background information and theory about representing data in narrative form. Chapter 4, the Fugue, contains my representation of data. Three cases are presented and each data set within each case is presented as a narrative account. Each case begins with a description of the context and background information about the participants involved. The narratives follow. Following each narrative is a summary of the main points. At the conclusion of each case I provide an analysis which includes the themes I identified. This chapter concludes with an analysis across the three cases and I identify four overarching themes. I call these key concepts.

In Chapter 5, Pastiche, I discuss the elements of my key concepts and link these with the education for sustainability and leadership literature. I present my findings and the implications of my research in this chapter. My discussion chapter also includes comments about the limitations of my research and the possibilities of future research in this area. This chapter contains my conclusion to the thesis. Three Appendices (Coda) and my Reference list (Concerto grosso) complete my thesis.

**Summary**

In this introductory chapter I have outlined the background to my decision to undertake the research and its relevance to this, the Decade of Education for Sustainable Development (2005-2014). I positioned my research in the context of education for sustainability and educational leadership as a consequence of an extensive literature review. In addition I
provide an outline of the interpretive framework driving my research and the presentation mode of my data. This chapter also outlines the content of each chapter of the thesis. In the next chapter, presented in two parts, I provide a comprehensive review of the literature related to education for sustainability, in the Allemande, and to educational leadership in the Sarabande.
Chapter 2 (Part 1)

Allemande

A graceful, flowing dance [with the literature]

(Sadie and Tyrrell, 2001)

Introduction

A comprehensive and broad review of the literature is considered foundational to useful research (Boote & Beile, 2005). To achieve this goal my review is presented in two parts. Part one, the Allemande, reviews the literature that relates to education for sustainability and Part two, the Sarabande, reviews the literature that relates to educational leadership. I began Part one of the review during the planning stages of my research to support my choice of research topic and help locate the focus to inform my research design and questions. After completing a draft version of Part one I began working on a draft version of Part two so that both drafts were complete before I moved onto my data collection. From the outset I expected to locate further relevant literature to insert into my review during the research process. This sense of moving backwards and forwards between the literature, while simultaneously developing other sections of the research process, is described delightfully as “a dance with the literature” by Glesne and Peshkin (1992, p. 17). For this reason I named the chapter parts Baroque dances to strengthen the links between the improvised music of Bach \textit{inter alia} and my dance with the literature.

In Part 1, I pose three overarching questions. The first question- What is education for sustainability? is answered with a brief explanation of the concept of environmental education followed by an explanation of the concept of education for sustainability. The second question- How is education for sustainability evolving? is answered with a
background to the global, national and local perspectives of education for sustainability. The third question- How is education for sustainability conceptualised in Australian and Western Australian secondary schools?- is the first of my research questions and is answered by describing the links between policy and curricula in the national and local contexts.

In Part 2, I trace the genealogy of the concept of sustainable leadership. I begin the section with an outline of the shifts in thinking about leadership over the past century. Next I briefly describe the process of leading educational change before moving to consider the relatively new concept of sustainable leadership.

**What is education for sustainability?**

There are differences between the concepts of ‘education for sustainability’ and ‘environmental education’ although the terms are often used interchangeably in state and national policy documents. Similarly, the terms are often interchanged in curriculum documents and among the community. During the 1970s environmental education was aimed at developing a world population aware of, and concerned about, the environment and its associated problems, and working collectively towards solving current problems and preventing new ones (Fien, 1997a). Environmental education was defined later in the 1990s “in its broadest sense to encompass raising awareness, acquiring new perspectives, values knowledge, and skills, and formal and informal processes leading to changed behaviour in support of an ecological sustainable environment” (Heck, 2003, p. 118). While the concept of sustainable development, sometimes simplified to sustainability, first emerged during the 1980s the terms did not form a large part of the vocabulary of education until the early
1990s. The terms implicitly refer to intergenerational equity, ecological sustainability and a fair distribution of wealth and resources (Tilbury & Wortman, 2004). During the 1980s education for sustainability was referred to as a “lifelong process, that needs to be understood as part of a broad new vision of education” (Fien & Tilbury, 2002, p. 8).

Both Fien (1997b) and Fien and Tilbury (2002) argue that education for sustainability differs significantly from the nature study work carried out previously under the environmental education banner. Education for sustainability is described as “ultimately about education and capacity building and only secondly about environmental problem-solving” (Fien, 2001). I feel a strong resonance with this perspective and support the view that education for sustainability differs from the older environmental education approach because it focuses on developing closer links among environmental quality, human equality, human rights and their underlying political threads, as articulated by Fien and Tilbury (2002) and Henderson and Tilbury (2004). This approach is also in keeping with the view of Agyeman (1999, 2000) who claims that we cannot have environmental quality without human equality. Throughout the literature and over time, the focus shifts from the language of environmental education to education for sustainability (or education for sustainable development). Due to the complexity and evolving nature of sustainability, Fien and Tilbury (2002) suggest that education for sustainability needs to be re-conceptualised continually, and reflected upon as global, national and local changes occur.

A contemporary description of education for sustainability is that it “seeks a transformative role for education, in which people are engaged in a new way of seeing, thinking, learning and working. People are not only able to explore the relationships between their lives, the
environment, social systems and institutions, but also to become active participants and
decision-makers in the change process” (Tilbury & Wortman, 2004, p. 9). In the next
section I pose the question; How is education for sustainability evolving? The question is
answered from global, national and state perspectives.

**How is education for sustainability evolving?**

A global perspective

Efforts to define environmental education as a specific endeavour first began during the
1960s with further support for the concept provided at the United Nations (UN) Conference
on the Human Environment in Stockholm in 1972 (DEH, 1999). As a result it was
recommended that environmental education should be recognised and promoted on an
international scale through the UN (A. Gough, 2006; Knight, 2005). Later during the
1970s, UN- hosted conferences resulted in draft concepts, visionary statements and action
plans being developed. However, it was the release of the report ‘Our Common Future’ in
1987, commonly referred to as the Brundtland Report (Fien, 1998) which highlighted how
social and economic factors are a contributory and sometimes major cause of
environmental problems (Fien & Tilbury, 2002; WCED, 1987). Use of the term
‘sustainable development’ was reinforced in the Brundtland Report which described the
term as development which “meets the needs of the present without compromising the
ability of future generations to meet their own needs” (Fien, 1997b; Freeman, 1991; Huckle
& Sterling, 1996; Tilbury, Stevenson, Fien & Schreuder, 2002) and flagged an important
shift in thinking on environmental issues (Freeman, 1991).
While this definition was an attempt to move towards integrating environmental and economic planning and action, it was open to many different interpretations (Freeman, 1991). Others, for example Fien and Tilbury (2002), describe the definition as ambiguous, even fuzzy and Huckle (1991) describes the report as embodying contradictions and political tensions. Both Wooltorton (2002) and Huckle (1991) describe the report as seeking solutions through reform or modified versions of ‘business as usual’ so they are critical that the existing structures of power seem to be expected to remain intact.

The 1992 Earth Summit held in Rio de Janeiro accelerated the awakening of millions of individuals around the world to the urgency of sustainable development and resulted in the release of Agenda 21 (Fien & Tilbury, 2002; UNCED, 1992a; UNCED, 1992b). Agenda 21 was one of several significant documents signed at the Earth Summit as many countries, including Australia, committed themselves to promoting sustainability, using a variety of strategies, such as education (Fien & Tilbury, 2002; Huckle, 1991). The document outlined a comprehensive plan of action to be taken globally, nationally and locally by signatories for sustainable development at all levels at which humans impact on the environment (DEH, 1999; United Nations Educational Scientific and Cultural Organisation (UNESCO), 1992a). Together the Brundtland Report and Agenda 21 resulted in many local, national and international policies, programs and strategies related to environmental and developmental concerns becoming informed by the concept of sustainable development (A. Gough, 2006).

While there are some concerns that the concept of sustainable development is seen as a product (Jinkling, 1992), other researchers such as Fien and Tilbury (2002) view the holist
or systemic approach as a “process of change guided by a number of values or principles” (p. 4). This process view is described as embedded in a strategic plan called ‘Caring for the Earth’ prepared by a consortium of environmental organisations including the International Union for the Conservation of Nature and Natural Resources (IUCN), the United Nations Environment Program (UNEP) and the World Wide Fund for Nature (WWF), 1991; (Fien & Tilbury, 2002). While I appreciate there is little room in the everyday lives of most individuals for global or national ideals, I support the view that sustainability can be developed from the bottom up. Fien and Tilbury (2002, p. 6), sum this up in the phrase “think globally; act locally” and I believe this approach provides a natural link for sustainability within the community, including schools.

The Brundtland Report described teachers as having a “crucial role to play in helping to bring about the extensive social changes necessary for sustainable development” (Fien & Tilbury, 1999; WCED, 1987) and the vital role of education in ensuring that people learn, accept and live by the principle of living sustainably was repeated in the Caring for the Earth documents (IUCN, UNEP, WWF, 1991). Similarly, the Agenda 21 documents committed countries to promoting sustainability through education and described the importance of education as “critical for promoting sustainable development and improving the capacity of people to address environment and development issues…It is also critical for achieving environmental and ethical awareness, values and attitudes, skills and behaviour consistent with sustainable development and for effective public participation in decision making” (DEH, 1999).
Despite widespread recognition that education has a critical role in achieving sustainable development only a small number of countries developed and implemented an Education for Sustainable Development Strategy, as agreed, on signing Agenda 21 documents. In the hope of pressing this agenda forward again the UN declared the years 2005-2014 the United Nations Decade of Education for Sustainable Development (Tilbury & Goldstein, 2003). The purpose of establishing the decade as such is to help build commitment and skills across education systems to enhance individual understanding of working for a sustainable future, a sense of responsibility for future generations and optimism for a sustainable future (Fien, 2006). While the concept of sustainability continues to evolve, a ‘three-pronged’ approach remains constant. The long term future of the environment, the economy and the social justice of communities form the three prongs of the approach (Fien, 2001). The social prong relates to social institutions and their role in change and development. An understanding of participatory systems with the opportunity to voice different opinions and resolve those differences is essential. Understanding and sensitivity to the potential and limits of economic growth form the second prong. In addition an awareness of their impact on social and environmental issues is necessary. The third aspect is the environmental prong and requires an awareness of the resources and fragility of our physical environment. This requires a commitment to acknowledging environmental concerns in social and economic decisions (Tilbury & Wortman, 2004).

I now consider the national perspective to how education for sustainability is evolving.

A national (Australian) perspective

In Australia, the first environmental education syllabus, the ‘Man (later People) and the Environment’ was issued in Queensland during 1972 (Fien, 2001), the same year of the
United Nations Conference on the Human Environment in Stockholm. The set of goals and guiding principles agreed at the UN Conferences during the 1970s also resulted in shaping the national environmental education project of the Curriculum Development Centre so that they were incorporated into environmental education policies and guidelines in all states and territories (Fien, 2001). During this period environmental education was based on the view that it was education about the importance of environmental management and conservation (Heck, 2003; Linke, 1980). Environmental education is described as emerging throughout the 1970s and related to education about and in the environment with little emphasis for the environment (Heck, 2003; Ross & Dingle, 1996). This period is described as the first wave of environmental education and supports the view of the Curriculum Development Centre that despite the objectives of encouraging critical thinking, values analysis and active citizenship enshrined in these early documents, most were “diluted”, and sometimes even “deleted” from the curriculum (Fien, 2001, p. 7).

As a consequence of the Australian Government planning to achieve consistency of education outcomes across Australia, National Statements and Profiles were developed for eight key learning areas. Within these, environmental education was identified as predominately taught in the Science and Studies of Society/Environment learning areas with some scope in several others (Heck, 2003). In 1989, the Australian Education Council included the need to develop students’ “understanding of and concern for balanced development and global environment” within 10 common and agreed national goals for Australian schooling (Fien, 2001, p. 7). Research undertaken during the 1990s indicates the focus was still on education in and about the environment rather than for the environment (Spork, 1992). These three ‘cornerstones’ of environmental education are described by
Lang (2003) as: firstly, knowledge generation (education about the environment); secondly, learning from or through the experience of the environment (education in the environment); and thirdly, associated with action taken for conservation of the environment (education for the environment). As a result of collaboration on a national curriculum between Australian and State representatives the traditional approach to science was revamped and a new, compulsory, interdisciplinary learning area called Studies of Society and Environment for lower secondary students was established (Fien, 2001). This innovation is considered a significant reform as it provided the potential to embed principles of sustainability into the curriculum of all students through three core values: sustainable development; justice; and democracy (Fien, 2001).

The 1992 Earth Summit is described as heralding the shift from environmental education towards education for sustainability in Australia (Heck, 2003) and Fien (2001) describes this focus on the relationship between education and sustainability as a second wave in environmental education. It was also at this time that environmental education became an Australian Government issue for the Department of Environment and Heritage (Heck, 2003). In 1997 a report was commissioned from the Australian Association for Environmental Education (AAEE) by the Minister for the Environment and Heritage on the environmental education needs in Australia with some proposals for national action (DEH, 1999). The discussion paper, Today shapes tomorrow: Environmental education for a sustainable future, provided a summary of the importance, nature and providers of environmental education in Australia in addition to future priorities (DEH, 1999).
In response to the previous discussion paper, a National Action Plan entitled Environmental Education for a sustainable future was released in 2000 by the Department of Environment and Heritage. The plan was intended to provide leadership and better coordination to the many sectors delivering environmental education. In addition it was intended as a starting point for an enhanced national effort in support of Australia’s ecologically sustainable development (ESD) (DEH, 2000). The principles of environmental education are articulated along with strategies to develop and implement a national framework for environmental activities, raise the profile of environmental education in Australia, provide more professional development opportunities for teachers, along with producing better resources for community organisations involved in environmental education. In addition, the plan recognises “a clear mandate for environmental education within Australian schools” and on leaving school, all students should “have an understanding of, and concern for, stewardship of the natural environment, and the knowledge and skills to contribute to ecologically sustainable development” (DEH, 2000, p. 8).

In 2000, on the same day the National Action Plan (NAP) was released, the National Environmental Education Council (NEEC) met for the first time. This Council was established to advise the Australian Government Minister for Environment and Heritage on environmental issues and raise the profile of environmental education in Australia (Woods, 2002). Sub-committees established to reflect priority areas include school education, tertiary education, industry and community. In addition to establishing the National Environmental Education Council the National Action Plan led to establishment of the National Environmental Education Network (NEEN) in 2001 and the Australian Research Institute in Education for Sustainability (ARIES) in 2003. A further development in
refining the language of sustainability was the release of the document Educating for a Sustainable Future (DEH, 2005a) which introduces a nationally agreed description of the nature and purpose of environmental education for sustainability across all years of schooling.

Recent publications released by ARIES focus on whole-school approaches to sustainability and report on an international review of sustainable schools programs (Henderson & Tilbury, 2004) and professional development in pre-service teacher education (Ferreira, Ryan & Tilbury, 2006). During February 2007, the Australian Government began the process of developing a National Action Plan for Education for Sustainable Development (NAP ESD). This plan will supersede the previous National Action Plan for Environmental Education and reflects a shift “to broaden the focus to explicitly acknowledge the interconnected nature of the social, economic and environmental dimensions of sustainable development” (ozEEnews, 2007, p. 1). According to Tilbury (2006), however, if stakeholders continue their ‘business as usual’ approach then opportunities to be more strategic and more effective in bringing about change for sustainability will be missed. I now consider the Western Australian perspective to how education for sustainability is evolving.

A local (Western Australian) perspective

In keeping with international and national expectations the Government of Western Australia (WA) produced an environmental education discussion paper in December, 2000 which was followed by a revision in June 2001. These were developed to encourage widespread comment and advice from community, industry, education and government
representatives on how environmental education could be enhanced in Western Australia (Government of WA, 2001b). In the policy statement published, the Government of WA recognised that, “its environmental protection goals and better effective environmental management can be achieved by the combined effort of all members of the community” and it placed “a high priority on education and promotion of responsible environmental behaviour across all sectors of the community” (Government of WA, 2001b, p. 3).

The revised discussion paper outlined seven objectives, the first of which addressed formal education. Objective one states “To ensure that all students, in all forms of education, are provided with environmental education that develops, within the context of an environmental ethic and ecologically sustainable development, the knowledge, concepts, skills and values necessary to enable them to recognise the environmental impact of their personal and work choices, and to act to minimise those impacts” (Government of WA, 2001b, p. 4).

Simultaneously, the Department of the Premier and Cabinet established the Sustainability Policy Unit with the intention of focusing on sustainability as an integrated, whole-of-government approach (Government of WA, 2001a, 2003). The ‘State Sustainability Strategy’ recognises that “education is vitally important as it plays a key role in raising awareness and changing individual attitudes and behaviour towards achieving sustainability” (Government of WA, 2003, p. 244). In this strategy, education for sustainability is described as “seeking to develop civic virtues, and to engage, motivate and empower individuals through formal and informal educational experiences to change lifestyle choices, undertake personal and social change and work towards achieving a sustainable future” (Government of WA, 2003, p. 245). This perspective contrasts with that
of Wooltorton (2003) who describes the strategy as affording low significance to education as an integral part of a sustainable future.

The WA government released its Environmental Education Strategy and Action Plan through the Department of Environment in December, 2004. The strategy was specifically structured to ensure environmental education initiatives are directly linked to the WA State Sustainability Strategy. The strategy “establishes a framework of objectives and actions to: better coordinate and prioritise existing environmental education resources and programs; assist in obtaining additional resources and to provide a strategic approach to developing future initiatives” (Government of WA, 2004, p. 4). While the document reiterates the definition of environmental education in its broadest sense to be the same as that articulated in the National Action Plan, it states the WA Government’s commitment to sustainability “has meant that is now views the context of environmental education more broadly, with a more holistic sustainability focus and where environmental issues must be considered along with social and economic contexts” (Government of WA, 2004, p. 7).

In Western Australia, the Curriculum Framework (Curriculum Council, 1998) which determines the expected learning outcomes of all WA school children from Kindergarten to Year 12 (K-12), is viewed as “a significant document in the task of orienting the system towards sustainability” (Wooltorton, 2002, p. 20). Similarly, the State Sustainability Strategy (Government of WA, 2003, p. 245) describes the education system as “moving forwards towards embracing the need to educate about and for sustainability”. It also acknowledges the development of new Courses of Study for Year 11 and Year 12 and which, where appropriate, are to include a focus on sustainability. In the next section I
consider the third question; How is education for sustainability conceptualised in Australian and Western Australian secondary schools?

**How is education for sustainability conceptualised in Australian and Western Australian secondary schools?**

The Australian context

As a consequence of the need to address identified priorities in the formal education sector (schools) within the National Action Plan the National Environmental Education Council commissioned the Curriculum Corporation to undertake a nationwide review of curriculum materials related to environmental education in 2001. The only previous national review occurred in 1973/74 (Heck, 2003; Linke, 1980). An important consideration factored into the review was the view of ‘education for sustainability’ within environmental education and reflected a shift in focus in environmental education (DEH, 2003).

All States and Territories of Australia have a curriculum framework or syllabus outline that directs curriculum delivery and guides assessment in schools for the compulsory years (K-Year 10 at that time). Each State and Territory is also responsible for developing curriculum documents which prescribe studies to be undertaken in subjects offered to students in Year 11 and Year 12 (DEH, 2003). The national review of the curriculum outlined the nature and extent of all references to environmental education and reported that in the compulsory years environmental education learning outcomes appear predominantly in the Science and Studies of Society and Environment learning areas (DEH, 2003; Heck, 2003).
Science documents contained learning outcomes based on learning *about* the environment rather than *for* the environment, while in Society and Environment Studies, all documents provided an environmental education emphasis with sustainability as a common theme (DEH, 2003). Learning outcomes linked to ethics, values and viewpoints were found in all documents, with the WA Society and Environment documents showing a strong environmental education focus. All states and territories featured learning outcomes linked with personal actions, except in Victoria (DEH, 2003).

The national review of the curriculum recognised environmental education as a major feature in Environmental Science/Studies and most Geography units in the non compulsory years (Year 11 and Year 12) with little representation in other subject areas. Thus while environmental education may have a focus, aspects of education for sustainability are under-represented or overlooked in most of the documents. The term ‘sustainability’ is used in different ways throughout the documents; sometimes referring to resources, human settlements, consumption and the environment, along with very few outcomes which directly consider inter-generational responsibilities (DEH, 2003).

Numerous national environmental programs exist across Australia and include Waterwatch, Wastewise, Landcare and Energy Smart Schools. The programs are generally supported by government departments but rely on individual and committed teachers to conduct them in schools. While Smith (1999) comments that it is rare to open a curriculum document without finding some reference to education for sustainability these days, he proposes that “a closer examination of actual practice suggests that the words represent hope and good intentions more that they represent the reality of curriculum practice” (p. 170). Little has
changed in recent years as it is increasingly clear that there are few environmental education programs with a sustainability focus and fewer that promote learning for sustainability (Tilbury, Coleman & Garlick, 2005).

The establishment of the National Environmental Education Network (NEEN) in 2001 is a recent initiative of the Department of Environment and Heritage and aims to help state governments coordinate the delivery of environmental education, promote a more efficient use of scarce resources and achieve better environmental outcomes (DEH, 2005b). As a result of collaboration within the network, a National Sustainable Schools program (Australian Sustainable Schools Initiative-AuSSI) was introduced into several eastern Australian states in recent years. This program is described as the “integration of existing and fragmented approaches to sustainability education into a holistic program with measurable environmental, financial and curriculum outcomes” (DEH, 2005b).

The Western Australian (WA) context

The Curriculum Council’s Curriculum Framework is the mandated reference for the development of learning programs for all phases of schooling in Western Australia (Curriculum Council, 1998). The Curriculum Framework’s Core Shared Values which include ‘Environmental Responsibility’ and ‘Social and Civic Responsibility’ are key underpinning principles in the document and provide teachers with the flexibility to offer environmental and/or sustainability education in any phase of schooling. Strong support for environmental and/or sustainability education can also be found in the Science and Society and Environment outcomes. However, there are few direct references elsewhere in the document. While the Curriculum Framework is commended for its innovative, forward
thinking, flexible and community oriented approach, Wooltorton (2002) argues that it should be more strongly oriented towards sustainability in its overarching outcomes, so that sustainability is accorded a higher priority.

Little research is documented on the extent and impact of environmental education and/or education for sustainability in Western Australia (Anderton, 1997; Horne, 1995; Ross, 1996; Ross & Dingle, 1996). However, Horne (1995) argues as a result of her studies that generally teachers perceive environmental education as important, relevant, motivating and interesting, but felt poorly resourced and poorly supported by their schools and the Education Department. Ross (1996) and Ross and Dingle (1996) report unanimous support among secondary school teachers for comprehensive environmental education in their schools but recognise barriers, such as, lack of in-servicing and resource materials for teachers, to its successful implementation. Further barriers reported by teacher groups and student teachers to Wooltorton (2002) includes a systemic orientation towards literacy and numeracy as the most significant outcomes of schooling, timetabling issues, the low status afforded environmental education in some schools, and generally insufficient teacher education. In addition to the barriers outlined above and despite the numerous policy documents and initiatives described previously, Lang (2003) describes a lack of understanding about change management as a further reason for the generally poor implementation of sustainability education in our schools.

Currently, Western Australia has an extensive range of locally initiated, secondary school based sustainability programs. Included in these are: Ribbons of Blue, Grow us a Home, Adopt a Patch, Airwatch, Waste Wise and BushRangers. In addition, numerous educational
kits are available to teachers, for example, the Swan River Action Kit, Salinity in the Classroom and Landcare: In Your Hands. Such materials are made available to schools from a collection of state government departments and semi-government organisations. Support exists for partnerships, such as Land for Wildlife, Bushcare, Coastcare and Landcare between schools and state government departments. In addition, members of the W.A Chapter of the Australian Association for Environmental Education (AAEE) support these programs and encourage use of the phrase ‘environmental education for sustainability’. Many individual teachers also work in isolation to conduct small projects, such as tree planting, worm farming, recycling and permaculture. In the main however, school projects are focused on the nature aspects of environmental education rather than education for sustainability.

Western Australian interests are represented on the NEEN project and a recent initiative was to introduce the Australian Sustainable Schools Initiative (AuSSI) funded jointly by the Federal and State governments into some pilot schools. The initial aim of the project was to rapidly implement the program into twenty primary and secondary schools with a view to assisting the schools become more sustainable while continuing to participate in other established environmental education initiatives. According to Flinders and Williams (2005) this aim has been achieved. Hopes are high currently for the expansion of the initiative in Western Australia (DETWA, 2005; Flinders, 2006).

**Summary**

In preparing this first section of my literature review I sought to answer three overarching questions. The first was, What is education for sustainability? My view of education for
sustainability is that of a broader and more challenging concept than environmental education and incorporates the wise use of our natural resources with equally important concerns of social, economic and environmental sustainability in the context of inter-generational equity. This perspective is endorsed by leading Australian sustainability researchers, such as Fien (1997a; 2001) and Tilbury (1995; 2006) upon whose material I have reflected in my review.

To answer the question, How is education for sustainability evolving? I position the local (Western Australian) situation within that of the global and national (Australian) context of education for sustainability. In doing so, I highlight the degree to which the local situation is informed by national and international policy. The third question was, How is education for sustainability conceptualised in Australian and Western Australian secondary schools? I answer this question in a discussion of the prevalence of both environmental education and education for sustainability across the Australian and Western Australian school curricula. In recent months a shift in language from environmental education to education for sustainability or environmental education for sustainability is evident in curriculum initiatives. Increased depth, detail and explanation to the third question are provided in my data representation and discussion chapters. I now consider the second ‘dance’ of my literature review, which I call the Sarabande, and trace the genealogy of the concept of sustainable leadership.
Chapter 2 (Part 2)

Sarabande

An elegant, expressive dance [with the literature]

(Sadie and Tyrrell, 2001)

Introduction

The Sarabande forms Part 2 of my literature review and follows on from Part 1, the Allemande. In this section I trace the genealogy of the concept of sustainable leadership. Firstly, I provide a brief outline of shifts in thinking about leadership over the past century to show the background against which the currently popular idea of sustainable leadership sits. Secondly, I describe the concepts of leading educational change, sustaining change and sustainable leadership.

Leadership

There are many definitions of leadership. An early observation made by Burns (1978) is that leadership is one of the most observed and least understood phenomena on earth. Two common perspectives which occur in definitions of leadership are leadership as a matter of influence and leadership as a skill. A mid 20th century definition, for example, is “Leadership is a process of influencing the activities of members of an organisational group in its efforts towards goal setting and goal achievement” (Stogdill, 1950, p. 3). Later definitions include “Leadership is the ability to influence a group toward the achievement of goals” (Robbins, 1983, p. 286), and “Leadership is the process of inducing others to take action towards a common goal” (Locke, et al., 1991, p. 2).
By the 21st century definitions of leadership are abundant, but one of the central points agreed upon is that leadership involves the exercise of influence over others, and thus, unlike management, can take place outside as well as inside of formal organisations (Lingard et al., 2003). When writing about the spirit of Australian leadership, Elliot (2002) described leadership as a key influencing skill that is capable of being accessed by all members of organisations (regardless of the positions they hold).

**Shifts in thinking about leadership**

Theories of leadership have changed over the past century. Leadership studies initially focused on leaders’ personal traits (Bernard, 1926; Jennings, 1960). Trait theories were current throughout the first half of the 20th century (Stogdill, 1950). Underpinning this thinking was the notion that leaders were born, not made. Personality traits, for example, intelligence, dominance and self confidence, were found to characterise people in leadership positions and used as the basis for appointment in the selection process. Trait theories were questioned by researchers such as Stogdill (1974) who found that people who were not in leadership positions were equally likely to possess these supposed ‘leadership’ traits. Researchers sought the critical behaviours and styles essential for leadership in the belief that these could be taught.

Two popular behavioural studies involved the Ohio State group and the University of Michigan (Robbins, 1983). The Ohio studies sought to identify the independent dimensions of leaders’ behaviour. From a list of one thousand dimensions they developed two categories which accounted for most leadership behaviour as described by subordinates. They called these *initiating structure* to account for the extent a leader is likely to define
and structure the leader’s role and that of the subordinates in attaining goals, and
*consideration* to account for the extent of job relationships between the leader and
subordinates.

Simultaneously, University of Michigan researchers described two dimensions which they
called employee-dominated and production-oriented leadership behaviours. The first
emphasised interpersonal relations and accepted differences among individuals. The second
emphasised the technical or task completion aspects of leadership. A useful tool to
conceptualise these leadership styles into ‘concern for people’ and ‘concern for production’
was developed by Blake and Mouton (1964). While style theories repositioned leadership
away from the issue of personality traits they provided no clear relationship between style
and performance, nor accounted for the different styles of leadership necessary for group
‘maturity’. By the 1970s researchers were developing situational theories.

Situational theories were developed in recognition that a leader needs to adjust his/her task
and relationship behaviour according to the situation. An often-described model developed
by Hersey and Blanchard (1977) illustrates four styles of leadership, – directing, coaching,
supporting and delegating – to demonstrate the amount of support and guidance required
from leaders by subordinates. Other theories, for example, Fiedler’s contingency and
House’s path-goal theories also link leadership styles to tasks and relationships along a
continuum (Robbins, 1983). While situational models are practical, flexible and remind
leaders to treat subordinates as individuals, a subsequent shift in thinking incorporated the
nature of organisational culture and the ways it influences and is influenced by leadership
(Leithwood et al., 1999).
During the 1980s transactional and transformational leadership models were favoured (Hallinger & Murphy, 1987, 1992). Transactional leadership models saw the leader’s purpose to carry out tasks efficiently with a managerial focus (Burns, 1978) and appropriate to the concept of ‘steady state’ leadership (Huber, 2004). This is demonstrated as an exchange of services for rewards under the control of the leader (Leithwood, 1992). Transactional leadership emphasises extrinsic rewards, such as salary and status, and the satisfaction of basic needs as the main motivation for action (Bass, 1990; Bass & Avolio, 1993).

Transformational leadership is based on the assumption that change is a central feature of any organisation (Leithwood, 1994). Transformational leaders assume people are motivated firstly, by intrinsic factors, for example, shared goals, a sense of belonging and a sense of identity, and secondly, by being part of a vision as described by a leader. Four factors which characterise the model are: idealised influence (as displayed by a charismatic leader), inspirational motivation, intellectual stimulation and individualised consideration (Bass & Avolio, 1993). Although it is highly regarded as the path to organisational change transformational leadership is dependent on the four factors noted, with a heavy responsibility resting on the charismatic leader. Transformational leadership became popular in education during the 1980s. Educators are attracted to transformational leadership because it is inclusive and the needs of others (subordinates) are considered. In education, transformational leadership supports teachers to achieve goals and to develop personal and professional potential (Leithwood, 1992). Transformational leaders concentrate on building relationships while trying actively to influence the culture of the school (Huber, 2004). However, Allix (2000) disputes the empowering nature claimed for
transformational leadership, and argues that it is little more than an emotionally charged transaction process.

Contemporary theories focus on the processes and strategies of leadership (Hargreaves, 2004; Spillane, 2006). Contemporary theorists seek to move away from the central bureaucratic and managerial focus and balance it with a focus on values (Day et al., 2000), moral authority (Sergiovanni, 1992, 2001) and capacity for change or transformational activity (Burns, 1978; Leithwood, 1994). Values-led education is a person centred perspective which recognises the influence of the social, economic, political, professional and personal aspects of leadership (Day et al., 2000). The main focus is the betterment of staff and students in an educational institution so that individual, professional, organisational and community growth occurs. According to Sergiovanni (1992, 2001) the purpose of moral leadership is to ensure correct decisions are made and, in so doing, to increase participation and the democratic organisation of an institution.

A more recent concept is distributed leadership, sometimes referred to as democratic, dispersed or delegated leadership (Bennett et al., 2003). Three elements characterise the model. These are, first, the presence of an emerging group or network of interacting individuals where group members combine their expertise. Openness to the limits of leadership with a wide net of leaders is the second element. Such openness avoids restriction of leadership action to the small number of people with formal senior roles. The third element acknowledges the variety of expertise dispersed across many individuals. This results in initiatives taken up from across the organisation to be adapted and improved
by others in a supportive and trusting culture (Bennett et al., 2003). Strong leaders are still needed but they are not required to be charismatic.

Thus distributed leadership may be viewed as a community of leaders and is considered a significant theory in education (Bennett et al., 2003). According to Spillane et al. (2001, 2004) distributed leadership involves a sophisticated web of interrelationships and connections where leaders are inspirational and able to support others to believe in what they can achieve themselves. Distributed leadership creates a culture of initiative and opportunity where new directions and innovations may be proposed by challenging current practice. Spillane (2006) redefines distributed leadership in terms of three principles. Leadership practice is the central tenet. Leadership is generated by the interactions of leaders, followers and their situation. A two way interchange exists where the situation is defined both by and through leadership practice. Alternatively, distributed leadership provides opportunities for building internal capacity within groups across schools and may include teacher leadership, according to Harris (2004). Prior to this, Gronn (2002) had claimed distributed leadership makes it possible to lead from the centre rather than at the top, and to stretch and disperse leadership across different tasks and people within schools. However, in the opinion of Copland (2003) this approach is not a simple matter to achieve.

The challenge of sharing leadership gives rise to dilemmas of autonomy, efficiency and accountability according to Wildy and Louden (2000). These researchers conceptualised three dilemmas in the context of school principal’s work during a period of government school restructuring in Western Australia. They characterised concerns about providing both strong and shared leadership as the autonomy dilemma. Concern about leading
collaborative decision-making while ensuring the process was efficient was conceptualised as the efficiency dilemma. The challenge of empowering local decision making while complying with external accountability requirements was characterised as the accountability dilemma (Wildy & Louden, 2000).

The study of educational leadership is of enduring concern for educators. Educational leadership is a term that has many meanings, for example, leadership in schools, focusing on development processes and outcomes and instructional leadership, focusing on the learning progress of students. Another meaning is for headship or principalship, which refers to a structural position that carries responsibilities and accountabilities. Some writers distinguish between management, which involves administrative and organisational responsibilities, and leadership, which refers to the educational goals of inspiring and motivating others (Huber, 2004). In reality these foci overlap and also involve exercising influence over others. My focus is on educational leadership in the school setting and from the school system perspective to bring about change. Theories of transformational leadership have had considerable impact on studies of educational leadership (Leithwood et al., 1999). Moral principles and a commitment to vision are intrinsic to these theories.

The central role of educational leaders is to increase the organisations’ capacity for change in addition to inspiring and transforming the behaviour and thinking of others, especially teachers, to assist in bringing about change (Fullan, 2005). The quality of leadership at all levels is described by Busher and Barker (2003) as one of the major factors affecting change. Contemporary leadership models involve personal and professional morals, values and ethics, and are about transforming and redesigning cultures to pursue shared visions.
and goals. According to Ehrich and Cranston (2005) relatively few studies concentrating on leaders’ experiences of leadership have been undertaken.

**Leading educational change**

The purpose of educational change is to help schools accomplish their goals more effectively by replacing some programs or practices with improved and more relevant ones. Incremental change, for example, when a teacher restructures a lesson that is not progressing as planned, is considered a normal aspect in classrooms. However, fundamental change, which typically involves a radical shift in thinking and a departure from the known is considered difficult (O’Donnell, 2007). Thus educational change is frequently difficult to achieve. According to Fullan (1993) whose professional career has been spent working with Canadian schools and more recently in various Australian states (Fullan, 2005), educational change requires a shift in mindset. Similarly, Senge (1990) refers to the need for *metanoia* which translated from Greek is ‘a fundamental shift of mind’ when seeking change. The problems of educational change are many. On the one hand, there is the constant and ever expanding presence of educational innovation and reform, almost endemic to post modern society. On the other hand, educational systems are fundamentally conservative (Fullan, 1993). This means the way teachers are trained, schools are organised, educational hierarchy operates and the way education is treated by political decision makers results in a system that is more likely to retain the status quo than to foster change (Fullan, 1993).

Three phases of the change process have been conceptualised by Huberman and Miles (1984): initiation; implementation; and institutionalisation. The first phase, initiation,
involves the process leading up to and including the decision to adopt a change. This involves raising questions about current practices and some impetus to take action. During initiation leaders pay attention to the intellectual and psychological characteristics of the organisation. This is also the time for gaining consensus for the need to change and following up with a vision and plan for creating the change.

The second phase, implementation, involves putting the change into practice in order to achieve intended results. Typically this involves developing theoretical understandings, demonstrating and practising new skills and providing on-the-job-support. The process is often complex and tense (Huberman & Miles, 1984). Implementation captures both the content and process of dealing with new ideas, programmes, structures and policies which are new to the people involved. Thus implementation does not simply happen. For successful implementation those involved have a vision of the change process that is conceptually sound, organisationally practical and politically sensitive to the local and external context (Fullan, 1992). Similarly, Maser (1999) suggests that for successful initiation and implementation a shared vision within the community is necessary. Such a shared vision focuses on a wide range of human concerns and relies on the trust, respect and inclusivity of interpersonal relationships.

Phase three, institutionalisation, is considered the least attended to phase of change (Fullan, 1991). This phase involves embedding an innovation into the routines of the organisation. To maintain an impact on students and widespread use, innovations need to shed their novelty or experimental status and become a durable feature in the local setting. This durability is demonstrated when the innovation becomes routinised to be part of the school
culture (Huberman & Miles, 1984). New practices are integrated into school policies and budgets so that progress is not lost when new priorities arise. According to these authors institutionalisation occurs through the generation of a critical mass of participants skilled and committed to change. An empirical study undertaken by Miles (1983) concluded that providing support and warding off threats were essential for successful institutionalisation. Often individuals involved in making change are trained in the basic knowledge or content of the change, but knowledge of the process of change is underemphasized (Fullan & Miles, 1992).

Research by Hargreaves and Fink (2003) demonstrates that educational change to enhance and enrich deep learning among students is difficult to achieve. Apparent successes in England, in elementary level literacy and numeracy are described by Fullan (2005) as resulting from a combination of accountability (being responsible) and capacity building (sharing responsibility). “Educational change is rarely easy to make, always hard to justify and almost impossible to sustain” according to Hargreaves and Fink (2003, p. 693).

Sustaining change

Much of the current research surrounding sustainability issues in leading education arise from North America where sustaining change has presented severe challenges for educational reformers (Fink, 2000; Hargreaves & Fink, 2003; MacMillan, 2000). The research indicates that continuing deep and lasting improvement in secondary schools remains an elusive goal of most educational efforts. Significantly, much of the research into educational change is short term and little more than a snapshot. Ultimately, argue Hargreaves and Fink (2003), the sustainability of educational change (whether what
matters, spreads and lasts) can only be addressed by examining change experiences in a longitudinal perspective of change in variety of settings.

Secondary schools are considered particularly impervious to change when compared with their primary school counterparts. Their size, complexity, subject traditions and closeness to university selection makes them less able to adapt to the changing learning needs of their increasingly diverse student body (O’Donnell, 2007). These concerns clearly sit between the implementation and institutionalisation phases of the change process. There is a shift in the literature to describe the problem of institutionalisation as the complex problem of sustainability (Fullan, 2005; Hargreaves & Fink, 2003; Knight, 2005). There is also a consensus forming within the sustainability literature to describe a reform as sustained or institutionalised when it becomes a taken-for-granted feature in a given school life (Garcia, 2005). Thus leading North American educators have recognised this strong link between sustainable leadership and the UN Decade of Education for Sustainability.

The issue of scale and how educators struggle to understand how pockets of successful reform might be ‘scaled up’ is also described as a key challenge for school reform (Coburn, 2003; Elmore, 1995). Scaling up is the problem of how to transfer successful programs or innovations from individual schools or pilot projects to transform entire systems (Fink, 2000). Similarly, McDonald, Keesler, Kauffman and Schneider (2006) describe scaling up as the practice of introducing proven interventions into new settings with the aim of achieving similar effects in larger and more diverse populations. In contrast, Mulford and Maren (2006) argue there is a general assumption that scaling up is possible simply by developing bigger and supposedly better versions of an initiative. These authors describe
the process as chiefly a matter of bureaucratic engineering unless undertaken well. Traditionally, definitions of scale have focused on expanding numbers of schools which take up reform, but overlook the complex challenges of reaching out broadly while also developing depth. An analogy provided by Hargreaves (2005a) to describe the issue is that educators appear to know how to create islands of change, but not how to construct archipelagos or entire continents of change. Coburn (2003) conceptualises scale as four inter-related dimensions—depth; sustainability; spread; and shift in reform ownership.

*Depth,* the first element of Coburn’s conceptualisation of ‘scaling up’, refers to deep change which goes beneath surface structures or procedures to alter individual beliefs, the norms of social interaction and pedagogical principles. *Sustainability,* rather than addressed separately from scale, refers to any change of scale and may well be the central challenge of bringing reforms to scale. Rather than view *spread* solely in terms of expanding outward in increasing numbers, spread is conceptualised as the way in which reform norms and principles influence wider policies, procedures and professional development to become embedded in policy and routines. It is to be expected that schools are more likely to sustain and deepen reform over time when school and district policy and priorities are compatible or aligned with reform. To be considered ‘at scale’ the fourth element is considered. Ownership over reform must *shift* from being external to being internal, with authority held by all who have the capacity to sustain, spread and deepen reform principles themselves. Thus any reform should move from “an externally understood and supported theory to an internally understood and supported theory-based practice” (Coburn, 2003, p. 7).
In educational terms sustainability “involves a way of thinking that is integrative, holistic and ecological” (Hargreaves & Fink, 2003, p. 697). Sustainability is further described as “an intellectual paradigm about the complex nature of human and natural systems crucial to addressing the complexities of a knowledge society” (Hargreaves & Fink, 2003, p. 697). This understanding conceptualises sustainability in education in a manner in keeping with the Brundtland Report perspective (WCED, 1987) which views sustainability as a moral, spatial and temporal issue (Hargreaves, 2004).

Different definitions of sustainability in education have been developed in recent years. On the one hand, Hargreaves and Fink (2003, p. 694) state “Sustainability does not simply mean whether something can last. It addresses how particular initiatives can be developed without compromising the development of others in the surrounding environment, now and in the future”. The statement has links to the Brundtland Report (WCED, 1987). Another definition, contributed by Fullan (2005, p. ix) is “Sustainability is the capacity of a system to engage in the complexities of continuous improvement consistent with deep values of human purpose”. Both definitions are general, even ambiguous, and lack clear expression of the authors’ own understanding of sustainability. On the other hand, the term ‘embedded’ used as a descriptor for sustainability by Earl, Watson and Torrance (2002), is succinct but also short on clarity of meaning for sustainability.

Much of the material published by Hargreaves and Fink during the 2000s is a result of their five year research for the ‘Change over time?’ longitudinal study. The Change over time? project was designed to investigate the sustainability of educational change. A team of researchers investigated educational change retrospectively and contemporaneously, to
determine its effects across eight secondary schools over three decades in Canada and the United States. The research analysed change through the eyes of teachers and administrators over a longer period than most other contemporary studies (Hargreaves & Goodson, 2006). Qualitative data were gathered using archival and observational techniques. In addition, oral testimonies were obtained from participants who had worked in such schools for some, or all, of the past 30 years.

Research findings are that educational change theory and practice neglects the political, historical and longitudinal aspects of change (Hargreaves & Goodson, 2006). Evidence from the research indicates the importance and necessity of adopting an historical perspective on educational change. It also highlights the need for a more politically critical perspective from educational administrators (Hargreaves & Goodson, 2006). Upon its conclusion the study is described as extraordinary and without compare for its historical breadth, empirical richness and theoretical resonance by Labaree (2006), an American educational historian. However, this same author also comments that there are occasions when the researchers seem to be over-interpreting their data. According to the researchers themselves, the study was conducted in exceptionally innovative rather than mainstream schools, which they suggest restricts the transferability of their research (Hargreaves & Goodson, 2006).

Nevertheless, early findings drawn from this study include five key and interrelated characteristics for sustainability in leading educational change (Hargreaves & Fink, 2003). Characteristics identified in the early findings were that improvement sustains learning so it is not merely change that alters schooling, and that improvement endures over time. Other
characteristics were that improvement can be supported by available or achievable resources and does not impact negatively on the surrounding environment of other schools and systems. That improvement promotes ecological diversity and capacity throughout the educational and community environment was their fifth characteristics. While the key characteristics clearly link sustainable change in education to the moral, temporal and spatial elements of the Brundtland Report (1987) in my opinion, much of the language used is ambiguous and optimistic.

Following further research within the Change over time? study, the five characteristics above are refined and extended to number eight key principles of sustainable change which rest on the definition of sustainability outlined in the 1987 Brundtland Report (Hargreaves, 2005b). The first and second characteristics remain the same as described in the early findings, while the third provides an introductory link with sustainable improvement to systems thinking and social justice. Sustainable change developed and maintained on the basis of existing and achievable resources while not impacting negatively on the surrounding environment of other schools and systems is the basis of the fourth characteristic.

In reconceptualising sustainable change in education, Hargreaves (2005b) strengthens the link with the Brundtland Report in the final four characteristics. Sustaining leaders’ and teachers’ emotional and intellectual selves forms the fifth characteristic while recognition of sustainable change as a shared responsibility is the sixth. Activist engagement in politically challenging environments forms the seventh characteristic and environmental diversity and capacity form the eighth. These principles reinforce an earlier study into
embedding change which found a key force leading to meaningful, long-term change is leadership sustainability (Goodson, Moore & Hargreaves, 2006; Hargreaves & Goodson, 2004).

Simultaneous research undertaken by Fullan, Bertani and Quinn (2004) to investigate leadership for change at a district level, with specific reference to secondary school needs, also introduces the concept of sustainability. By their own admission, the researchers suggest the lessons learnt from their study do not address sustainability adequately, but overlap with ten conditions developed by Fullan (2005) as pre-conditions for system leaders committed to sustainability. Fullan endorses the perspective that sustainability and leadership cannot be left only to individuals and instead needs to become a priority of systems. Sustainability is therefore not a trivial matter and means more than whether something will last. Archimedes stated “Give me a lever long enough and I can change the world” (Fullan, 2005, p. 27). This statement supports my understanding that the lever for sustainability is leadership. I now consider the concept of sustainable leadership.

**Sustainable leadership**

Sustainable leadership is a relatively new term which surfaced early in the 2000s among North American educational researchers (Fullan, 2005; Hargreaves & Fink, 2004, 2005, 2006). The term represents a shift to capture and merge the international pressure for sustainable development through education, with contemporary leadership theory. Sustainable leadership, unlike earlier descriptions of leadership with their emphasis on personal characteristics and capacities, is proposed by Hargreaves (2004) as a concept and a strategy with foundational and action principles. In the next paragraphs I elaborate on the elements of this sustainable leadership model.
Seven principles are articulated by Hargreaves and Fink (2004) to define a sustainable leadership framework. They are based on the belief that educational leaders “want to accomplish goals that matter, inspire others to join them in working toward those goals, and leave a lasting legacy” (Hargreaves & Fink, 2004, p. 9). In the view of Hargreaves (2004), leaders develop sustainability by “how they approach, commit to and protect deep learning in their schools; by how they sustain others to promote and support that learning; by how they sustain themselves in doing so, so that they can persist with their vision and avoid burning out; and by how they try to ensure the improvements they bring about last over time, especially after they themselves have gone” (p. 10).

The seven inter-related principles form an explanatory framework of sustainable leadership and acknowledge the chains of influence which link sustainable leaders to their predecessors and their successors. Earlier iterations of the principles are outlined in the literature published by Hargreaves and Fink (2003) and Hargreaves (2004, 2005a). The seven principles are each abbreviated to one word: depth, length, breadth, justice, diversity, resourcefulness and conservation. All are drawn from sustainability and corporate literature, in addition to the Change over time? study undertaken in North American secondary schools over the past 30 years (Hargreaves & Fink, 2004, 2005).

Depth, length and breadth illustrate how sustainable leadership is the strategy to ensure change matters, lasts and spreads. These principles are aligned directly with contemporary educational leadership theory, particularly that of transformational and distributed leadership. To achieve depth, sustainable leadership requires leadership for learning and leadership to care for others. The authors use the example where, rather than seeking
temporary gains in scores to create improvements in learning, pools of leaders in learning need to be encouraged and supported. To achieve length, Hargreaves and Fink (2004, 2005) explain that sustainable leadership requires new leaders to plan and prepare for succession from the first day of their appointment. They argue that such planning would ensure leadership succession remains central to several aspects of school life. To achieve breadth, the authors argue that sustainable leadership requires others to share the leadership vision and responsibilities. They believe inspirational rather than charismatic leaders are required.

*Justice, diversity, resourcefulness* and *conservation* are recognisably significant in educational theory. There is also evidence of a link between each of them and the language of the UN Decade of Education for Sustainable Development (UNESCO, 2004). These principles are justified by Hargreaves and Fink (2004, 2005) as follows. To achieve, *justice*, sustainable leadership requires acknowledgement that it is unfair to concentrate attention, quality and resources to a few students, a few teachers or an individual school at the expense of others just as needy. They argue that rather than take from or harm neighbouring communities sustainable leadership results in sharing knowledge and resources among them. To achieve *diversity*, sustainable leadership requires recognition and the cultivation of different kinds of excellence in learning, teaching and leading. In addition networks to share ideas are developed to demonstrate that the different ways of learning and interacting are valued. *Resourcefulness*, the sixth principle, is present in sustainable leadership when promising leaders are recognised, retained and rewarded so there is reduced risk of burn out. To achieve *conservation*, requires sustainable leadership to respect, protect, preserve and renew valuable aspects of the past, to learn and build a better future from it. For
example, knowledge from the past may be treated as valuable information for the future rather than as disposable waste (Hargreaves & Fink, 2004, 2005).

Not surprisingly, the principles also link closely with research undertaken by these authors in collaboration with colleagues to describe sustainable leadership for change. Examples of such research collaborations include Fink and Brayman (2004, 2006). A critique of this large body of research into sustainable leadership is offered by Levin (2006). While acknowledging the authors to be highly experienced researchers who are knowledgeable about their subject, Levin criticises their research for not indicating which conclusions are based on the researchers’ own values, and which are based on demonstrated effective strategies. According to Hostetler (2005), what counts as good education research is too often conceived as a methodological question rather than an ethical one. In a similar vein, N. Gough (2006) offers the view that while Hargreaves and Fink locate their understanding of sustainability within the discourse of environmentalism, their relevance to these understandings and school leadership depend on their deployment of allusion, analogy and metaphor. Such sentiments are supported by Levin (2006) who suggests that while it is not difficult to adopt new language, there is often difficulty in adopting new behaviours.

As a result of their continuing research and earlier iterations of action to be taken, Hargreaves and Fink (2004, 2005) describe how attention to the seven principles of sustainable leadership can be achieved in practice. They describe five action principles: activism; vigilance; patience; transparency; and design. Activism and assertive engagement with the environment is the first of their action principles. This is illustrated by negotiating and activating personal and professional networks, as necessary when the environment is in
disarray. Vigilance involves monitoring the environment to check it is not beginning to decline. Obvious signs such as absenteeism, lack of learning, and subtle signs through sample data collection are offered as evidence of early signs of decline. Patience is the next action principle. Sustainable leadership requires investment in improvement but not instant success. Rather than develop fashionable, quick-fix policies, these authors indicate the need to defer gratification for results in order to achieve lasting and widespread successes.

Transparency is included as a direct consequence of a perceived crisis in leadership throughout society. Transparency requires honesty and integrity about failure as well as success. Open, meaningful communication between interested parties, such as parents, students and communities, is essential for sustainable leadership. Design is the final action principle. With the inclusion of this term Hargreaves and Fink (2005) argue that good design puts people and their needs first. Rather than expecting people to adapt to changing technology in the same manner, good design allows for ecological and human diversity. Designer leadership is then personalised, accessible and flexible, rather than standardised and mechanical. Considerable research time and energy has been devoted to shaping the sustainable leadership framework. Furthermore, in their recent publication (Hargreaves & Fink, 2006) a chapter is devoted to each of the key and action principles.

Notwithstanding the passion and eloquence with which these researchers write, much of the sentiment outlined for the seven key and five action principles is not new. Instead, perhaps much of the material represents a repackaging of ideas using the fashionable language of sustainability. Doubts about the practicality of the model are raised by Levin (2006, p. 42) who states “The complexity of the proposed change process embodying the seven
principles is formidable” and he further describes the addition of five action principles as overwhelming. He also comments that, “lists are lists, but hardly great levers of change” (Levin, 2006, p. 41). Nevertheless the issues of sustainable change are articulated and linked together as a new theoretical framework for future deliberations. According to N. Gough (2006) much of the sustainable leadership material published by Hargreaves and Fink offers a passionate advocacy likely to reach a broader audience than usual and as such these authors have given sustainability new life. Albert Einstein noted, “No problem can be solved from the same consciousness that created it” (Maser, 1999, p. 18). Focusing on these key and action principles stimulates discussion among the research community, for example, N. Gough (2006), Levin (2006) and Mulford and Mareno (2006). This focus also, I believe, acknowledges the link with the three-pronged focus on social, economic and environmental factors underpinning the Brundtland Report (WCED, 1987) and the international sustainability agenda.

Furthermore, in tandem with the developing conceptualisation of seven key and five action principles in their North American longitudinal studies, Hargreaves and Fink (2003) describe three aspects of sustainable leadership. The first is that the future of educational leadership must be embedded into the hearts and minds of many rather than an heroic few. This implies distributed leadership. That educational systems need to view leadership as a vertical system over time is the second aspect, and implies succession planning. The third aspect is that the promise of sustainable success in education lies in creating cultures of leadership throughout the school community rather than in training and developing an elite few. Leading learning and distributed leadership are implied here. These three aspects of sustainable leadership are connected to the implications described previously and illustrate
the components of sustainability (Hargreaves & Fink, 2003). Leading learning, distributed leadership and succession planning are thus promoted as essential for sustainable leadership. While there are links between all of the seven principles of the sustainable leadership framework (Hargreaves & Fink, 2006) and the three aspects of sustainable leadership (Hargreaves & Fink, 2003) the stronger links are summarised in Table 1 below.

Table 1 Links between the sustainable leadership framework and aspects of sustainable leadership

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<th>Seven principles of sustainable leadership framework</th>
<th>Aspects of sustainable leadership</th>
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<tr>
<td>depth, conservation</td>
<td>Leading learning</td>
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<tr>
<td>depth, breadth, diversity, conservation</td>
<td>Distributed leadership</td>
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<tr>
<td>length, justice, resourcefulness, conservation</td>
<td>Succession planning</td>
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In the following paragraphs I discuss the links between the seven key principles and the three aspects of sustainable leadership.

Leading learning, the first of Hargreaves and Fink (2003) aspects of sustainable leadership, involves the formation of professional learning communities, communities of knowledge and networked communities to provide the opportunity for a mix of ideas so that different ways of learning and improvement are valued. These communities create the means of interaction and relationships for sharing diversity and surfaced during the 1990s (Louis & Kruse, 1995). Leaders of learning put learning at the centre of all they do then protect deep learning in their schools and others (Hargreaves & Fink, 2003, 2004). Promoting deep
learning, that is taking learning further than minimal or shallow levels, is closely aligned to leading learning. Learning from, and honouring previous learning experience rather than dismissing them in favour of new fads, is aligned to leading learning. Thus two principles from the sustainable leadership framework closely related to leading learning are depth, and conservation.

Distributed leadership, the second of Hargreaves and Fink’s aspects of sustainable leadership, is a concept of the 1990s and early 2000s with a range of meanings (Bennett et al., 2003). These were elaborated early in this chapter when I considered shifts in thinking about leadership. In brief, the concept is described as having an analytical orientation to leadership by Gronn (2002). It is viewed in terms of three essential principles – involving leadership practice, interactions, and a two way interchange between them – by Spillane (2006) who is most closely associated with the concept. A pool of developing and collaborative leaders typical of a distributed style of leadership provides depth and breadth for current and future leadership. Rather than leadership resting with a few leaders, a diversity of talents and expertise in leadership is shared in distributed leadership. Similarly, supporting and valuing leaders so that a culture of shared and ongoing leadership exists, promotes leadership. Four principles from the sustainable leadership framework of Hargreaves and Fink (2005) closely related to distributed leadership are depth, breadth, diversity and conservation.

The main indication of a successful leader at the end of tenure is not necessarily the impact on bottom line student achievement but how many good leaders are left behind to go further in the same direction (Fullan et al., 2004). Thus strong leadership succession
requires a continuity of direction and a leader who will step out even further to make educational contributions. Sustainability depends on a number of leaders developing their skills well before they take on formal leadership roles. This means the qualities of leadership must be attainable by many rather than a select few (Fullan, 2001). Research undertaken by MacMillan (2000) determined that school districts practicing regular and rapid rotation of a small number of school leaders only hardened others against change and did not support leadership sustainability.

Succession planning is the third aspect of sustainable leadership (Hargreaves & Fink, 2003). These writers describe three forms of knowledge which are required. Inbound knowledge is that needed to change an institution, improve it and turn it around. Insider knowledge is used to improve schools after the leader is accepted and trusted by the community. Outbound knowledge, about which little attention is devoted, is that needed to preserve past successes, keep initiatives going or to ensure a legacy is left once the originating leader has moved on (Wenger, 1998; Hargreaves, 2004, 2005a).

Successful succession depends on sound planning, successful employment of inbound, insider and outbound leadership knowledge, limiting the frequency of succession events, and preserving leadership in the face of current moves towards increasing management (Hargreaves, 2005a). From their first day, leaders need to be planning for leadership capacity and the legacies they will leave (Fink & Brayman, 2004, 2006; Fullan et al., 2004). Clearly, the need for leadership extends beyond any leaders’ tenure and succession must be a serious consideration in planning. It is undesirable and unjust to poach the best resources from surrounding schools. Instead, potential leaders should be recognised and developed
earlier rather than later in their careers. Recent research indicates the importance of identifying leadership potential early in their development to ensure leaders are available into the future (O’Brien & Torrance, 2005; O’Brien, Torrance & van der Kuyl, 2006). Simultaneously, the knowledge and wisdom of experienced people should be honoured and valued rather than dismissed as disposable. Principles from the sustainable leadership framework which relate to succession planning are length, justice, resourcefulness and conservation.

Copious iterations are published on the seven key principles, the five action principles and the three aspects of sustainable leadership from the researchers Hargreaves and Fink since the early 2000s (Hargreaves, 2004, 2005a, 2005b; Hargreaves & Fink, 2003, 2004, 2005, 2006; Hargreaves & Goodson, 2004, 2006). However, as alluded to previously, much of the material is borrowed from previous research, while much of the language is generic and ambiguous, but fashionable. With prolific publications these researchers have introduced sustainable leadership as a process and strategy while also linking the concept to the international agenda for sustainability.

Summary

In preparing this second section of my literature review I developed an outline of the shifts in thinking about leadership from the voluminous literature available. Three dominant and enduring theories of leadership linked to educational leadership – trait theories, situational theories and transformational theory – are described to provide a background to sustainable leadership.
Prior to a discussion of sustainable leadership theory, however, I considered the processes of leading educational change and sustaining change. On the one hand, leading educational change is considered a complex and difficult process with three recognised phases: initiation; implementation; and institutionalisation (Huberman & Miles, 1984). On the other hand, sustaining change is a contemporary concept which emerged from longitudinal studies in North America undertaken by Hargreaves and Fink (2003) for the Change over time? project. These researchers draw links between their research and the Brundtland Report (1987) to conceptualise sustainability in education as a moral, spatial and temporal issue. In addition they propose that the complex problem of institutionalisation, the third phase of leading educational change, is becoming understood as an issue of sustainability.

Sustainable leadership is a relatively new term which also emerged from North American educational leadership studies. It is clear from this review of the literature that sustainability cannot be left to individuals but should be a priority of systems. However, the seven key and five action principles for sustainable leadership offered by Hargreaves and Fink (2004, 2005, 2006) is indeed a formidable theoretical framework. In addition they offer three aspects of sustainable leadership which link to the components of leading change sustainably. Notwithstanding the eloquence and fervour with which these researchers write, much of their material is not new but instead couched in the fashionable language of sustainability. Nevertheless, the framework represents a shift to view leadership as a process rather than a series of individual traits or leadership styles. The numerous publications by these researchers also represent a successful strategy to connect the international sustainability agenda of sustainable development through education, with contemporary leadership theory.
In the next chapter, the Gavotte, I describe the theoretical framework underpinning my research. The chapter also deals with the methodology and method I adopted to answer my research questions.
Chapter 3

Gavotte

A movement which follows the Sarabande

(Sadie and Tyrrell, 2001)

Introduction

In this chapter I initially outline the theoretical framework underpinning my research. The outline presents a brief overview of the epistemology, interpretive framework, methodology and method to illustrate how they are linked to and influence the development of this research. In providing this overview I acknowledge and identify the significance of a researcher’s view of the world and therefore my research position. Overarching questions guiding the research are included before an outline of the methodology and method adopted is offered. Throughout, issues which arise in qualitative research are considered. I conclude the chapter with a description of, and justification for, the data presentation as narrative accounts, and the process of data analysis.

Theoretical underpinnings

Qualitative research existed for many decades before it was afforded this name (Eisner, 1991; Garman, 1994). The term qualitative research had appeared during the 1970s to mean exploring the broader understandings possible in natural conversations and narratives. Thus the role of language in shaping human reality was recognised (Lincoln & Guba, 1985; Miles & Huberman, 1994). In education research, clear distinctions are made frequently between qualitative and quantitative research. However, Ercikan and Roth (2006) challenge this polarised perspective and argue, instead, that the two kinds of research rest on opposite
ends of a continuum. Nevertheless, because my research seeks to capture the understanding of others from their personal accounts of day to day events, my approach is clearly towards the qualitative end of the continuum. I considered this approach as appropriate to gather rich and detailed data from my research participants.

Writers such as Eisner (1991), Lincoln and Guba (1985) and Patton (2002) describe the defining characteristics of qualitative research. Characteristic features are elaborated by Eisner (1991). Qualitative studies tend to be field focused, they reflect on the self as an instrument and they have an interpretive character. Qualitative studies display expressive language and ‘voice’ is present in the text, attention is paid to particulars and such studies are believable because they are coherent and insightful. There are no statistical tests of significance involved; instead what counts is a matter of judgement (Eisner, 1991). Thus, qualitative research seeks to illuminate, interpret and go deeper, but does not seek to verify (Garman, 1994). Qualitative research involves an approach that seeks to understand phenomena in context specific situations which may be applicable to a larger substantive area (Hoepfl, 1997). According to Alexander (2006) qualitative inquiry aims to understand the meaning and purpose of human activity. Furthermore, Eisner (1991, p. 51) likens a good qualitative study to a road map or guide where “guides call our attention to aspects of the situation or place we might otherwise miss”.

In all forms of qualitative educational research, however, it is essential to acknowledge the researcher’s own social location. I do this by briefly describing my own understanding of ‘coming to know’, and interpretive framework because these inform my methodology and method. This is termed ‘reflexivity’ (Malterud, 2001) and begins by identifying
preconceptions I bring into the research. In acknowledging my position I own my researcher bias and accept that no knowledge is value free. From the outset my own view of the world affects how my research is conducted. This perspective is expressed in the following words “the vision that we secure from the theoretical portholes through which we peer also obscure those aspects of the territory they foreclose” (Eisner, 1993, p. viii). The statement suggests that a theoretical perspective not only reveals it also conceals.

‘Theoretical sensitivity’ of the researcher is a term coined by Glaser and Strauss (1967). These writers use the phrase to refer to the personal qualities of a researcher and include the attribute of having insight, the ability to give meaning to data, or the capacity to understand and to separate the pertinent from the irrelevant. Several sources of theoretical sensitivity are recognised by these researchers, for example, professional literature, professional experiences and personal experiences. Thus the credibility of qualitative research depends on the confidence readers have in the researcher’s sensitivity to the data and ability to make appropriate decisions in the field (Eisner, 1991; Patton, 2002).

Epistemology refers to knowledge production or how individuals define their ‘truth’. The epistemology one adopts provides a philosophical grounding for deciding the kinds of knowledge possible and how one ensures that the kind of knowledge is both adequate and legitimate (Schram, 2003). Epistemology can be simplified to ‘how we know what we know’. In aligning with the interpretivist epistemology I believe that what people know and believe to be true about the world is constructed, as people interact with one another over time in specific social settings. The interpretivist approach permits the exploration of how humans make sense of their experiences. Similarly the phrase ‘social construction of
reality’ may be associated with the interpretivist perspective (Schram, 2003). From this perspective all human action is viewed as meaningful. An ethical commitment in the form of respect for and fidelity to the life world is provided, forms another perspective. A final perspective is that the contribution of subjectivity to knowledge while maintaining some objectivity is emphasised (Schwandt, 2000). To undertake this research it was necessary to understand the point of view and constructed reality of the participants as ‘those who live it’.

The general theoretical perspective or interpretive framework is the philosophical stance behind a chosen methodology. This takes into account and elaborates on a researcher’s view of the world. Within the specific interpretivist epistemology, methodologists conceptualise a number of theoretical perspectives, which include symbolic interaction, phenomenology, and critical inquiry (Patton, 2002). This research adopts the perspective of phenomenology. Phenomenology permits an exploration into how humans make sense of their experiences and transform those experiences into consciousness, both individually and as shared meaning (Denzin & Lincoln, 2000). In using a phenomenological approach it is possible to ‘bracket’, analyse and compare different aspects of the phenomena experienced.

Phenomenology is described as “principally concerned with understanding how the everyday, inter-subjective world (the life world or Lebenswelt) is constructed” (Schwandt, 2000, p. 192). Two conceptual tools are used in the approach. The first, indexicality, indicates the meaning of words is dependent on its context of use. The second, reflexivity, signals that utterances are more than about something; they are also doing something (Schwandt, 2000). Thus the phenomenological perspective permits the focus to fall on
specifics (people, places, time) to answer research questions. In essence the phenomenological perspective permits the ‘lived experience’ of participants to be gathered and over time to also represent a process. Research into delivering explicit accounts of participants’ own experiences is described as depicting the “invisibility of everyday life” (Erikson, 1986, p. 121).

Interpretive frameworks inform methodologies. A methodology is more than a description of a strategy or plan of action; a methodology also provides an account of the rationale behind the strategy taken. Methodology is the theory and analysis of how inquiry proceeds (Schram, 2003), reflecting the beliefs about knowledge that arise from the values in the philosophic frameworks that guide how research should proceed (Caelli, Ray & Mill, 2003).

While engaging in qualitative research from the interpretivist epistemology and phenomenological theoretical perspective to obtain knowledge of ‘the lived experience’, the case study methodology is highly appropriate. Case studies are frequently used in qualitative research and have been used in the fields of leadership and environmental education (Conle, 2003; Wildy, 2004). The case study is described on the one hand as a specific way of collecting, organising and analysing data, and so represents an analysis process. Its purpose is to gather comprehensive, systematic data about a case. On the other hand the analysis process results in a product: a case study (Patton, 2002). Case studies offer the opportunity to obtain rich and powerful data with high face validity. Because the methodology guides the choice of methods used to generate and analyse data it is important
to clarify the term method as a reference to the tools and techniques used for data gathering and analysis.

In order to capture people’s experiences carefully and thoughtfully, in-depth, semi-structured interviews were selected as an appropriate method to obtain data. Semi-structured interviews provide an avenue for participants to describe how they perceive, feel, judge, remember, talk and make sense of their experiences. The process permits participants to go where they wish during data gathering sessions and allows them to tell their own story from their unique perspective.

**Research questions**

My guiding research questions are designed to capture participants’ understanding of:

1. How is education for sustainability conceptualised in Western Australian secondary schools?
2. How is education for sustainability incorporated across the curriculum in Western Australian secondary schools?
3. How is education for sustainability led in Western Australian secondary schools?
4. What are the processes which facilitate education for sustainability to become embedded and sustained into Western Australian secondary schools?

**Methodology and Method**

To address the research questions I developed case studies from government secondary schools. Within the metropolitan area of Perth there are 59 government secondary schools. Of these, 39 schools are less than a one hour drive from Murdoch University so represent a
sample easily accessible from my workplace. A snowballing technique (Sercombe, Omaji, Drew, Cooper & Love, 2002) was used to select 10 school teachers reputedly leading education for sustainability from this pool of 39 schools. After discussion with field contacts such as Western Australian environmental leaders and people associated with research in the sustainability area, I approached three well known school teachers in three different schools to participate in the study. Participants were therefore selected through purposeful sampling whereby acknowledged teachers of education for sustainability were invited to participate. Purposeful sampling provided me with information-rich, key informants for in-depth study and the opportunity to obtain insight and understanding from well-situated participants.

Selected school teachers were telephoned during June-December 2005. Interviews for the first case were held in June, the second case in October and the third case during December, 2005. I took care to describe the research process and requested an initial, individual interview of an hour’s length with the identified teacher of education for sustainability. Prior to each interview I also telephoned the school principal, to obtain permission to conduct research involving the school.

The interview was conducted in a setting of the teacher’s choice. On each occasion participants chose to be interviewed during their free time at school, to minimise disruption to their day and classes. A disclosure statement (Appendix A) and consent form (Appendix B) were provided to participants in keeping with Murdoch University’s ethics requirements before the interview commenced. Ethical concerns were addressed throughout the research process, particularly during the interview and data presentation phases where all data
remained confidential. Participants were guaranteed anonymity and assured they could withdraw at any time during the process. All agreed for our conversation to be tape recorded and field notes written. In outlining university ethics requirements, I informed applicants that tapes and field notes would be securely stored for a number of years before being destroyed.

Semi-structured interviews permit participants to ‘tell their own story’ from their unique perspective but also provide a framework for them to address issues of importance. This form of the research interview is described as an interview whose purpose is to obtain descriptions of the interpreted life world of the interviewee (Kvale, 1996). Another description of the semi-structured interview is as a craft bordering on art if carried out well (Kvale, 1996). This is rather more specific than the description of interviewing offered by Oakley in Patton, (2002). This writer describes interviewing as “rather like marriage: everybody knows what it is, an awful lot of people do it, and yet behind each closed door there is a world of secrets” (p. 340).

Semi-structured research interviews enable conversation, that is, face-to-face encounters, to be used to obtain field texts. This procedure ensures interviews are relational and provides an experience for both the researcher and the interviewee (Mishler, 1986). Furthermore, this interview method facilitates a less formal conversation where both parties may interact as relative equals. My own experience as a secondary school teacher with a strong interest and involvement in natural resource issues was not discussed during interviews. However, participants were informed of my background and interests during my initial request for them to become involved in the research. At all times researcher responsibilities and ethics
remain at the forefront of the interaction. It is vital no harm is caused to any participant as a consequence of the interview (Hostetler, 2005). This also means the quality of the information obtained is dependent on the skill of the interviewer. The way the interviewer acts, questions and responds in an interview shapes the relationship. Similarly the setting, time and degree of formality established also influences participant responses and the depth of information elicited.

While no formal questionnaire was used, an interview guide was prepared to ensure the same basic lines of inquiry were pursued during the interviews (Appendix C). Participants were encouraged to talk about their experience of teaching education for sustainability and to address issues of importance to them. Prompts were offered to guide the conversation towards their experience of beginning, developing, implementing and leading others in education for sustainability. Similarly, prompts were used to elucidate participants’ background, personal highlights, set backs and critical incidents in educating for sustainability. This format enabled a number of people to be interviewed in a systematic and comprehensive fashion while allowing for different experiences to be articulated. This is similar to the method adopted in other environmental and leadership studies (Conle, 2003; Louden & Wildy, 1999; Wildy, 2004).

Field text is determined by researcher selective interest or disinterest so the material gathered is interpretive (Clandinin & Connelly, 2000). It is shaped by the interpretive process of researcher and participant. For example, participants were interpreting my comments just as I was interpreting theirs. Thus neither researcher nor participant remains neutral due to their own values and personal histories (Freeman, de Marrais, Preissle,
Roulston & St. Pierre, 2007). I chose when to turn on the tape, what to write down and of which information to seek clarification. During the interview I selected when to respond for example, by smiling, nodding or seeking clarification. In writing field notes I acknowledge my role of initial filter in deciding which parts of data to be important to record and which to leave out. Throughout the process I remained mindful that the quality of the information obtained during an interview is largely dependent on me, the interviewer.

At the conclusion of the initial interview with the identified educators for sustainability, participants were asked to provide the names of other people in the school also involved in education for sustainability and possibly willing to be interviewed. This was done to gather further data from other sources and to enrich my understanding of education for sustainability in each school setting. Ethical issues were considered prior to this request and participants provided names of others with whom they had a strong working relationship. In all cases, participants provided the names of three or four others whom the interviewee expected would be likely to agree to meet with me. Participants were encouraged to inform their colleagues of my request and the likelihood of contact from me. Within a few days I telephoned each and invited each to participate. In addition to requesting an interview with these support teachers I sought an interview with the school principal at each school site. I did this to include the perspective and understanding of the formal leader in each school. Two school principals sought clarification about the meaning of education for sustainability from me. All support teachers and principals were willing to participate and further interview sessions were organised. Once more a disclosure statement and consent form were provided to these participants and the semi-structured interview process repeated with each participant individually.
To ensure anonymity, a serious ethical consideration, I allocated pseudonyms to each school setting in addition to each participant. While in the field conducting interviews, real names were used. However, all written notes referred only to the pseudonyms chosen. The Summer Springs College case was developed during June 2005 after interviews with three participants. The Valley Vista College case was assembled during October 2005 after interviews with five participants. River View College, the third case, was developed during December 2005 after interviews with three participants.

The practice of presenting different voices, perspectives and points of view in each case is termed *bricolage* (Denzin & Lincoln, 2000; Patton, 2002). Gathering several perspectives contributes to a researcher’s understanding of the ‘lived experience’ through interpretivist lens. The interpretivist *bricoleur* appreciates that research is an interactive process shaped for example, by personal history, biography and gender, and by those of the people in the setting. The product, like jazz improvisation, is quilt-like and complex with a set of fluid, interconnected images and representations (Denzin & Lincoln, 2000). Thus each case is described by peering through different lenses to create a ‘patchwork’ view.

My previous research experiences involving semi-structured interviews with my field notes shaped into narrative accounts provided me with the skills to present the data in this format (Clarke, Wildy & Pepper, 2007; Wildy & Pepper, 2005). I used tape recordings of the interview conversation as a back-up source and to capture *verbatim* comments spoken by participants. In the next section I discuss the theory of narrative accounts and how I use them to represent my data.
Narrative accounts

Narratives permit life-like accounts which focus on experience and are aligned with qualitatively-oriented educational research. They provide a framework and context for making meaning of life situations. Narratives are not the same as interview data or field notes. Instead interview data are presented in a narrative account, sometimes called a vignette, or creative non fiction (Clandinin & Connelly, 2000; Wildy & Louden, 2000). To create narratives the interview data is processed to describe factual information provided by and about the leaders in accurate context from the field texts. This form of expression was chosen because it reveals cultural and social patterns through the lens of individual experience (Patton, 2002). Narratives permit participants’ stories and descriptions of experience to be honoured and given status (Conle, 2003). This also supports the criteria for ‘good educational research’ according to Hostetler (2005) as it contributes to people’s well-being. A sense of the whole picture is built from a rich data source with a focus on the concrete particularities of life that create powerful narrative accounts.

Historical influences that shaped views on the journey to narrative inquiry began with John Dewey who recognised two inseparable criteria of experience; continuity and interaction (Clandinin & Connelly, 2000). Continuity refers to the idea that experiences grow from prior experiences and lead into future experiences. Interaction refers to the notion that people need to be understood not only as individuals but also as individuals in a social context. In developing narratives of experience these writers identified some of the major tensions located between the boundaries of the grand narrative of Bloom’s taxonomy (Bloom, 1956) and narrative thinking. Issues of continuity led to tensions of temporality,
people, action and certainty while issues of interaction led to tensions of context, people, action and certainty.

Temporality is a central feature of narrative writing: we generally think about events by locating them in time. Narratives are set in a stated time period with the sequence of events linked through time. People featured in narrative writings are always significant and often involved in a process of personal change. These initial tensions are closely linked. Action of some type features in narratives with its historical significance identified to highlight its relevance and assist with interpretation. In constructing narratives, issues of certainty exist as it is always possible to interpret events as they are described, in a variety of ways. The prevailing attitude is to produce an ethical, honest interpretation of the data while aware other interpretations are possible. A last tension considered in creating narratives is centred on context. In any situation, context counts. Context is essential for making sense of any person, action or event. In writing narratives the person in context is of prime interest and the purpose is to make meaning of their experiences, and to share understanding with readers.

Such tensions are considered in crafting narratives and are viewed as interconnected rather than inseparable and independent factors (Clandinin & Connelly, 2000). This contrasts with Conle (2003) who considers narrative straightforward and involving a temporal sequence, a plot, characters, a context and some sense of ending. The usefulness and educational importance of narrative accounts is described as bringing theoretical ideas about the nature of human life as lived, to bear on educational experience as lived (Connelly & Clandinin, 1988, 1990).
Narrative accounts were constructed to describe factual information provided by and about the leaders in addition to accurate context from field texts. The process requires recognition and selection of significant rather than trivial information, and is described by Eisner (1985) as ‘connoisseurship’. To be a connoisseur, according to this author, is to know how to look, see and appreciate what is subtle, important and complex in order to understand events taking place, in an intelligible context. Constructing narratives is described by Eisner as “artistic reconstruction” of what is observed in order to assist the reader experience the actions and interactions in a life-like manner (Eisner, 1985, p. 229). Thus field texts permit the richness and complexity of the interview to be preserved and reconstructed into narratives. From the outset field text is interpretive and constructed by a researcher at a certain moment in time. Selectivity has already taken place in foregrounding one aspect over another and making other aspects less visible in the field texts. Writing narratives is similar to photography, where one image is presented but another quite different could be presented at another time, depending on the context and the participants. On another occasion the participant may have discussed different issues or even the same issues differently.

Each narrative is written in the active, first person voice to explicate the participant’s perspective. I developed a narrative theme and selected a title for each. Each narrative is approximately 300 to 400 words in length to permit sufficient contextual detail to describe the situation. The length also permits enough credible information to depict the situation yet remain succinct. Such narratives are capable of capturing the uniqueness and familiarity of a recognisable situation. While the information written about the school, community and people is accurate some small details are fictionalised to ensure school settings and
participants can not be traced. For example, subject titles and year groups may be altered if the information has no bearing on the outcome.

Narrative construction was completed for each data source in the school prior to beginning the next case. Individual data were returned in draft narrative form to each participant for feedback and approval of its use in the research. In providing the narrative to participants I further assured them of my research integrity. This practice signalled my willingness to share knowledge and power with the participants while ensuring ethics requirements were met. Rather than ask participants ‘Have I got it right? or ‘Is this what you said?’ I asked instead, ‘Is this you? Do you see yourself here?’ Each participant approved the use of the narrative developed from their interview field notes, sometimes after requesting minor adjustments. Several participants commented positively on the lucid representation of their jumbled interview thoughts and comments.

In conducting any type of research it is not possible to attain complete validity and reliability (LeComte & Goetz, 1982). Narrative, like other qualitative methods, relies on criteria other than validity, reliability and generalisability (Connelly & Clandinin, 1990). These criteria are closely associated with experimental and scientific research with strong elements of causality. Cause and effect has no place in narrative experience (Crites, 1986; Connelly & Clandinin, 1990). Instead the narrative represents a case of something, including both a general concept and also concrete illustrative particulars. This point further highlights the craft required to create narrative accounts.
Narrative accounts, like other forms of qualitative research, rely on additional criteria to ensure trustworthiness. These criteria include apparency (visible, obvious) and verisimilitude (life-likeness), as proposed by Van Maanen (1988) which shift the emphasis from generalisability to recognisability in the field of the research text. Similarly, Guba and Lincoln (1989) propose the term transferability, to replace the emphasis on generalisability. These writers argue that generalisability infers the ability to generalise findings across different settings with an element of prediction and control. They also argue that generalisability assumes that different situations are context free. In its place, Guba and Lincoln (1989) offer the term transferability to refer to the degree of similarity between the situation studied and the situation being compared. Thus the transferability of the account is determined by readers rather than the researcher.

Well crafted narratives are identified as having an explanatory, invitational quality, with evidence of authenticity, that is, elements of adequacy and plausibility (Connelly & Clandinin, 1990). Readers connect by recognising particulars, imagining the scenes the particulars occur in and by reconstructing them from memories of their own to recognise a narrative as authentic (Rosen, 1988). Plausible accounts tend to ring true and may result in the reader saying ‘I can see that happening’ or even ‘That’s how it was for me too’. Furthermore the aim of the writer is to include sufficient detail so that narrative accounts resonate to make spontaneous connection with sections of a reader’s life.

In creating narrative accounts from the interview process there are risks the process may be open to abuse. Narrative and life are linked so the process is attractive due to its capacity to describe life experiences, both personal and social, in relevant and meaningful ways.
(Connelly & Clandinin, 1990). This opens the possibility of false data or data manipulated to deceive. One of the ways this was avoided was returning the narratives to each data source to confirm my interpretation of the information provided and to ensure participants approved the narrative. Another factor I considered was the need to avoid constructing each narrative to conclude as though all issues were resolved.

Throughout the process of constructing narratives ongoing reflection, or ‘wakefulness’ is necessary (Clandinin & Connelly, 2000). Wakefulness ensures attention to what is being written and how it is being written. It enables further learning about narrative construction throughout the inquiry process, from the field to the final research text. I continued the interpretivist approach to analyse the narrative accounts, always mindful that my research was initiated to capture understanding of education for sustainability in the secondary school context.

Data analysis
Analysing text involves several tasks such as identifying themes and sub-themes, culling themes to a manageable few, rebuilding hierarchies of themes and linking these into theoretical models (Ryan & Bernard, 2003). In working with, organising, then synthesising data, qualitative researchers use inductive analysis to locate patterns and identify critical themes emerging from the data. They then decide what is to be learned and what will be reported to others (Malterud, 2001; Patton, 2002). Several reasons for making explicit the techniques used for discovering themes in qualitative data are offered. These are: discovering themes is the basis of much social science research; others are able to access the methodological choices made; and it provides the opportunity to deliver an explicit and
jargon-free vocabulary to communicate with others (Ryan & Bernard, 2003). Principles established by Opler (1945) for thematic analysis are: themes are visible through the expressions in data; some expressions of a theme are obvious and culturally agreed on while others are more subtle; and cultural systems comprise sets of inter-related themes. I questioned, ‘How would I know a theme when I saw one?’

In keeping with accepted practice as outlined by Patton (2002) I initially considered each of the three cases individually. I did this to ensure each voice was separate and heard clearly. First I worked with the narrative accounts from each data source at Summer Springs College, then with those from Valley Vista College and finally with those from River View College. After ‘wallowing’ in the data, immersed in proofreading and re-reading the narratives, I began open coding to identify themes (Glaser & Strauss, 1967). To begin this I numbered all narrative lines then underlined key phrases and listed what these were expressions of, along side the narrative. The next step involved writing a short summary about each narrative to acknowledge what the narrative depicted. Once this was done for all narratives, my primary sweep through the data was complete.

I now felt prepared to begin the serious search to identify themes across each case. Once more I began with the Summer Springs College case and worked through the next two cases as for the first sweep. Key phrases underlined previously in each narrative were transferred to ‘post it’ notes for each set of case narratives. I looked for repetitions of words, topics and ideas, referred to as recurring regularities by Guba (1978), and grouped them together. I also looked for similarities and differences across units of data called the constant comparison method by Glaser and Strauss (1967) and grouped these together.
Each of these conceptual categories was tentatively named according to the phenomena they represented. Some of these included: recognising barriers; levels and sources of support; participant history; levels of interest; dilemmas faced; and strategies to overcome.

After recording the first round of themes I repeated the process using different combinations of phrases, termed *axial coding* (Strauss & Corbin, 1990). For example, I considered information missing from a narrative while present in others, such as descriptions of collaboration, and looked for examples of analogies and metaphors. By sorting, then re-sorting, the phrases into groups that appeared to go together, I identified a large number of themes. In breaking down the raw data into manageable chunks and naming each category I documented an audit trail. Not all themes were of equal importance and some overlapped. No single correct set of themes can be certain in qualitative research as the data can be viewed in numerous ways (Dey, 1993). Therefore, my next step was to exercise judgement and identify those most significant to my research.

Documenting the process maximises clarity of the process and explicates understanding that what is claimed to be analysed is being analysed (Ryan & Bernard, 2003). Each of the themes I identified is perceived as part a continuum with one end point to represent an ‘abundance of’ and the opposite end point to represent an ‘absence of’. Understanding the structure of each theme in this way enhanced my understanding and interpretation to acknowledge the possibility of both strong and weak occurrences. On some occasions the absence of evidence of a conceptual category provided a contrast between cases and was therefore significant.
I identified six themes within the narratives with several duplicated among the cases. Five were identified in the Summer Springs College narratives. Four of these were also evident in the Valley Vista College narratives with one absent. Five previously recognised themes were evident in the River View College case and an additional one was identified here. These are summarised in Table 2 (page 137).

Rather than leave the analysis at this point, with six themes evident in some but not each of the narrative accounts, I continued to delve more deeply into the data. In doing this, I completed a cross-case analysis in search of overarching themes. After further inductive analysis, issues and patterns were identified and elaborated upon. The data analysis concludes with the identification of four meta-themes across the cases.

My next immersion into the material was designed to locate the data within the leadership and dealing with change framework, articulated by Huberman and Miles (1984). Similarly, I sought evidence to locate the data within the sustainable leadership framework developed by Hargreaves and Fink (2003, 2004). Throughout this exercise I also looked for evidence that school leaders and leading teachers are the core agents of change, as described by Hargreaves (2003) and that scaling up reform described by Coburn (2003) involves moving beyond numbers to deep and lasting change. To achieve this I searched backwards and forwards between the leadership literature and the data themes. Simultaneous with the search through the leadership literature I sifted through the sustainability literature to locate links between the data and the goals of education for sustainability; that is, organisational and individual capacity building and a transformative role for education.
Summary

In this chapter I provide an overview of the theoretical framework and methodology underpinning my research. Consideration is given to the benefits of qualitative research and my own interpretivist research position is acknowledged before stating my research questions. Ethical issues are addressed to ensure compliance with University guidelines. I describe the process of enlisting research participants, the gathering of data and the presentation of that data in three cases.

The purpose of the research is to capture participants’ understanding of leading education for sustainability. For this reason narrative accounts are used not in a search for truth, but as an invitation to others to read and share the participants’ stories. After an introduction to the structure, development and effectiveness of using narrative accounts the characteristics of trustworthiness, transferability and resonance are considered. An audit trail which elaborates on the stages undertaken during the data analysis is outlined. These stages include identifying the themes across the narratives and meta-themes across the cases, before locating these themes within the leadership and education for sustainability literature. In the next chapter, which I call the Fugue, I present my data and data analysis.
Chapter 4

Fugue

A conversation with several voices; no two alike but elements in common

(Sadie and Tyrrell, 2001)

Introduction

In this chapter I offer three cases developed from a series of interviews undertaken at three metropolitan government secondary schools between June and December 2005. All case data are represented in a collection of narrative accounts. The first case is developed from interviews undertaken at Summer Springs College. The second case is developed from interviews undertaken at Valley Vista College. Interviews undertaken at River View College form the third case. Initially each case is considered separately and placed in context. A brief description of the school setting is provided, followed by a short background of the participants interviewed.

Each of the narrative accounts forms an element of the case. Each case is composed of five narrative accounts. The narratives are written to capture the lived experience of a selection of recognised educators for sustainability, and their school principals, to address my research questions. An introduction to the narrative account precedes each one and a brief summary follows each. The section following each of the three cases contains an analysis of each case. After organising and synthesising the data to illuminate and refine details of the participants’ experiences I identify themes emerging from the narratives. Following the identification of themes across the narrative accounts, a cross-case analysis is also offered. From this deeper analysis four meta-themes are identified. Elaboration of these themes concludes the chapter.
Case 1 — Summer Springs College

Five narrative accounts are presented from two teachers and the principal in a metropolitan government secondary school called Summer Springs College. Falling student numbers was an issue at the long established school, until it was restructured and re-named Summer Springs College six years ago. The staff was hand picked and appointed using a merit selection process. Currently one deputy principal supports the principal and approximately 40 teaching staff. Over the past five years student numbers have steadily increased. The College now has an enrolment of almost 600 students, all of whom are studying at Year 11 or Year 12 level.

These narrative accounts capture the understanding of leading education for sustainability as expressed during interviews with Finn, a long term and high profile environmental educator; Sally a science teacher; and Derek, the College principal. Each of the participants is foundation staff of the College. Finn, an experienced government school teacher, has remained a classroom teacher by choice, rather than seek promotional positions. Sally, a mature though less experienced teacher than Finn, has recently returned from extended leave. Derek is an experienced principal and close to retirement age. Each has a different understanding of education for sustainability while committed in their own way to helping bring about sustainable communities. The first three narratives describe the experience of Finn; one describes his experience in his previous school; and two describe his experience in his current school, Summer Springs College. These are followed by narratives first from Sally, and then from Derek.
In the first narrative, *Everybody knows about the environment*, Finn, who has an established reputation as an environmental educator, is dismayed to learn at the completion of an approved secondment from his previous school that his return is not welcomed. He is disillusioned to learn the thriving and externally recognised program he introduced has floundered.

**Finn**

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**Everybody knows about the environment**

When the administration team at my previous school was looking for a specialist theme to introduce for our metropolitan secondary school, I proposed Environmental Studies. Initially, there was little support from the staff. I tried to encourage other teachers to join in. Students were keen to join the Environmental Club I initiated and willing to attend during lunch and after school hours. Many of these students were generally thought of as nurturing girls and social fringe boys looking for a cause to support. Several teachers, while unwilling to introduce environmental studies into their classes, were happy to support our activities out of class time.

During my five years at this school the environmental studies program expanded and gained legitimacy. Eventually, all departments centred one fifth of their curriculum around sustainability issues. Business Studies classes began selling native trees to the community and supplying native trees for the wetland area established on the school grounds. The Home Economics classes established a worm farm, developed and maintained their own herb garden and recycled kitchen wastes.

I saw student self esteem improve, vandalism decrease and we received several Education Department awards. Students gained the confidence to take responsibility for running the Environmental Club and represented the Club and the school at national and international meetings. While this was a huge success for the school there was little acknowledgement for the staff involved. I felt burnt out, even though I was thrilled with the program’s success. I was ready for a break. When offered a consultancy by a nearby university I took long service leave.

However, when I wanted to return to the school the principal told me she was happy with the teacher replacing me. She suggested I look for a position in another school. But I was even more disappointed as the strong and thriving program I left, crumbled. When I asked the principal ‘Why has the program collapsed even under your leadership?’ she replied, ‘Everybody knows about the environment. There’s no need for it now’.
Finn describes a successful innovation despite initial reluctance by other staff to join with him. He suggests that early student involvement centred on students looking for a cause to support rather than any burning interest in the field. Finn describes the period he co-ordinated the program as a time for gaining legitimacy. He identifies curriculum change which resulted from his innovation. He saw increased student confidence as his students took responsibility for various aspects of the program. Furthermore, students received acknowledgment from both internal and external sources. ‘I felt burnt out’ and ‘I was ready for a break’ describe Finn’s readiness to step back from the program. He comments that there was little acknowledgement for staff involved. Finn describes his disappointment on not being welcomed back to the school and greater disappointment to learn of the program’s collapse.

*Preaching in isolation*, the second narrative, describes another successful program introduced by Finn, this time at Summer Springs College. It describes the willingness of a dedicated environmental educator to work in his free time during and after school hours to facilitate student learning for a curriculum area he is passionate about.
Finn

Preaching in isolation

I am a foundation staff member of Summer Springs College and like other staff here, appointed on a merit selection basis. While I have an environmental educator profile, my appointment was to teach senior Geography and Economics. Our students are from low socio-economic areas with little regard for high academic achievement especially in senior Geography and Economics.

In my second year I introduced Practical Geography to the Year 11 students and the following year to the Year 12 group. This had the principal’s full support. Each class is limited to 21 students which ensures numerous bus trips are possible for the practical aspects of the course. Similarly, the timetable is structured to facilitate two hour lessons, often straddling the lunch break. Students are attracted to the ‘hands on’ nature of the course, the day field trips and the three-night camp on an island in Year 12.

My course is designed around themes which cover the required student outcomes and all link to ‘sustainable living’. Unfortunately only five teachers in the state offer Practical Geography classes and there is little resource material available. I am often asked to provide a generic program for others to use. However much of my formal program is specifically related to our local wetland area and not suitable for wider use.

Within the school there are teachers who still refer to me as ‘tree hugging’ and ridicule rather than support me. One young teacher who left our school rang me recently to apologise for his previous condescending attitude. ‘For goodness sake’ I said, ‘What did you think I was talking about? Did you think I was making it all up?’ There are times when I feel that I’m preaching in isolation.

Finn describes the curriculum area he specialises in and the general interests of his students. He describes his new course as being designed around themes which cover specific student outcomes and linked to sustainable living. In structuring the course to deliver a hands-on, practical approach, Finn models life skills for his students. He describes the support he offers to his students in addition to the support he offers to teachers introducing similar programs elsewhere. This narrative highlights the sense of isolation and the wariness Finn faces at Summer Springs College. He comments that there are times when he feels he is preaching in isolation and subject to ridicule from his peers.
In the next narrative, *Wetlands*, Finn describes the introduction of further initiatives at Summer Springs College. In this account of introducing change he describes the behaviour he adopts to achieve his aims. Rather than approach the principal for his support of the introduction of a new sustainability project, he seeks approval from the acting principal, while the principal is on leave.

*Finn*

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**Wetlands**

I believe education should prepare students for a sustainable future, environmentally, socially and economically. When I first arrived I saw grassed areas surrounding Summer Springs College and no evidence that the school is situated in a dampland region. I shocked the principal when I asked his permission for my students to replace one grassed area and return it to its original state, that of a wetland. He was further shocked when I brought in a bobcat and removed the four metre high, introduced Eucalyptus trees from the site. It helped that the College chaplain and gardener supported my actions.

With advice from a local wetlands expert and assistance from the local community, we replanted one small area to wetland vegetation. Students, staff and community members worked alongside to establish the area and to develop future networks. Since establishing the wetland we’ve seen increased biodiversity at the site and other teachers now design some lessons around wetland issues. Biology students regularly test the water and soil conditions in addition to gaining knowledge about, and appreciation for, local native plants.

Our principal here thinks he knows about sustainability, but I think his view is narrow. Two months ago while the deputy was acting principal I applied to register our school with the newly introduced pilot Sustainable Schools project. When other teachers heard we had registered they asked the deputy ‘What will we have to do now?’ She described the three-pronged focus for sustainability and our opportunity for leadership but later asked me ‘Finn! What have you done?’ On his return the principal was informed of our registration. He said, ‘We need to talk about it,’ but that hasn’t happened yet.

I want to continue developing innovative projects to develop a holistic approach to sustainability issues with widespread support from staff and the administration. Rather than see staff and students view sustainability as simply the recycling of paper, I long to see sustainability issues feature in every facet of our school curriculum and life.
This narrative account shows Finn’s passion for, and belief in, preparing students for a sustainable future. He describes his collaboration with community members and students to build strong networks. Finn’s efforts are designed to develop links between his students and community members. He also describes changes to the Biology curriculum in the school as a result of networking. Finn is dismissive of the principal’s view of sustainability. He describes his actions in approaching the acting principal for approval to register in a sustainability pilot project while the principal is on leave. After registration, the comments ‘What will we have to do now?’ from other staff and ‘Finn! What have you done?’ from the acting principal indicate little communication occurred among them beforehand.

In *Fostering sustainability* Sally, a teacher of Science, describes her passion to foster environmental awareness among her students. She is mindful that they arrive with little knowledge of sustainability education and she is keen to broaden their understanding.
**Fostering sustainability**

Apart from a twelve month break I’ve taught science at Summer Springs College since the College opened. I teach part-time and alternate between teaching Year 11 and Year 12 students. My passion is to foster environmental awareness among my students through hands-on activities and student ownership of small projects. Little sustainability education occurs in the two feeder schools where our students complete their middle schooling. I want to increase my student’s knowledge of their local environment so they can see that what they do makes a difference. However, it is difficult to fit much more into our timetable.

In my first years here I encouraged students to participate in water testing and site assessment exercises both on and off the school site. I learnt about a local community group, so liaised with them to involve my students in weeding, revegetating and restoring a local wetland. Student interest lapsed during my twelve month break but I resumed our involvement immediately on my return. I use the site for sampling and identification exercises. My goal is to strengthen student engagement and ownership of the site. I plan to link our field work to their interests and re-introduce native fish to the area. I also use the wetland site being established in the school grounds but it is small and progress is slow. The geography teacher leading the project has a revegetation plan underway but he too is restricted by time.

I regularly share ideas with the geography teacher and we talk of combining our classes for worthwhile environmental education experiences. He supports my suggestion to take our students on a bike ride through a rehabilitated city area then visit a park in the city. We are considering a combined camp for our students next year. I accepted an invitation to join the sustainability pilot project committee and am enthusiastic about the difference I can make.

Sally describes the part time nature of her work and her interest in raising environmental awareness within her student group. She mentions her efforts to network within the local community and model community involvement for her students. Sally also refers to the lapse in student interest during her absence from Summer Springs College with renewed interest on her return. While her goal to strengthen student engagement and modelling of community involvement is consistent neither were embraced by students in her absence. Sally collaborates with Finn in her work.
The final narrative, *A broad perspective of sustainability*, was written from my interview with the principal of Summer Springs College.

*Derek*

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<th><strong>A broad perspective of sustainability</strong></th>
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<td>I am the foundation principal of Summer Springs College and was involved in the design, development and business planning from the outset. Much of my thinking is influenced by the Dusseldorp Skills Forum which highlights the critical nature of education for all and seeks to improve the learning and work transition of young Australians. I believe in empowering young people through education and my goal is to re-define education for young people in this area to assist them in the direction they want to go. My view of sustainability is also driven by the Dusseldorp Skills Forum.</td>
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<td>Our sustainability education is very broad here and my goal is to see it implemented across the school. I view sustainability in a broad perspective and look for environmental, social and economic aspects. At the one level, we focus on environmental aspects and encourage paper recycling, energy saving and native gardens. At another level, we focus on developing programs which incorporate the local Aboriginal culture and language. I see this developing into an identifiable strength by which our college will be recognised. At a third level, we focus on our ‘highly at risk’ students. Our aim is to assist them to become ‘sustainable selves’, help to turn their life around and assist them into employment.</td>
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<td>Staff are appointed after application and there are some key people very willing to implement sustainability into the curriculum. These include English, Geography and Biology teachers, with assistance from teacher aides and gardening staff. As a group they are supportive of each other and have developed some wonderful programs specific to the needs of our students.</td>
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<td>Local community members are involved in our work and include an environmental ‘Friends’ group and representatives of the council’s Revitalisation for Sustainable Living program. They are available to share information, assist with planting and landscaping and set a great example of community involvement for our students. Our future in educating for sustainability recently received a boost when we were awarded funding to become one of the pilot schools for the Sustainable Schools project. This will assist us to develop more upfront, explicit programs, and ensure the sustainability agenda is firmly linked to our future business plan.</td>
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Derek articulates his general views on education with specific reference to the Dusseldorp Skills Forum. He describes the critical nature of education and his belief in empowering young people through education. He indicates his view of sustainability is driven by the Dusseldorp Skills Forum which is about developing skills in students. While details of the environmental aspect are specific he refers in general terms to a program which incorporates local Aboriginal culture and language, and to another which focuses on ‘highly at risk’ students.

**Analysis — Summer Springs College**

I analysed the Summer Springs College narratives to identify themes. I clustered phrases which are similar or opposite in meaning. For example, phrases such as *I was thrilled, I long to see, my passion*, were clustered as *displaying emotion*. Phrases which indicate initiative or innovation, I clustered as *looking forward*. A third cluster of phrases, for example, *difficult to fit into our timetable, developing networks, sharing ideas* which indicate an element of challenge or a sense of strategy were clustered as *developing strategies*. I clustered a fourth collection of phrases, for example, *preaching in isolation, little support from staff, focus on highly at risk students* as *building resilience*. Across all Summer Springs College narratives I recognised the theme *interpreting sustainability*. In the following section I investigate and elaborate each of these themes in turn. Throughout my analysis I remain mindful that these themes are constructs and much like variables. Evidence of the themes is therefore viewed along a continuum where the theme may feature strongly in one narrative and less so in another. Similarly, the theme may be weak or missing in another.
Finn is responsible for sustainability education at Summer Springs College, with a little support from Sally. A high level of emotional involvement is demonstrated by both Finn and Sally. Finn’s passionate involvement surfaces in the narrative *Everybody knows about the environment*, where he describes himself as ‘burnt out’ and indicates little acknowledgement for the staff involved in the environmental program at his previous school. In *Preaching in isolation*, Finn refers to the ridicule and name calling he faced from other staff at Summer Springs College. Further evidence of emotional involvement occurs in *Wetlands* where Finn articulates his belief that education should prepare students for a sustainable future and his longing to see sustainability issues feature in every facet of school life. He also expresses an emotional view of the principal’s understanding of sustainability in *Wetlands*.

Similarly, in the first paragraph of *Fostering sustainability*, Sally describes her passion to foster environmental awareness among her students and her wish to increase her student’s knowledge of their local environment. She also describes her goal to strengthen student engagement and ownership for the field work they do, in addition to recognising that what they do can make a difference. Sally’s phrases ‘my passion is to foster environmental awareness’, and ‘am enthusiastic about the difference I can make’ indicate emotional involvement as does her desire to join the pilot sustainability project team. Little evidence of emotional involvement in education for sustainability exists in the narrative *A broad perspective of sustainability* from Derek. He focuses on the critical nature of education and his belief in empowering young people through education. Derek’s comments on education for sustainability are general and detached from the classroom context.
**looking forward**

Throughout his narratives Finn displays a high level of proactive behaviour and a strong focus on the future. For example, in *Everybody knows about the environment*, he describes the introduction of a specialist environmental studies unit and the spread of sustainability issues into the curriculum. In *Preaching in isolation*, and *Wetlands*, Finn describes another innovative curriculum unit he developed and practical changes he made to the school environment. Introducing new materials, a hands-on approach and several excursions for students are designed to appeal to the student clientele at Summer Springs College. By removing the grassed area and restoring the area to wetlands condition, described in *Wetlands*, Finn is taking further initiative and modelling sustainable behaviour. Furthermore he is looking forward in registering with the pilot sustainable schools program. Both Finn and Sally articulate a desire to continue developing their approach to sustainability issues into the future.

**developing strategies**

Several strategies are evident among the narratives from Summer Springs College. Both Finn and Sally’s strategic focus relates to introducing innovative programs in their classes to educate for sustainability. In *Everybody knows about the environment* Finn introduces the environmental studies unit successfully despite the initial reluctance of his colleagues. He describes the successful expansion of the unit across the curriculum and the ownership evident among the student group and teachers from other subject areas. However, with no long term strategy articulated, perhaps this success was due to the introduction of environmental studies as a specialist theme, with pressure from the principal rather than any strategy adopted by Finn. Perhaps the program collapsed during his absence, because Finn
had not planned for a replacement and there was no one prepared to take responsibility for
the program in his absence.

Similarly few successful strategies emerge from *Preaching in isolation* and *Wetlands*. Finn
makes little effort to gain the respect of staff and maintains an isolated stance rather than a
collaborative role with other staff. Rather than share his vision to prepare students for a
sustainable future with the principal, Finn’s strategy involves avoiding discussion with him,
prior to and after registering the college with the pilot sustainability program. With the
exception of Sally, there is no indication of a strategy to involve others in the program and
no sense of bringing colleagues along with him. In *Wetlands*, Finn describes seeking advice
from a wetlands expert, a strategy to acquire knowledge and the opportunity to network. He
also describes collaborative effort from the staff, students and community in working
together to re-establish a local wetland area. Finn states in *Wetlands*, ‘I long to see
sustainability issues feature in every facet of our school curriculum and life’. Perhaps
joining the pilot sustainability project is the strategy Finn proposes to achieve this aim.
Evidence of developing strategies exists between Finn and Sally in *Fostering sustainability*.
Both look for links with their students’ interests and for local relevance. While Sally
supports Finn’s work, her involvement is during class time and linked to her curriculum
area. In *Wetlands* and *Fostering sustainability* Finn and Sally share ideas and discuss
combining classes. However, it appears any strategy is in the early planning stages, well
before implementation.

In *A broad perspective of sustainability*, Derek articulates his goal, ‘to re-define education
for young people in this area to assist them in the direction they want to go’. He offers few
strategies to implement his goals other than ‘much of my thinking is influenced by the Dusseldorp Skills Forum’. Derek acknowledges the fine example set by his staff including the work completed with the local Friends group and their future involvement in a pilot sustainability program.

**interpreting sustainability**

Both Finn and Sally interpret sustainability in a similar and contemporary fashion. Sprinkled throughout their narratives are examples where they model their interpretation. For example, in *Everybody knows about the environment*, Finn is instrumental in spreading understanding of the three-pronged focus of sustainability education. In *Wetlands*, he works to increase biodiversity and restore part of the school site to its original condition. Despite reflecting on his outsider position in *Preaching in isolation* Finn describes designing his course to link to ‘sustainable living’. Similarly, in *Fostering sustainability*, Sally strives to engage her students in revegetation work with a local community group and to participate with Finn in the pilot sustainability project.

Throughout Derek’s narrative, *A broad perspective of sustainability*, he describes the influence of the Dusseldorp Skills Forum on his thinking, and acknowledges his view of sustainability from this perspective. In his narrative he recognises the three-pronged approach of education for sustainability and offers examples of the social, economic and environmental elements evident in the college. He also views strengthening the local Aboriginal culture and language, in addition to focusing on the ‘highly at risk’ students an aspect of developing individual sustainability. It is significant to note that Derek sought clarification from me regarding education for sustainability prior to being interviewed.
Throughout his narratives Finn displays a commitment to education for sustainability. In *Everybody knows about the environment*, his resilience is tested to learn after a secondment, that the healthy program he established has collapsed in his absence. Finn’s resolve is strengthened and he continues his endeavours at his next school. His new initiatives are described in *Wetlands* and *Preaching in isolation*. Finn’s resilience is further tested when facing ridicule and insults from colleagues who lack his understanding and commitment. Perhaps this pattern is likely to continue while Finn avoids opportunities to collaborate with colleagues and elects to bypass established networks. Using dramatic actions such as bulldozing the trees described in *Wetlands*, Finn makes an impact although he is unlikely to bring others on side. In *A broad perspective of sustainability*, Derek uses the language of sustainability to describe programs designed to address issues for students considered ‘highly at risk’ and to become ‘sustainable selves’. While his language is appropriate he offers no detail to describe a committed or personal approach.

Next I present the data and describe the analysis for the second case, constructed after interviews at Valley Vista College.
Case 2 — Valley Vista College

Five narratives accounts are presented from a metropolitan government secondary high school called Valley Vista College. The long established College enjoys a sound reputation in the community, such that demand for placements exceeds positions available. Three deputy principals support the principal and a teaching staff in excess of 100 teachers. Valley Vista College has a population of almost 1500 students, enrolled across year groups from Year 8 to Year 12. Student numbers are stable over the past five years.

The first narrative account captures the understanding of leading education for sustainability by Trevor, an experienced school principal. This is followed by narratives constructed after interview with Patrick, the Head of the Science Learning Area. Patrick has ten year’s teaching experience and his appointment to Head of the Science Learning Area is on a temporary basis. Both Jim and Phil are science department teaching staff. Jim has wide experience of international employment outside the teaching profession and has taught at Valley Vista College for the past 3 years. Phil has eight year’s teaching experience and also has employment experience outside the teaching profession. The final narrative represents the interview with Brian, a long serving member of the English department. Brian has taught at Valley Vista College for more than 20 years and is approaching retirement age.

In the first narrative, On track, Trevor describes his first priority for the school as student safety. He indicates the school is regarded as an exemplar within the education district and is viewed by the community as a high achieving school.
Trevor

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<th>On track</th>
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<td>My first priority is to ensure our students are safe and have the opportunity to achieve to the best of their ability. I believe students have the right to learn and teachers the right to teach. A strong pastoral care program is the backbone to our discipline policy and our District Director identifies Valley Vista College as an exemplar. Numerous specialist programs are offered so that student abilities at the top and bottom ends are catered for. Some of these include several language courses, strong literacy, athletics, music and agriculture programs. Success breeds further success and students here achieve highly in many fields. As a community we celebrate every success. This reflects well in the community where we are perceived as a high achieving school.</td>
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Many staff are long serving and content. They engage with students to develop positive and constructive learning relationships. Recruiting relief staff is not an issue here. As problems arise staff look for new ways to adapt to and address them. New initiatives and programs are supported by the administration team and the staff know their requests will be heard. |

Sustainability issues are addressed here. Individual staff take on responsibility for recycling newspapers, tree planting programs, developing walk trails, recycling rubbish bins and developing sustainable practices in our agricultural program. Units in our specialist agricultural course, designed for lower school students are integrated into mainstream classes. Our specialist units in Horticulture, Animal Production and Farm Practices are open to all upper school students. While not a high priority these units are part of the school ethos and form part of our ‘business as usual’. Our programs receive support from two local councils and a number of government departments. In the community we are viewed as a school which gets things done. |

Trevor identifies the pastoral care program and student success in specialist programs as reasons the school is perceived as high achieving in the community. He comments that success breeds further success and articulates the view that staff members are content and willing to take up challenges and initiatives. While knowledgeable of programs in the school, Trevor does not view sustainability issues or programs as a high priority. Instead he acknowledges the individual responsibilities of the teaching staff for the ‘business as usual’ approach adopted to sustainability. He comments that staff ‘know their requests will be
heard’ and uses his support for an application for federal funding by a teacher to illustrate this.

*Modelling sustainability*, the second narrative, illustrates Patrick’s understanding of leading education for sustainability. He describes his efforts to present a balanced, considered approach to sustainability education.

*Patrick*

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**Modelling sustainability**

At Valley Vista College sustainability issues are taken up by individual teachers when the opportunity arises, rather than in a specific program. My students are exposed to sustainability values during several of the modules I teach in upper school Biology classes. Each year I take them on a camp where we visit mine-sites, rehabilitated bushland and industrial sites. In addition I take them to viticulture sites and a fourth generation dairy farm. Originally the dairy farm was located in the middle of nowhere but is now subject to pressure from encroaching urban areas. Students see sustainable practices modelled. I make a conscious effort to present the visits as case studies where ecosystem management is sustainable. My students appreciate that it is not always necessary to lock up large tracts of land for ever but that land can be used in sustainable ways.

I encourage my staff to actively pursue professional development to keep abreast of current scientific knowledge. In our lower school classes students complete units in biotechnology where they study the long term effects of genetic manipulation and sustainable crop management. One teacher is developing a geological walk trail through an adjoining community farm-site and plans to produce an interactive CD to use on site or remotely. I am encouraging him to apply for further funding to extend the prototype to include biological aspects. The land behind the farm-site is jarrah/marri forest with a wetland region and appropriate for our studies. Last year my ‘landcare’ students conducted a botanical survey in the area which a government agency included in their database.

Staff are encouraged to conserve energy due to our enormous electricity bills. Lights switch off automatically after 50 minutes and my science team is researching wind generation and solar panels to generate our own electricity. An energy expert on my staff is guiding us through an energy management program. While I would not expect the school to become self sufficient we can model sustainable energy use and reduce energy costs.
Patrick acknowledges the efforts of individual teachers working with sustainability issues at the school. Much of his own sustainability focus is within his teaching area and subject syllabus rather than due to any passionate engagement. Patrick describes his efforts to present models of sustainable practice to his students while off the school site without reference to opportunities offered through the specialist agricultural program conducted on the adjoining community farm-site. Patrick indicates his support for professional development and individual initiatives among the science staff. He describes his encouragement for the teacher developing a geological walk trail and related teaching materials. Similarly, he refers to the energy specialist on staff and his efforts to reduce energy costs through wind and solar power. Once again these are attempts to model sustainable practices and develop understanding within the staff and students.

Jim is a recent arrival to Valley Vista College and provided material for the narrative Bin here, bin there. He has worked overseas in large scale industry related to reducing energy use and welcomes the opportunity to assist the school and local community with recycling activities. He describes the current forms of recycling and his involvement, but suggests a tension between his class time and free time.
**Jim**

**Bin here, bin there**

I spent 15 years overseas in industry, directly related to the efficient use of energy, prior to teaching at Valley Vista College. I was impressed by the innovations I saw overseas, including waste conversion processes, renewable gas schemes and successful recycling programs. When a local council sought interested schools to participate in a wheelie bin recycling program, with appropriate tools provided, I volunteered. Initially I planned to integrate the program into my classes but found working with two to four students more manageable given the industrial equipment being used. Students from our remedial classes often join me and most view the work as a reward. I also welcome senior students from our academically talented program who enjoy working with the equipment.

So far students have converted the bins into worm farms, trolleys, trays and receptacles. No one claims any bin for themselves; instead there is shared ownership and combined effort. I teach students to set up worm farms with worms supplied by our parent group. I collect animal manure and sawdust from an adjoining farm while students gather weeds to add. When I have a few more completed, the council would like them sold. Their goal is to reduce the number of bins dumped at the rubbish tip. The trolleys built from recycled bins are used to transport hay bales and tools around the farm. The trays are used in a variety of ways including capturing oil as it’s drained from school vehicles to be recycled. I recycle other bins as stationary compost units, receptacles for farm animals to drink from and as tomato planters.

In addition to council and parental support our principal has provided financial and verbal support for the scheme. I am accountable for funds spent and write progress reports to keep him up to date. While the council would like deeper involvement I see this as a future difficulty. I’m working to integrate the program into our lower school agriculture courses for next year rather than in my free time. I’m not sure how free I will be with responsibility for the introduction of a new course of study.

Initially Jim describes his lengthy background in efficient energy use and his interest in innovative processes observed overseas. Given the opportunity to introduce the wheelie bin recycling program into the Valley Vista College, Jim intends to integrate it into his classes. Instead he works with a few students predominantly in his own free from teaching time. Rather than focus solely on environmental aspects, Jim is mindful of the economic and social factors involved in sustainability. He describes his intention to sell the recycled
products and the varied ways the bins can be re-used. Social factors are evident in engaging students of different abilities within the student group. Jim also acknowledges support from the local community and the school principal. While he is keen to integrate the program further into the curriculum, and he indicates the local council would like deeper involvement, he is restricted by his teaching commitments. Jim is uncertain of the project’s future and makes no mention of a team approach or replacement.

The fourth narrative, *Pragmatic sustainability*, describes Phil’s interest in sustainability issues and his mining industry background. His focus is on finding the right balance to ensure good management of our resources.
Pragmatic sustainability

My focus on sustainability occurs through my interest and teaching strength in Earth Sciences and background in the mining industry. I discuss sustainability issues routinely in my classes. I have rewritten materials for lower school science classes to integrate resource management into the course. My focus is on the types, uses and values of natural resources. I know these issues are also a focus in our academic talented classes and special agricultural courses. I tell my Geology students that sustainability involves responsible resource use and is linked to land management, the positives and negatives of land rehabilitation and energy use. Sustainability is not about warm fuzzy emotions but about getting the right balance between those areas we need to keep untouched, pristine, and good management to maintain our lifestyle.

I use a local community farm-site for much of the practical part of my lessons. Last Semester I developed an interpretive walk trail at the site. It’s designed to focus on the geology of the area and demonstrate relationships between the living and non-living sections of the environment. At this early stage there is a limited focus on sustainability as that’s not the prime motive but that will follow. I’m also in the process of applying for federal funds to develop a teachers’ guide and produce a CD as an interactive learning tool for use before and after the walk trail excursion. My goal is to provide maximum information for minimal walking.

Support for the walk trail and accompanying material is forthcoming from several people. Our principal is very keen on the project and encourages me to go ahead to do what’s necessary. Science staff assist with the paperwork required to apply for federal funding. The farm-site manager is fantastic and regularly offers assistance. The local council also approves the project and my work will support their research. I’ve not consulted anyone at the Department of Education and Training yet. I’m not sure there is any point.

Routine discussion about sustainability issues rather than a specific focus occurs in Phil’s classes. He chose the title Pragmatic sustainability for this narrative to reflect his view of sustainability. He further articulates the view that ‘sustainability is not about warm fuzzy emotions but about achieving the right balance’ in the narrative. Phil makes good use of the local community farm to develop his geological walk trail. He portrays the farm-site manager as ‘fantastic’ and as someone who regularly offers assistance. Clearly, they have a
good working relationship. Phil also acknowledges the support he receives from the principal though describes little evidence of his willingness to work with others.

*Recycling heroes* is the final narrative of this case developed from interview data from an English teacher. Brian is a long serving teacher at Valley Vista College and has conducted a paper recycling program for most of his years there. He describes the students who work with him to organise the recycling program but is concerned about the scheme’s future.

*Brian*

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**Recycling heroes**  
I began teaching English at Valley Vista College 27 years ago and have conducted a paper recycling program in the current format for the past 16 years. In that time the program has grown from one recycling bin to 15. I know further expansion is possible but I am restricted by time and bins. I run the scheme with the help of a group of boys who monitor and collect the bins as they fill. I pay the boys in cool drinks.

Staff are supportive and it is rare to collect a contaminated bin. I think the staff appreciate the work I do and take care to limit the rubbish to cardboard, newspaper and photocopying paper. The days of finding plastics thrown in are well over. Each week I move the bins out for council rubbish pick up then back in again during my free from teaching time. I estimate that at this time of the year more than 2 tonnes of paper has been recycled. When I seek assistance from staff someone always steps in to help.

With the principal’s support my team of boys wear a special recycling jacket which labels them as ‘Recycling Heroes’. The bright orange jackets were designed by the school art department and sewn for us by the home economics teacher. I know the boys enjoy wearing them. I receive no funding for the program nor any extra time in lieu; but I haven’t requested any either.

Last term I talked with the principal about the program’s future. When I took extended leave a few terms ago another teacher filled in for me but he has moved on. I’d like to be sure someone will take responsibility for paper recycling when I leave. I know the council is keen to expand the program but I worry that it will involve greater commitment from more staff, than they are willing to offer.
Brian enjoys widespread support from the staff and students to conduct the paper recycling program. He indicates that staff are willing to help if he is absent although he takes full responsibility for the scheme. He believes the non-contamination of recycling bins indicates the school community appreciates the work he does. Further evidence of the support he receives is articulated in his description of the ‘Recycling Heroes’ jackets provided with assistance from the home economics teacher and with the principal’s approval. In providing jackets to identify the student assistants Brian also acknowledges their significance and contribution to the program. In addition to supplying cool drink payment Brian is publicly valuing the student’s work. Brian is directing the recycling student group and encouraging them to take responsibility for their surroundings. Concerns about the future surface in Brian’s narrative. He is aware a replacement is needed and mentions his concern about the involvement necessary to continue the program.

Analysis — Valley Vista College

From my analysis of the Valley Vista College narratives I identify four themes across the narratives. Once more I clustered phrases which are similar or opposite in meaning. For example, I clustered phrases throughout the narratives defining or explaining sustainability as *interpreting sustainability*. I clustered phrases such as *I have conducted a paper recycling program for the past 16 years, I volunteered and not about warm, fuzzy emotions* as *displaying emotion*. Phrases such as *I see this as future difficulty, and I’m working to integrate the program*, I clustered as *looking forward*. A fourth group of phrases such as, *I pay the boys in cool drinks and I worry that it will involve greater commitment* indicating a sense of strategy I clustered and call *developing strategies*. I elaborate on these themes in the following section. Again the themes are viewed as existing along a continuum with the
interpretation of strong evidence of the theme at one end and weak or no evidence at the opposite end.

At Valley Vista College, four teachers are involved in education for sustainability. Each one articulates or models a different view of education for sustainability. Surprisingly, given three of the participants are science teachers who share an office, each conducts a project of interest to themselves with little sharing of vision or collaboration. In *Modelling sustainability* and *Pragmatic sustainability*, both participants state that education for sustainability is about ensuring natural resources are used in sustainable ways. We read in *Modelling sustainability*, ‘it is not always necessary to lock up large tracts of land for ever’ from Patrick. He ensures his Biology students see sustainable practices modelled during their Biology camp and proposes that students witness sustainable energy use modelled by the staff after an energy management program is developed by the science teachers. In *Pragmatic sustainability*, we read from Phil, that ‘sustainability is not about warm fuzzy emotions but about getting the right balance’.

In *Bin here, bin there* and *Recycling heroes*, an understanding of the broader meaning of education for sustainability is subtle though evident. Both narrative accounts suggest social and economic aspects are factored into the program. In addition each refers to a reward system for participating students which is built into their programs. In *Bin here, bin there*, students view working with the equipment as a reward. In *Recycling heroes* we learn participating students receive drinks and wear an identifying uniform.
Trevor, in his role as principal, oversees and supports staff initiatives. In his narrative, *On track*, he states that sustainability issues are addressed at Valley Vista College, then lists examples such as, recycling newspapers, tree planting programs and developing sustainable practices in the agricultural program. No understanding of the breadth of education for sustainability is evident. It is clear though, that the staff are permitted to introduce new ideas, seek outside funding and support while completing their regular teaching commitments.

*displaying emotion*

Both, *Bin here, bin there* and *Recycling heroes*, show evidence of a long term commitment to education for sustainability from two teachers. Jim describes being involved with, and impressed by innovations he observed overseas, before joining the recycling rubbish bins project. He displays openness to new ideas and his willingness to become involved in a local initiative. Similarly Brian has overseen paper recycling at the school for the past 16 years. Both indicate much of their involvement is in their own free time which suggests emotional involvement.

In the narrative *On track*, Trevor, while knowledgeable about the programs underway in the school has little emotional involvement in them. While he refers to examples of projects addressing sustainability issues he is detached from them. Trevor explains that individual staff take responsibility for various programs and his contribution is to support their efforts. He portrays a complacent and relaxed view of the school where all is well. Several participants acknowledge Trevor’s support for their projects. In *Modelling sustainability*, Patrick describes the teaching of sustainability issues on an *ad hoc* basis where teachers
introduce elements when the opportunity arises. In his own classes sustainability is slotted into the syllabus, with difficulty, and features as a topic on student camps. Similarly Phil indicates in *Pragmatic sustainability*, that sustainability discussion occurs routinely in his classes. In both examples, emotional involvement appears low.

**looking forward**

Initiative and some proactive behaviour is evident across the narratives. In *Bin here, bin there* and *Recycling heroes*, teachers volunteer their time to co-ordinate individual interest projects. Jim is creative and looks beyond the moment to find several uses for old wheelie rubbish bins in *Bin here, bin there*. He is also creative in finding markets and creating a demand for the products both off and on the school site. Brian also shows initiative in establishing then maintaining the paper recycling project over many years as he describes in *Recycling heroes*. Providing his team of boys with uniforms and soft drinks are creative means to reward students for their support. However, while both Jim and Brian indicate concerns for the future of their projects neither has any future orientation built into their mode of operation. Jim comments in *Bin here, bin there*, that he is unsure how free he is likely to be in the next school year which suggests the future of the project is not certain. Similarly, Jim worries that the commitment from other staff may not there for his project to continue, when he leaves.

In *Pragmatic sustainability*, Phil describes the interpretive walk trail he designed for the practical component of his geology lessons. He acknowledges his initiative has a limited focus on sustainability at this stage. However, he is applying for funding to ensure the initiative continues into the future. Trevor articulates his first priority as involving the
safety and opportunities available to all students at Valley Vista College. He also prioritises the strong pastoral care program at the school and the public perception of a high achieving school. Trevor states in *On track* that ‘sustainability issues are addressed here’ and describes staff involvement. He emerges as a hands-off principal willing to allow others to take initiatives which he then supports.

**developing strategies**

Little evidence of high level strategic thinking exists across the narratives. In *On track* Trevor’s focus relates to the whole school. He describes several courses, for example, Horticulture and Farm Practices, as part of the school’s ‘business as usual’ and indicates that elements of sustainability are addressed by the integration of these specialist agriculture courses into mainstream lower school classes. Trevor’s strategy is to remain aside from the various programs and instead offer support and encouragement to innovative staff members. Challenges are not acknowledged. There is limited evidence of developing strategies to work with others or to bring others into the projects at Valley Vista College.

The focus in *Bin here, bin there* and *Recycling heroes* is on isolated projects to introduce aspects of education for sustainability. In *Bin here, bin there* Jim describes implementing the recycling bins program into his classes, before learning that working with up to four students is a more manageable option. He comments that students from both remedial and academically talented classes join him which suggests a strategy of inclusivity. Jim develops a useful product with a variety of purposes, with appeal to a wider market, while also working with students, parents and the local council. In a similar manner, working with the local community and involving others is a strategy adopted by Brian in *Recycling*
heroes. He describes involvement and support from teachers in the Art and Home Economics subject areas which differ from English, his own area. Brian rewards students with cool drinks and provides them a uniform. This strategy ensures students participating are publicly recognised and that the value of their contribution is acknowledged.

Both educators acknowledge the challenges they face now and in the immediate future. In Bin here, bin there, Jim refers to the extra responsibilities he faces to maintain accountability and time constraints he struggles with while running the program and developing a new course of study. Jim offers no solution and makes no mention of a replacement. Perhaps he plans to step aside and allow the program to end. Brian refers to the possibility of expansion for his program in Recycling heroes, but is restricted by time and the number of recycling bins available. Concerns about the future are apparent in Brian’s narrative. He says ‘I’d like to be sure someone will take responsibility for paper recycling when I leave’ and he acknowledges the need for a replacement. Unfortunately, like Jim, Brian offers no solution or plans to locate a replacement. Instead he worries about the level of commitment necessary to operate the program in its current format.

Strategies evident in Pragmatic sustainability differ from the previous examples. While Phil is committed to completing the geological walk trail on the adjoining farmland much of his effort in conducted in isolation. He does acknowledge encouragement from the principal, and assistance with paperwork from science staff. He describes the farm manager as ‘fantastic’ and a source of assistance. However, there is little evidence of working with others. Indeed, Phil states that he has not consulted with anyone in the Department of Education and Training because he sees little point in doing so. Perhaps this is short sighted
given Phil’s plans to develop an interactive learning tool for the site and the department may provide an alternative funding source. Phil’s strategy appears to be to ‘go it alone’.

With the exception of the energy management research underway in the science department, Patrick articulates little formal strategic planning in *Modelling sustainability*. However, he does indicate his support for science staff to pursue their own interests and professional development. Patrick also demonstrates his openness to working with others in the community and within the science staff.

I now present the data and analysis for the third case, constructed after interviews at River View College.
Case 3 — River View College

Five narrative accounts are presented from educators in a metropolitan government secondary high school called River View College. The College is regarded as one of Western Australia’s strongest government schools and regularly achieves outstanding academic success. Three deputy principals support the principal and a teaching staff in excess of 100 teachers. River View College has a population of almost 1500 students, enrolled across year groups from Year 8 to Year 12. Student numbers are relatively stable with a small decrease in the number of Year 11 and Year 12 students over the past five years.

Each of the narrative accounts forms an element of the third case. The first three narratives capture the understanding of leading education for sustainability as expressed during interviews with Colin, a locally recognised environmental educator. While a long term and committed sustainability educator Colin maintains a low profile outside his school community. Two of his narratives describe implementing initiatives into River View College and the third describes collaboration with his teaching colleagues. The next two narrative accounts are developed from data gathered after interviews with a classroom teacher named Eleanor and with Gordon, the school principal. Eleanor is an experienced Society and Environment teacher who has taught at the College for the past eight years. Gordon is an experienced teacher with itinerant principal experience. His appointment at River View College is for the current year.

In the first narrative, BushRangers, Colin refers to his passion for promoting resource and environmental awareness. With support from like-minded teachers and a previous principal
he is able to introduce an innovative cadet program into the school. Colin develops and enjoys widespread support from parents, staff and successive principals for the program.

Colin

BushRangers

Environmental education is a long term passion for me. As a science teacher I capitalise on any opportunity to promote resource and environmental awareness among my students. Several years ago I learnt a school cadet program called Environmental BushRangers was to be piloted in selected schools. I spoke with the school principal who supported the government land management authority initiative. He agreed that I should coordinate the program. With assistance from another two teachers 30 Year 8 students were recruited for our first intake of cadets. I accepted the offer of class time to coordinate the program and did so for 5 years. Initially the program ran during the school day but from the second year we met weekly after school.

Prior to taking extended leave three years ago, I found a committed teacher willing to coordinate the program in my absence. On my return, I learnt the new principal removed the time allocation to coordinate BushRangers. I approached her to reinstate the coordination time, without success. A year later I applied further pressure and told her ‘BushRangers cannot continue without planning time for the coordinator’. ‘No’ she said, ‘It’s not possible’. Fortunately, a few weeks later we were named finalists in the WA Youth Awards for the BushRangers program, and she changed her mind.

Cadets work with local residents’ associations in bushland revegetation, creek-line restoration, water quality testing and animal rehabilitation. I encourage students to contribute items to the environmental noticeboard established for them, assist with mulching the gardens, nurture native plants grown in the shade house, participate in bird surveys and to increase recycling in the school.

The strong and structured administration of the program is a huge factor in its success. I still work with the new coordinator, another teacher with long term involvement and the government land management authority representative. Parents support the group by attending our weekly meetings and joining us on camps and excursions. The local government environmental officer visits regularly and provides many contacts.

Colin describes his role in implementing a new student program, Environmental BushRangers, due to his long term passion for raising environmental awareness. Colin is
forward-thinking and describes finding a replacement willing to assume his role during his absence and into the future. Rather than accept the changes to the time allocation for leading the BushRangers on his return from leave, Colin searches for solutions to resolve the problem. He repeatedly requests a return to the original arrangement with the new principal but despite his efforts no solution surfaces. Instead, Colin is relieved to learn of a fortunate change of heart by the principal when the program becomes an award winner. Colin describes his work to build relationships and community involvement through the program. In addition he describes the responsibility afforded to students and the strong support he receives from parents, ex-students and government agencies.

*Sustained focus*, the second narrative from Colin, describes his attempts to introduce an environmental education unit linked to the successful cadet program into the school curriculum. Colin works to encourage his students to take responsibility for their environment and to understand the difference they can make in the community.
**Colin**

**Sustained focus**

My goal to engage student interest and responsibility for their environment is long term. Several years ago I attempted to link environmental education with the newly formed BushRangers unit. I found these students disinterested and the group too small to make any impact. Instead, I looked towards expanding environmental awareness through the curriculum. I spoke about this possibility many times with the administrator responsible for timetabling. Despite evidence of increasing interest from students he saw no scope for capacity building and would not consider optional environmental education classes. He left the school last year.

On my return from summer holidays this year, I was surprised and delighted to see Environmental Education listed as an optional subject for Year 8 students. I designed the course to be as practical as possible and centred it around pollution, habitats and recycling. Students studied the effect of plants and animals, including humans, on the environment. We visited local habitats where we took measurements and observed wildlife. I registered the school with the state-wide AirWatch program to monitor air pollution along local highways and the school site. Students initially focused on their activities at school before deciding on the need for more rubbish bins and recycling bins. I encourage them to think about wise energy use at school and at home, undertake surveys to measure energy use at school and plan to focus on global warming.

Students are enthusiastic but their knowledge is weak. I encourage them to think critically and to take small steps towards individual responsibility. As part of each topic I ask them ‘What can we do? How can we do it?’ Students do understand the meaning of sustainability and describe the advantages of walking or riding to school rather than driving by bus or car. They understand the significance of bird watching for Birds Australia.

The main challenge for me in running the program is finding the time to write materials. Meantime the enthusiasm and interest of students and other teachers ensure the time and effort are worthwhile. Next year I will receive funding for the program which will cover the costs of excursions. I also know three classes will be offered so, with the assistance of another committed teacher, environmental education will also be available to our Year 9 students.

Colin’s initial efforts to link the successful Environmental BushRangers program to his newly developed curriculum unit are unsuccessful. Rather than accept this situation as failure or view the stance as defeat, Colin is instead challenged. He perceives resistance to
implementing the program from the administrator responsible for timetabling. He also believes the administrator fails to see the potential for student growth and responsibility in the new program. Colin claims increasing evidence of student interest in the program, then describes his delight on learning his environmental education unit is unexpectedly being offered as an optional subject for the new school year. Colin asks his students ‘What can we do? and How can we do it?’ to encourage critical thinking and individual responsibility. He recognises gaps in his students’ knowledge and aims to harness their enthusiasm to expand the program. He also works to enthuse other like-minded staff.

Colin’s third narrative account, *Across the curriculum*, demonstrates collaboration in practice and a cross-curricular approach for sustainability education. Students are involved in practical activities where social, economic and environmental aspects are interwoven.
Across the curriculum

My interest in the sustainable use of our resources is shared by other teachers. Together we work to change student and staff habits. Last year two like-minded teachers and I began our first attempt at cross curricular lessons. Our strengths were complementary as English, Society and Environment and Science teachers working with the same group of Year 8 students. Together we planned several shared activities, linked to common student outcomes, which included tree planting, worm farming, recycling and signage for local interest sites.

Our program was designed so that the Society and Environment teacher covered any historical aspects, the English teacher covered English expression and billboard presentation, and as Science teacher I covered the plants and animals involved. Other staff joined in through Home Economics and the school canteen. Students were rostered to collect scraps from the canteen for the worm farm and others to collect worm wastes as they accumulated. During Science, students measured the volume of waste and nutrients produced by the worm farm and during Society and Environment, they calculated the profit and loss involved in the sale of worm wastes. During English, students constructed the advertisements for our product.

We developed a roster for Clean Up Australia Day during the school day. During English students collected rubbish, in Society and Environment they sorted, then analysed and recycled rubbish and in Science students wrote reports about the exercise. As a team we work with Year 8 students to increase recycling of paper in the classrooms, offices and canteen. Similarly, students work together on Arbour Day, Threatened Species Day and World Environment Day.

I encourage staff to reduce their energy use and with assistance from Western Power conducted an energy audit. As a result several offices and staffrooms have fewer fluorescent light tubes. I am seeking quotes to install a voltage reduction system to the library and fewer lights are left on when rooms are unused. While some co-workers are unhappy to reduce the use of air-conditioners senior staff agreed to adjust the settings for winter and summer. I also initiated a small staff action group to visit sustainable sites, including a resource recovery venue, and to support students participating in sustainable environmental activities such as World Environmental Day, Weedbusters and Water Week.

In Colin’s final narrative, he describes collaboration with other teachers to develop cross-curricular lessons which focus on the three-pronged approach of education for sustainability. He highlights the links between subject areas that share common student
outcomes. In addition Colin endeavours to build relationships between his students and the community through their combined involvement in community activity days such as Clean Up Australia and Threatened Species Day. In taking the initiative to reduce energy use in the school, Colin also works to guide other teachers towards individual responsibility for sustainable practices. Similarly, he offers teachers opportunities to visit resource recovery venues and visit sustainable sites.

A curriculum focus describes Eleanor’s involvement in the Environmental BushRangers group and the new environmental education curriculum unit. She is an educator committed to sustainability awareness raising and to influencing others.
Eleanor

**A curriculum focus**

Working for the environment is not new to me. I introduced tree nurseries at my two previous schools and helped set up a local community land-care group in a wheat belt town, before joining the Society and Environment teaching staff here eight years ago. In Term 4 of my first year here the principal asked me to work with a science teacher to establish an Environmental BushRanger cadet group ready for the new school year. Support for the program was terrific. We received funding and resources through a government youth agency, and we ran BushRangers during school time.

Our initial intention was to incorporate the program into the curriculum as an optional subject but our early numbers were not sustained. Instead we met after school from the second year of operation. I remained closely involved for five years but found my responsibilities increased to the point of BushRangers becoming my second job. I stepped aside to improve my quality of life not because of disinterest. For the past two years I restricted my help to camps, excursions and special days. While much of the program is focused on leadership, the environment, first aid and drill, students may also qualify for a Technical and Further Education (TAFE) Certificate II in Conservation and Land Management if they achieve prescribed competencies. There are also opportunities for staff. To tutor BushRangers for Certificate II, staff are expected to hold the TAFE Certificate IV so I’m currently gathering evidence to support being awarded the qualification. In addition I benefit from the networking opportunities to develop my team building and relationship skills.

I also work with the science teacher to deliver cross curriculum lessons. Because our curriculum framework has a component called Active Citizenship in Society and Environment the profile is raised. Two years ago, another teacher, the Science teacher, and I taught the same Year 9 students in our English, Science and Society and Environment classes. Due to timetabling restrictions this year the English teacher is less involved. However, we work with enthusiasm to promote our mutual sustainability interests and values. We share our program with others to target common outcomes for each learning area. Our students see their English, Science and Society and Environment education in context and how well education can work for them.

I am hopeful our cross-curricular approach will inspire others. I plan to teach one of the option classes in environmental education next year. I want to see the whole school involved so that sustainability issues become embedded into the school curriculum rather than a loose attachment at the edges.
Eleanor’s commitment to environmental awareness raising is long term and is recognised immediately on her arrival at River View College. She describes her involvement with the Environmental BushRangers program from its inception then acknowledges the commitment necessary and the cost of that commitment. Her comments ‘My responsibilities increased to the point of BushRangers becoming my second job’, and ‘I stepped aside to improve my quality of life not because of disinterest’ suggest she was close to ‘burn out’. Unable to completely distance herself from the program Eleanor remains available on a restricted basis. Eleanor describes the cross-curricular approach she shares to inspire and model sustainable practices for other teachers. She explains her willingness to share her programs with others to achieve common student outcomes and her desire to see sustainability issues embedded into the school curriculum.

*The big picture*, from the school principal, Gordon, is the final narrative. His perspective of sustainability focuses on the ‘whole person’. Gordon recognises the need to build self esteem in students to assist them become ‘sustainable selves’. However, Gordon is clearly a principal on the move.
The big picture

This is my first year as principal at this school and I’m moving to another school next year. I see two sides to sustainability: the first explicit, with programs like BushRangers, recycling and student outcomes such as Active Citizenship involving activities; and the second, implicit with a hidden part of the subculture which involves resilience and standards for sustainable personal and societal development. As principal I have an overall perspective, but some teachers lack this.

Much of the explicit side to sustainability is driven from within our science department where teachers are passionate and their enthusiasm is contagious. One leading teacher is responsible for environmental education and heavily involved with the BushRanger cadets. Students are involved in ‘hands on’ environmental activities, for example, conducting bird surveys and revegetation programs. Steps are being taken to develop cross-curricular studies in Science and Society and the Environment where student outcomes fit both learning areas. However, the hidden side to sustainability is less easily dealt with.

Our students are from homes with a strong ethical base where parents promote morals and often push for high academic results. Forty percent are born overseas with different cultural standards and a greater focus on success for the individual. Sometimes they lose sight of other aspects and instead are driven by career aspirations and job status. Students feel a three way pull: academic pressure from their families; pressure to fit into society; and pressure to develop their own emotional and personal values. Rather than focus solely on the academic, which is good for the neither the individual nor society, it is important they find a balance.

I recognised one avenue, the home-room system as a vehicle to support this balance. A previous survey showed the current format unsuccessful due to poor use of free time. With the support of year coordinators I restructured home-room. This created an immediate impact on timetabling and required lengthy negotiation with staff before being introduced. I know staff also require resilience to manage change, feel confident and competent rather than threatened. I targeted the lower school Health Education program with a view to building resilience. Time was allocated to accommodate guest speakers selected to complement the structured health program developed by the year coordinators. Students discussed strategies to determine who they are, what they are, and what they want from life. I think it important that students have control over their own health and well-being.
Gordon acknowledges his short time at the school and his intention to move to another for the next school year. He articulates his view of two sides to sustainability: the explicit and the implicit. He provides evidence of both sides of sustainability at River View College, though believes his is an overall perspective which some teachers lack. In the second paragraph he describes the explicit aspects of sustainability as driven by science teachers who are passionate with contagious enthusiasm. He credits these teachers with encouraging students to undertake ‘hands on activities’ and in developing cross curricular studies to meet shared student outcomes. Gordon is concerned with the implicit aspects of sustainability. He describes the family background of students at the school, where parents promote strong morals and push for high academic results. He suggests that some parents focus on future careers and status for their children rather than a good life balance for them.

Analysis — River View College

In my analysis of the River View College narratives I identify six themes across the narratives. I clustered phrases which were similar or opposite in meaning. For example, phrases referring to a long term passion, a desire to expand environmental awareness and an enthusiasm to promote sustainability interest were clustered as displaying emotion. Phrases indicating initiative, such as, I recruited, I designed the course and I introduced, were clustered together as looking forward. A third group of phrases such as, a strong structure, through the curriculum and our program was designed to, indicating an element of challenge or sense of strategy I called developing strategies. I clustered phrases such as a year later, to improve my quality of life, no scope for capacity building, I know staff also require resilience together to represent building resilience. The fifth theme sharing responsibility emerged after clustering phrases such as, I found a committed teacher, with
the assistance of a committed teacher and with the support of home-room teachers. Across all River View College narratives the sixth theme, interpreting sustainability, is evident. In the following section I investigate and elaborate each of these themes in turn. Evidence of the themes is perceived as existing along a continuum where the theme may feature strongly in one narrative but may be weak or non-existent in another.

**displaying emotion**

Colin is guiding education for sustainability with strong support from Eleanor at River View College. Both teachers are deeply committed to their work in education for sustainability, from their positions of Science teacher and Society and Environment teacher respectively. The use of phrases such as ‘environmental education is a long term passion for me’, in *BushRangers* and ‘my goal to engage student interest and responsibility for their environment is long term’ in *Sustained focus* from Colin offers evidence of this. Further evidence is offered by Eleanor in *A curriculum focus* where she comments ‘I remained closely involved for five years’ and ‘I want to see the whole school involved so that sustainability issues become embedded into the school curriculum’. In similar fashion the language they use to explicate their desire to raise awareness of sustainability issues, to change the habits of, and exert influence over others in the school indicates a high level of emotional involvement. Each explicitly models leading education for sustainability for others to emulate.

In contrast, Gordon displays little emotional involvement and indicates early that while he is new to the school he is on the promotional path and is not staying long. While he acknowledges the passion and enthusiasm for education for sustainability among some staff
he does not suggest any sharing of these sentiments. Instead Gordon identifies two broad aspects to sustainability that he suggests are not perspectives necessarily observed by teachers, whom he believes lack the big picture perspective.

**looking forward**

Throughout his narratives Colin is proactive and highly focused on the future. Prior to the introduction of the Environmental BushRangers program he seeks involvement from staff whom he actively recruits. In *BushRangers* Colin describes locating a replacement co-ordinator willing to step in while he is on leave and willing to assume responsibility into the future. Colin looks for opportunities to introduce curriculum change with an environmental and sustainability focus. For example, in *Sustained focus* he describes his early, though unsuccessful, effort to link the BushRangers program with an environmental education unit and the later implementation of cross-curricular classes within the Year 8 cohort. Colin persists with his proactive stance to introduce a stand-alone environmental education unit after several attempts to introduce the course are stalled due to timetabling difficulties. Further evidence of taking initiative and looking forward to focus on education for sustainability occurs in Colin’s narrative *Across the curriculum*. He describes his efforts to influence others in bringing about reduced energy use after arranging an energy audit for the school. Despite some resistance from other staff Colin seeks ways to work with them to consume less energy. In organising staff visits to sustainable sites Colin is seeking opportunities to influence colleagues, to highlight sustainability issues and to model sustainability education.
Gordon also looks forward in The big picture. He acknowledges the pressures students face from school and home so locates a means to support them. Gordon understands the need for individuals to find a balance in life and the importance of personal skills to achieve this. Through working with teachers and year co-ordinators he is able to implement changes to the health education program through the home-room system.

building resilience
Colin identifies barriers obstructing him in his goal to educate and model education for sustainability. He demonstrates resilience to overcome several of these including: finding a replacement to lead the BushRanger program and responding to changes made to the allocation of preparation time during his absence in BushRangers; timetabling issues that he highlights in each of his three narratives; resistance from colleagues and some administration staff as he describes in Sustained focus and Across the curriculum; and, finding the time to write new curriculum materials which he describes as ‘the main challenge for me’ in Sustained focus. Colin overcomes the challenge in each dilemma he faces. He makes no mention of giving up or regarding the challenge as insurmountable even when he perceives others failing to understand the potential for capacity building within the school community.

Similar challenges are identified by Eleanor in A curriculum focus. She refers to the problem of changes in resource allocation and the costs to her personal life while partly responsible for the BushRangers program. Eleanor is resilient in remaining involved at the forefront of educating for sustainability without permitting her involvement to be all consuming. She also refers to challenges such as changes in staffing and timetabling
restrictions which restrict the involvement of other teachers. Building resilience takes a
different form in *The big picture*. Gordon’s focus is on the unbalanced life perspective he
feels many students and their parents experience. He describes a new curriculum for the
health education course which is designed to build resilience in students with strategies for
students to gain control over their health and well-being. In implementing the new
curriculum Gordon also understands that staff require resilience to manage and view
change in a non threatening light.

*sharing responsibility*

In *BushRangers* Colin describes seeking assistance from others to work with the first intake
of cadets and to locate a replacement co-ordinator during his absence and possibly into the
future. He shares responsibility with other committed teachers to conduct the
Environmental Education unit and strives to build capacity for sustainable living among his
students in *Sustained focus* and *Across the curriculum*. Colin encourages colleagues to
share responsibility to reduce energy use and provides opportunities for them to visit
sustainable sites. Similarly, in *A curriculum focus* Eleanor describes her pleasure in
delivering cross-curricular lessons to promote sustainability values. She also indicates her
willingness to share programs with others so they too can share responsibility to educate for
sustainability. Both Colin and Eleanor strive to work constructively with others.

*developing strategies*

Numerous strategies are evident throughout this case. In focussing on education for
sustainability, Colin recruits others by providing opportunities, encouragement and seeking
their support. For example, in *BushRangers*, he describes seeking assistance from teachers
to conduct the cadet program. He describes seeking further teacher assistance to conduct environmental education classes in *Sustained focus* and again to develop cross curricular lessons in *Across the curriculum*. Colin recognises and approaches others with similar interests and values to achieve shared goals. Colin is also strategic by involving a variety of other school staff in sustainability programs. In *Across the curriculum*, for example, he describes involvement from the English, Home Economics and canteen staff. Across Colin’s narratives three principals are referred to. He works to engage the support of each newcomer and familiarise each with his initiatives. In *Across the curriculum* and *A curriculum focus* Colin and Eleanor describe their efforts to implement cross-curricular lessons. To broaden the impact of education for sustainability they share their programs with other teachers. Together they focus on common student outcomes within three subject areas to illustrate education in context for their students. Students in Colin and Eleanor’s classes are encouraged to think critically and empowered to believe they can make a difference.

A key strategy recurring throughout Colin’s narratives involves working with community members. Colin refers to support from the government land management authority representative, the BushRangers parent body and the local government environmental officer in *BushRangers*. These groups offer equipment, financial, expert, and practical forms of support. He describes student involvement in other environmental programs dealing with air quality, recycling and bird monitoring in *Sustained focus*. Colin also refers to student participation in annual community environmental days, such as World Environment and Threatened Species Days in *Across the curriculum*. 
interpreting sustainability

Both Colin and Eleanor interpret sustainability with contemporary understanding of the phenomenon. Consistent throughout their narratives are examples where they educate for and model their interpretation. In each of Colin’s narratives, BushRangers, Sustained focus and Across the curriculum the environmental, social and economic aspects of sustainability are evident. For example, in BushRangers Colin describes the varied forms of environmental education he delivers with assistance from others, how he spreads information through social networks at school and in the community, and his attention to the economics of valuing planning time to conduct the program. He is also mindful of the need for a replacement co-ordinator to ensure the program is sustainable. Throughout Colin’s narratives his holistic approach to sustainability is evident where the concept is not modelled in separate chunks but across the curriculum. Similarly, Eleanor in working closely with Colin models her understanding of sustainability to include the holistic environmental, social and economic approach across the curriculum. In A curriculum focus she highlights the opportunities her involvement brings her. Among these Eleanor includes new qualifications, developing her team and relationship building skills and providing networking opportunities. Eleanor also welcomes the collaboration possible while working with other like-minded teachers to promote enthusiastically their mutual sustainability interest.

Gordon’s interpretation of sustainability differs from that of Colin and Eleanor. His focus is on sustainability of the individual rather than the three-pronged focus of social, economic and environmental aspects of sustainability which Colin and Eleanor model. Gordon believes his is a wider perspective than the narrow view of some teachers. While he
acknowledges two sides to sustainability he is concerned more with the implicit element. In *The big picture*, Gordon recognises the importance of a balanced life for students and staff.

The six themes identified through the narratives are summarised in Table 2 below.

Table 2 Themes from narrative accounts

<table>
<thead>
<tr>
<th>Theme</th>
<th>Summer Springs College</th>
<th>Valley Vista College</th>
<th>River View College</th>
</tr>
</thead>
<tbody>
<tr>
<td>displaying emotion</td>
<td>Everybody knows about the environment</td>
<td>Bin here, bin there</td>
<td>BushRangers</td>
</tr>
<tr>
<td></td>
<td>Preaching in isolation</td>
<td>Recycling heroes</td>
<td>Sustained focus</td>
</tr>
<tr>
<td></td>
<td>Wetlands</td>
<td></td>
<td>Across the curriculum</td>
</tr>
<tr>
<td></td>
<td>Fostering sustainability</td>
<td></td>
<td>A curriculum focus</td>
</tr>
<tr>
<td>looking forward</td>
<td>Everybody knows about the environment</td>
<td>Bin here, bin there</td>
<td>BushRangers</td>
</tr>
<tr>
<td></td>
<td>Preaching in isolation</td>
<td>Recycling heroes</td>
<td>Sustained focus</td>
</tr>
<tr>
<td></td>
<td>Wetlands</td>
<td>Pragmatic sustainability</td>
<td>Across the curriculum</td>
</tr>
<tr>
<td></td>
<td>Fostering sustainability</td>
<td></td>
<td>The big picture</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>A curriculum focus</td>
</tr>
<tr>
<td>developing strategies</td>
<td>Everybody knows about the environment</td>
<td>Bin here, bin there</td>
<td>BushRangers</td>
</tr>
<tr>
<td></td>
<td>Preaching in isolation</td>
<td>Recycling heroes</td>
<td>Sustained focus</td>
</tr>
<tr>
<td></td>
<td>Wetlands</td>
<td></td>
<td>Across the curriculum</td>
</tr>
<tr>
<td></td>
<td>Fostering sustainability</td>
<td></td>
<td>A curriculum focus</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>The big picture</td>
</tr>
<tr>
<td>interpreting sustainability</td>
<td>Everybody knows about the environment</td>
<td>Bin here, bin there</td>
<td>BushRangers</td>
</tr>
<tr>
<td></td>
<td>Preaching in isolation</td>
<td>Recycling heroes</td>
<td>Sustained focus</td>
</tr>
<tr>
<td></td>
<td>Wetlands</td>
<td>Pragmatic sustainability</td>
<td>Across the curriculum</td>
</tr>
<tr>
<td></td>
<td>Fostering sustainability</td>
<td>On track</td>
<td>A curriculum focus</td>
</tr>
<tr>
<td></td>
<td>A broad perspective of sustainability</td>
<td>Modelling sustainability</td>
<td>The big picture</td>
</tr>
<tr>
<td>building resilience</td>
<td>Everybody knows about the environment</td>
<td></td>
<td>BushRangers</td>
</tr>
<tr>
<td></td>
<td>Preaching in isolation</td>
<td></td>
<td>Sustained focus</td>
</tr>
<tr>
<td></td>
<td>Wetlands</td>
<td></td>
<td>Across the curriculum</td>
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<td></td>
<td>Fostering sustainability</td>
<td></td>
<td>A curriculum focus</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>The big picture</td>
</tr>
<tr>
<td>sharing responsibility</td>
<td>Everybody knows about the environment</td>
<td></td>
<td>BushRangers</td>
</tr>
<tr>
<td></td>
<td>Preaching in isolation</td>
<td></td>
<td>Sustained focus</td>
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<tr>
<td></td>
<td>Wetlands</td>
<td></td>
<td>Across the curriculum</td>
</tr>
<tr>
<td></td>
<td>Fostering sustainability</td>
<td></td>
<td>A curriculum focus</td>
</tr>
</tbody>
</table>
Analysis — Across cases

Table 2 above displays the themes identified in the narratives and illustrates that all themes are not strongly represented in all cases. For example, building resilience, displaying emotion and sharing responsibility are not strongly evident across the narratives at Valley Vista College. Similarly, while there is some evidence of developing strategies at Summer Springs College and Valley Vista College this theme is more strongly evident at River View College. In contrast, interpreting sustainability appears in all narratives and across all cases. By delving more deeply into the themes, acknowledging the variation within them and synthesising the information I identify four over-arching or meta-themes. I conceptualise these as: ways of knowing, understanding sustainability; ways of thinking, imagining the future; ways of relating, building relationships; and ways of doing, taking action.

The themes are listed in order of abstraction. Significantly, some participants’ interpretation of sustainability is theoretical, for example Derek and Trevor, while others model sustainability in many of their actions, such as Colin and Eleanor. Given my research aim is to capture understanding of leading education for sustainability I recognise understanding sustainability as the first meta-theme and crucial to further discussion. Similarly, introducing new programs, preparing for the future, influencing and developing others, and strengthening resolve when dealing with difficult situations, are examples of imagining the future. Across the cases I recognise displaying passion, believing in goals, working with others while encouraging them to participate, and developing networks as elements of building relationships. I identified the fourth meta-theme taking action, as the least abstract and therefore the most concrete, due to evidence of proactive behaviour,
overcoming challenges and solving problems. Table 3 below summarises this information and illustrates the links between the six themes I recognise within the cases and the four meta-themes conceptualised across the cases.

Table 3 Meta-themes across the cases

<table>
<thead>
<tr>
<th>Themes</th>
<th>Examples</th>
<th>Meta themes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>interpreting</strong></td>
<td>ways of knowing;</td>
<td><strong>understanding sustainability</strong></td>
</tr>
<tr>
<td><strong>sustainability</strong></td>
<td>knowing about and understanding sustainability, recognising three-pronged approach, more than environmental education</td>
<td></td>
</tr>
<tr>
<td><strong>looking forward</strong></td>
<td>ways of thinking</td>
<td><strong>imagining the future</strong></td>
</tr>
<tr>
<td></td>
<td>looking towards the future, being creative, looking beyond the moment, future orientation,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>strengthening others, strengthening resolve</td>
<td></td>
</tr>
<tr>
<td><strong>building resilience</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ways of relating</td>
<td><strong>building relationships</strong></td>
</tr>
<tr>
<td></td>
<td>displaying passion while working and relating to others, using interpersonal skills, sharing viewpoints</td>
<td></td>
</tr>
<tr>
<td></td>
<td>delegating, networking, bringing others on board, inclusivity</td>
<td></td>
</tr>
<tr>
<td><strong>displaying emotion</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ways of doing</td>
<td><strong>taking action</strong></td>
</tr>
<tr>
<td></td>
<td>solving problems, overcoming challenges, planning actions, being strategic, considering options</td>
<td></td>
</tr>
<tr>
<td><strong>sharing responsibility</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ways of doing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>solving problems, overcoming challenges, planning actions, being strategic, considering options</td>
<td></td>
</tr>
<tr>
<td><strong>developing strategies</strong></td>
<td></td>
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</tr>
</tbody>
</table>
understanding sustainability

Understanding of sustainability varies across the cases. On the one hand, at Valley Vista College participants generally consider sustainability as synonymous with environmental education. In describing sustainability education, some teachers at Valley Vista College adopt a defensive attitude to indicate that they are not talking about warm, fuzzy feelings, nor about leaving resources untouched for the future. Other teachers describe their environmental projects seemingly unaware of the social and economic aspects. On the other hand, at Summer Springs College the language of sustainability is used and at River View College both the language is used and sustainability modelled. Educators at Summer Springs College and River View College use the language of sustainability to refer to the three-pronged approach comprising environmental, economic and social elements as described in the education for sustainability literature. At both Colleges greater emphasis is placed on the environmental element compared to the economic and social elements. However, at River View College the economic and social elements are more evident than at Summer Springs College. For example, committed teachers at River View College provide opportunities for cross-curricular lessons, are responsible for the school cadet program out of school hours, and encourage student responsibility and critical thinking.

Differences exist between the understandings articulated by the principals at the three schools. Perhaps this is not unexpected, given that none of the principals is recognised as sustainability or environmental educators. Trevor, principal at Valley Vista, has little understanding though he does provide examples of environmental education at the school. While Derek, principal at Summer Springs articulates his view of sustainability linked to the Dusseldorp Corporation and the need to develop ‘sustainable selves’, he also uses the
language of education for sustainability. This is perhaps because he sought written
clarification about education for sustainability prior to being interviewed. In contrast,
Gordon, principal at River View College, articulates his own thoughts about sustainability
and its relevance to his educational setting.

**imagining the future**

Teachers at Summer Springs College and River View College work with a future
orientation to introduce sustainability initiatives into their schools. At Summer Springs
College, futures oriented initiatives are introduced both inside and outside of the formal
curriculum. For example, the practical geography course and revegetation work with the
community are initiatives designed to continue into the future. Activity to educate for
sustainability is stronger at River View College where two teachers demonstrate thinking
beyond the moment. They propose, develop and disseminate innovative initiatives
collaboratively, both within and outside of the curriculum. Teams are shaped and materials
and visions are shared with others, while networking for sustainability is modelled. Their
activities clearly have a futures orientation. In contrast at Valley Vista College, while
several teachers demonstrate concern for the future environment with the introduction of
projects such as rubbish bin and paper recycling, there is little consideration for the future
of these projects.

To differing degrees, teachers across the cases are building resilience in themselves and
others. At both Summer Springs College and River View College educators demonstrate
resilience to continue their efforts after repeat set backs to their curriculum initiatives. The
high profile educator at Summer Springs is developing personal resilience to withstand
ridicule from colleagues while receiving little acknowledgement for extra responsibilities undertaken. Similarly, at River View College, the energy and determination to continue developing innovative curriculum initiatives indicates resilience from the locally recognised environmental educator. Resilience to wait out or bypass the barriers offered on some occasions without becoming disillusioned is also evident. Both educators recognise their personal limits and involve others to ensure their initiatives have a future. Further resilience is required to maintain the momentum when those teachers who were carefully identified as willing to work across curriculum areas leave the school. Successful efforts to improve student confidence and enable them to accept responsibility for various parts of the programs form evidence of developing resilience in students. In contrast at Valley Vista College, some resilience is required to continue working in isolation on a variety of long-term projects. However at this school, teachers generally offer sustainability education linked to projects they run in their own time and perhaps with their own agendas.

Differences exist in the degree of imagining the future by principals at the three schools. Little evidence of future orientation is offered by Trevor at Valley View College. Instead, he allows others to take the initiative, to recognise opportunities and participate in projects to which they are committed. Trevor simply identifies priorities for students and elaborates on programs available to them with no mention of capacity building or building resilience. Similarly, Derek at Summer Springs College describes his big picture perspective while allowing others to practise taking initiative. He does this rather than seek finer understanding and involvement in sustainability education for himself. However, both Derek and Gordon refer to the importance of resilience in their students. Derek refers to his focus on capacity building in accordance with the Dusseldorp model and on developing
sustainable individuals within the student body. In contrast, thinking about the future is a characteristic of Gordon, the principal at River View College. Despite the temporary nature of his appointment he takes steps to improve the development of student emotional and personal values through changes to the home-room system at his school. He also acknowledges the importance of building resilience within the staff.

**building relationships**

Building relationships is the third meta-theme evident across the cases. At Summer Springs College two educators describe their strong belief in educating for sustainability and work to share their passion with their students. They share responsibility to increase student knowledge of sustainability issues, engage with the community to model civic responsibility and develop their own partnerships. They talk about future collaboration. However, evidence of sharing responsibility is absent when larger scale collaboration is considered. Rather than work to develop relationships and share understanding with staff, the high profile sustainability educator remains aloof. Indeed rather than work with the principal, he elects to bypass him and avoid discussion on sustainability matters. Similarly, at Valley Vista College several teachers accept responsibility to organise an aspect of education for sustainability. Individual commitment levels and views of sustainability differ where each focuses on one project in isolation. Relationship building and networking are not priorities here either. Indeed, one teacher elects to retain ownership of his project and in so doing loses the opportunity to share his vision with others and obtain the support of the state education system.
Relationship building is practised differently at River View College. Due to his deep belief in sustainability education the science teacher, with strong support from a colleague, shares responsibility for the introduction and continuation of several initiatives. In building a network of supporting teachers he also acknowledges their complementary strengths and the importance of teamwork and delegation. Both educators are passionate about educating for sustainability and accept responsibility to share their vision with others, including new principals, to build teams, develop resource materials and to model and embed sustainable practices. Similarly, the locally recognised environmental educator works to develop awareness of, and responsibility for, sustainable practices in other colleagues.

Similarities and differences exist among the principals at the three schools. On the one hand, both Derek at Summer Springs College and Trevor at Valley Vista College remain remote from sustainability education though claim it is a serious focus at their schools. Derek’s perspective is closely aligned with the Dusseldorp Corporation. While Trevor’s stated priority is to foster student well being and opportunity, he remains distant and allows teachers to practice responsibility for their own projects. On the other hand Gordon, at Valley Vista College, introduces change to the homeroom system and shares responsibility for student well-being. Rather than leave responsibility to the incoming principal he negotiates with staff to ensure the changes have maximum likelihood of long term success.

**taking action**

Taking action is the fourth meta-theme. While sustainability activity occurs at Summer Springs College, there is limited evidence of strategic planning. Little collaboration or planning occurs other than the introduction of initiatives by the two teachers of education
for sustainability. Perhaps this will strengthen after the introduction of the whole school pilot sustainability program. While these educators share ideas, little evidence of substantial follow-up is indicated. In fact, the high profile educator demonstrates little interest in involving and sharing his vision with others, including the principal. Similarly, at Valley Vista College, individual teachers take action to develop their own initiatives with little evidence of strategic planning. Only two of the five teachers mention their concerns about the future of their initiatives, though neither has a strategy in place. While evidence of taking action exists, for example, in arranging rewards, rosters, uniforms, sale of the product and gaining support from others these actions are undertaken on an ad hoc basis. In contrast, successful strategies are evident at River View College. Here challenges are overcome, sometimes through sheer persistence, and in other instances after outside interest and acknowledgement. Taking action to reach a wide range of students and across subject areas is demonstrated, for example, in cross-curricular lessons. The teachers committed to educating others about sustainability work to involve other teachers and the community in their programs, both in and out of school hours. Teams are shaped and materials and visions are shared with others, while networking for sustainability is modelled.

Significantly, in contrast to the educators for sustainability at the other two schools, teachers at River View College have strategies in place to ensure the initiatives they introduce continue into the future.

Perhaps due to a lack of sustainability knowledge, taking action is absent from the principals at Valley Vista College and Summer Springs College. Neither principal describes any activity he has undertaken to encourage education for sustainability in his school. Instead the behaviour of each suggests that committed teachers are free to pursue their
interest unhindered, in addition to their normal teaching responsibilities. In contrast Gordon, the temporary principal at River View College, recognises the need to develop strategies so that taking action is possible. He implements change to support implicit aspects of student well-being.

**Summary**

In this chapter I presented three cases developed from the data collection undertaken for the research. Individual case data are presented in a series of narrative accounts. Each set of case data are followed by a discussion of the case and the significant themes are identified. I view the themes as existing along a continuum, where an aspect may occur abundantly in one narrative account and be missing in another. Elaboration of the themes emerging from each case is provided.

From the narrative data sources at Summer Springs College I identify evidence of five themes. I call these *displaying emotion, looking forward, building resilience, developing strategies* and *interpreting sustainability*. From the Valley Vista College case I identify strong evidence of the theme *interpreting sustainability* along with some evidence of *displaying emotion, looking forward* and *developing strategies*. From the third case, River View College, I identify strong evidence of six themes. These are *displaying emotion, looking forward, building resilience, developing strategies, sharing responsibility* and *interpreting sustainability*.

After conducting deeper cross-case analysis I conceptualised four meta-themes. I call these, *understanding sustainability, imagining the future, building relationships* and *taking
action. The chapter concludes with the elaboration of these themes and evidence of their existence across the cases. Locating these themes within the education for sustainability and educational leadership literature forms my discussion chapter, which I call Pastiche, and follows this chapter.
Chapter 5  

**Pastiche**

A patchwork, amalgam or medley of the composers work

(Sadie and Tyrrell, 2001)

**Introduction**

In my elaboration of the literature in the Allemande (Chapter 2, Part 1) I described the contemporary concept of education for sustainability while comparing it with the earlier concept of environmental education. In essence, education for sustainability is a more broad and challenging concept than environmental education, with a focus on intergenerational equity, ecological sustainability and the fair distribution of resources. Elements in policy documents written in the late 1990s and early 2000s for Australian state and territory schools indicate a shift in language and policy from environmental education towards education for sustainability (DEH, 1999; DEH, 2000 & DEH, 2005). While there is an abundance of curricular material available for schools much of it remains focused on the environmental aspects of sustainability and underplays the social and economic aspects.

In the Sarabande (Chapter 2, Part 2) I described shifts in thinking about leadership in general, and about both educational leadership as a specific form of leadership, and leading educational change. Skill and influence persistently feature in the literature as the qualities essential for successful leadership as I indicated in my review of the literature (Elliot, 2002; Locke et al., 1991; Stogdill, 1950). Both of these qualities operate in tandem so that leadership fundamentally involves completing tasks through and with other people (Stogdill, 1974). Strong interpersonal skills to facilitate communication and collaboration of future vision are examples of leadership skills. Examples of influence in educational
leadership may include enthusing, then supporting others to join initiatives, offering others learning opportunities and modelling desirable behaviours.

Contemporary models of educational leadership involve morals, values and ethics, and involve some re-aligning of educational culture to pursue shared goals for change (Burns, 1978; Day et al., 2000; Sergiovanni, 1992). Throughout the following discussion I focus on three contemporary conceptualisations of educational leadership – transformational leadership (Leithwood, 1994), distributed leadership (Spillane et al., 2001, 2004) and sustainable leadership (Hargreaves & Fink, 2005, 2006). Transformational leadership requires a charismatic and visible leader to inspire, and share his or her values and goals with others, while bringing about change (Bass & Avolio, 1993). In contrast, distributed leadership is spread across leaders and followers in their own setting and incorporates the activities of groups of individuals in the pursuit of shared goals (Harris, 2004). Distributed leadership is recognised when a group or network of people, pool their expertise, where blurred boundaries of leadership exist and expertise is widely distributed across many people (Bennett et al., 2003). Sustainable leadership as conceptualised by Hargreaves and Fink (2003) has three aspects which they call distributed leadership, leading learning and succession planning. Also explicated and linked to these aspects are seven principles of sustainable leadership with five action principles to implement them (Hargreaves & Fink, 2004, 2005, 2006).

In this chapter I discuss the links between the four themes conceptualised during my data analysis with the literature about both education for sustainability and leadership. I interpret understanding sustainability, imagining the future, building relationships, and taking
action as key concepts in re-conceptualising leading for sustainability. In my discussion of the key concepts I provide the answers to my research questions. I described the selection of the three cases for this study on the basis of a community reputation for educating for sustainability in the Gavotte, (Chapter 3). From my data analysis I recognise participants in each of the cases are educating for sustainability to some extent. After locating evidence of education for sustainability and leadership among the participants I chose to focus my discussion on Colin, the science teacher at River View College, as an exemplar of leading education for sustainability. In addition the chapter includes comments on my research findings, some research implications and research limitations. Suggestions for future research precede the chapter conclusion.

**Key concepts**

*understanding sustainability*

My first key concept, *understanding sustainability*, is about ways of knowing. In any situation context is significant and it impacts on individual actions. The context for this research is education for sustainability and it is in this context that the leadership practised is being analysed. A deep understanding of sustainability is evident in Colin’s actions as he seeks to engage others in education for sustainability. The three aspects of sustainability – the environmental, the social and the economic – are consistently targeted in his initiatives. In striving for an holistic approach across student cohorts and curriculum areas Colin’s action demonstrate a shift from the environmental focus typical of educators of the past (Fien & Tilbury, 2002; Heck, 2003). Rather than assume the terms ‘environmental education’ and ‘education for sustainability’ are synonymous, Colin recognises contemporary shifts in meaning. His awareness of the more complex and reconceptualised
understandings of education for sustainability is in keeping with the sentiments articulated by Fien (2001) and Tilbury and Wortman (2004). These writers, and Colin, perceive the role of education as transforming the ways people think about and view their world. In understanding the significance of empowering individuals to assist them achieve sustainability goals, Colin recognises the need for, and takes responsibility to lead, education for sustainability at his school.

Not only does Colin understand the concept of sustainability but his colleague, the teacher of Society and Environment at River View College, also understands and practises the three-pronged, holistic approach of sustainability. We can speculate that her understanding and practice is related to Colin’s influence as she is a committed partner in his initiatives. However, the educators at Summer Springs College and Valley Vista College do not all share this deep understanding. Instead education for sustainability is conceptualised differently at these schools. At Summer Springs College educators remain focused on environmental aspects while articulating the language of sustainability. Similarly, at Valley Vista College educators focus on and about the environment as described by Fien (1997b) and Heck (2003) rather than education for the environment or about the concept of sustainability. Little evidence of an holistic approach, as articulated by Ferreira et al. (2006), Tilbury et al. (2005) and Henderson and Tilbury (2004), to engaging people or leading education for sustainability is evident. Without a comprehensive knowledge of sustainability and related issues, these educators must be leading something other than sustainability. They are perhaps leading environmental education (Fien, 1997a, 2001; Fien & Tilbury, 1999, 2002). Previous arguments have been expressed about the vital role of education and the crucial role teachers must play to bring about the social changes required
for sustainability (WCED, 1987). Colin informs and models sustainable behaviours to others in his school community.

*Understanding sustainability*, my first key concept, indicates a deep knowledge of sustainability is essential to leading education for sustainability. Knowledge and understanding of sustainability are not identified as significant in the educational leadership literature nor in the sustainable leadership literature. Often it appears the term ‘sustainability’ surfaces in documents purely because the authors are including the latest ‘hot topic’ or jargon. This view is embraced by Levin (2006) in his analogous discussion about wordsmiths developing mission and vision statements. In many instances where sustainability is discussed the concept is either not explained or its use is general and ambiguous. For example, educational sustainability is “the capacity of a system to engage in the complexities of continuous improvement consistent with deep values of human purpose” (Fullan, 2005, p. ix). Similarly, “Sustainable educational leadership and improvement preserves and develops deep learning for all that spreads and lasts, in ways that do no harm to and indeed create positive benefit for others around us, now and in the future” (Hargreaves & Fink, 2005, p. 4). Missing from both definitions is a clear statement clarifying the authors’ understanding of sustainability. In my view it is essential that a deep understanding of sustainability exists prior to attempting to lead for sustainability.

*imagining the future*

My second key concept, *imagining the future*, incorporates ways of thinking. Three elements are evident in *imagining the future*. The first element is a future orientation, where the future is considered and planned for. The second element is providing opportunities for
personal growth, so that individuals build resolve in themselves. The third element is a culture of innovation, where new initiatives and creativity are evident. Each is present in varying degrees throughout the educational leadership and education for sustainability literature.

The first element of imagining the future is a future orientation. Transformational leadership assumes participants are motivated partly because they share the leader’s vision for change (Leithwood, 1992, 1994). This conception of educational leadership clearly has a future orientation (Burns, 1978; Leithwood, 1994). Distributed leadership permits shared leadership responsibilities where trust is developed. It may also include teacher leadership where a teacher, such as Colin, may lead for the future from the centre rather than the top (Harris, 2004). Similar sentiments are developed by Hargreaves and Fink (2004, 2005) while articulating the depth, length, breadth and justice principles of their sustainable leadership model. Very strong links also exist between this key concept and the education for sustainability framework of Tilbury and Wortman (2004). Imagining the future or envisioning, the first component of the framework, requires thinking about, reflecting on and planning for the future. Similarly, Fien (1998, 2001, 2006) emphasises that to instigate social and environmental change envisioning is vital and Agyeman (2000) describes his view of how a sustainable community or society could look. A future orientation is frequently present in Colin’s work. For example, he locates a replacement coordinator to ensure the BushRangers program has a future beyond his own tenure and persists to share his visionary ideas with others while ensuring the burden of responsibility is shared. In contrast, at both Valley Vista College and Summer Springs College, while educators
express concern about the future of various initiatives no-one speaks of a future any different from the present.

The second element of *imaging the future* is providing opportunities for personal growth. Transformational leadership in education is considered conducive to developing personal and professional potential while also considering the needs of others (Leithwood, 1992). Researchers such as Bennett et al. (2003) describe leaders engaged in distributed leadership as visibly supporting others to believe in their own capabilities and the opportunity for personal development. This educational leadership model also offers scope for capacity building within groups and across communities (Harris, 2004). Two principles – *depth* and *diversity* – conceptualised in the Hargreaves and Fink model of sustainable leadership (2004, 2005, 2006) are evident in distributed leadership. At River View College, Colin offers colleagues and students the opportunity to deepen their knowledge of sustainability issues and to join him in improving their skills within and outside of the school curricula. He involves others in varied and stimulating exercises to engage them in critical and creative thinking so they are exposed to new ways of perceiving, thinking and learning, which are goals of educating for sustainability (Tilbury & Wortman, 2004; DEH, 2005a). At Summer Springs, Finn offers others little opportunity to share his passion in educating for sustainability. Similarly, at Valley Vista educators for sustainability elect to work in isolation while voicing concerns about the burden of responsibility for their projects rather than capitalising on opportunities to involve others.

The third element of *imaging the future* is creating a culture of innovation. Transformational leadership assumes change is inherent and central to the organisation
In education, transformational leadership is a means to influence school culture (Huber, 2004). Similarly, according to Harris (2004), leadership which is distributed has a greater potential for building the internal capacity for change. This is seen in practice when teachers such as Colin take the opportunity to initiate and lead change. For example, Colin implements new initiatives centred on sustainability issues to the school curriculum. With support from others he has the resolve and persistence to ensure the initiatives continue and spread (Huberman & Miles, 1984). This behaviour is consistent with the length and breadth principles of sustainable leadership proposed by Hargreaves and Fink (2004, 2005, 2006). It is also closely aligned with the transformative role for education articulated by Tilbury and Wortman (2004). Similar sentiments are the basis for the creative thinking strategy of the educating for sustainability document (DEH, 2005a) and a key point of the IUCN Report (Tilbury et al., 2002). In contrast at both Summer Springs College and Valley Vista College isolated innovations are introduced by educators with little understanding or intentions of embedding change into their schools.

*Imagining the future*, my second key concept in leading education for sustainability, has clear links with the leadership literature and in particular transformational leadership theory. A clear connection also exists between this key concept and sustainable leadership theory. *Imagining the future* requires creative individuals willing to plan and lead for the future. In addition, individuals require resilience to develop their own strengths and that of others while leading for change. These qualities are often evident in Colin’s behaviour as his clear aim is to embed his initiatives into the school culture. Despite the passion and talent educators at Summer Springs College and Valley Vista College display, there is little in their actions to indicate a future orientation. With no evidence of imagining a future any
differently from the current situation, it is unlikely that long term change will occur at their schools. This outlook is largely supported by Elgin who states “We cannot build a future we cannot imagine” (1991, p. 78).

**building relationships**

*Building relationships*, my third key concept, incorporates ways of relating. Two elements are evident in *building relationships*. The first is strong interpersonal skills which are necessary to share ideas, enthuse others and adopt inclusive practices. The second element is strong networking and delegation skills to enhance influence. Relationship building skills feature significantly throughout the educational leadership and education for sustainability literature.

The first element of *building relationships* is strong interpersonal skills. Researchers (Huber, 2004; Leithwood 1992; Spillane et al., 2001) argue convincingly that transformational and distributed leadership require well established connections among colleagues to lead and support each other. However, transformational leadership is dependent on a charismatic leader inspiring others (Bass & Avolio, 1993). Distributed leadership is dependent on a group of leaders who may occupy formal or informal leadership roles (Bennett et al., 2003). In both models strong interpersonal skills are necessary to build constructive and strong relationships. Engaging and inspiring others to participate in innovations is achieved by Colin, for example, through skilful negotiation and demonstrating trust in others. In adopting an inclusive and collaborative approach with colleagues who are similarly minded or receptive to his ideas Colin builds strong relationships at River View College. These skills are linked to the framework for engaging
people in sustainability (Tilbury & Wortman, 2004) through the strategy of participation in decision making. Sustainable leadership, as practised by Colin, and described as a concept and a strategy by Hargreaves (2004), is also reliant on strong interpersonal skills to inspire others, accomplish goals and leave a lasting legacy. With relationships established, shared visions and goals are likely to be implemented. Different circumstances exist at Summer Springs College and Valley Vista College where interpersonal skills are under-used or simply not well developed in educating for sustainability. Perhaps a stronger focus on building relationships would assist these educators to make a sustainable impact at their schools.

The second element of building relationships is strong networking and delegation skills. Where transformational leadership relies on an inspirational and charismatic leader, distributed leadership involves a group of leaders prepared to share their expertise. Distributed leadership, explain Bennett et al. (2003), involves seeing leadership as an outcome of the dynamics of interpersonal relationships. Distributed leadership thrives on interaction, argues Spillane (2006). These researchers describe the development of strong teamwork skills as crucial to distributed leadership. Leaders, who develop and nurture networks among individuals and between communities, as Colin does at River View College, are sharing responsibility and developing partnerships. In a similar vein, Mulford and Moreno (2006) argue that success is more likely when people participate in innovations in a facilitative, supportive manner and feel valued. In building networks of supporting teachers, complementary strengths are acknowledged. Several of the sustainable leadership principles articulated by Hargreaves and Fink (2005), for example depth, length and breadth are evident in Colin’s skilful building of relationships. A critical component of
implementing Agenda 21 at the local level is building partnerships in decision making between local community and government representatives (UNESCO, 1992, UNCED, 1992b). Colin models the partnership and participation elements of the leadership of education for sustainability framework (Tilbury & Wortman, 2004). Once more Colin’s approach differs from the educators at Summer Springs College and Valley Vista College as he seeks to build relationships and partnerships within the school and across sectors while some others work individually. Indeed some educators at Summer Springs College and Valley Vista College avoid opportunities to share their ideas and work with others in preference to working alone.

Building relationships, my third key concept in leading education for sustainability, has strong links with the leadership literature, especially the distributed and sustainable leadership models. Building relationships requires individuals capable of enthusing and inspiring others to share responsibility while building networks and developing productive partnerships. In addition, partnerships and networks should be established for long term and broad involvement with the wider community to contribute to sustainability. These qualities are evident to varying degrees in Colin’s work but are absent from some educators at Summer Springs College and Valley Vista College. Because relationship building is not demonstrated as a priority at these Colleges, and some individuals work in relative isolation, education for sustainability is unlikely to continue when these teachers leave their school. My understanding of the situation resonates with the analogy offered by Hargreaves (2005a) regarding educators’ ability to create islands of change rather than the more desirable archipelago or continent of change.
taking action

The first element of taking action is being strategic. Strategic planning is required prior to any attempt to influence others and implement change. It also involves an awareness of the whole situation rather than an individual or narrow perspective. Being strategic also requires goal setting and an understanding of ‘keeping the end in mind’. Transformational leadership assumes change is central to an organisation, and implies taking action is necessary to bring about change (Burns, 1978; Leithwood, 1994). By taking action, leaders may support others to achieve common goals and strengthen their skills. In terms of distributed leadership, being strategic includes introducing initiatives across organisations to be modified for improvement in a specific context (Bennett et al., 2003). Leaders such as Colin recognise initiatives cannot be embedded or sustained by an individual working in isolation so they involve others in planning a strategy (Huberman & Miles, 1984). While taking action to involve others may not result in the most efficient use of resources it does permit involvement by those who may not otherwise participate (Wildy & Louden, 2000). Leading change to shift the focus from environmental education to education for sustainability requires well considered strategies. It is not by chance that the five core components of the framework for engaging people in education for sustainability are
strategies (Tilbury & Wortman, 2004). Strategies are also identified in the Department of Environment and Heritage document, Educating for a Sustainable Future (DEH, 2005a), and are implied in the sustainable leadership research offered by Hargreaves and Fink (2004, 2005, 2006). There is limited evidence of being strategic at either Summer Springs College or Valley Vista College. Instead most participants in the research limit their activity to conversation, their own projects and plan only for the immediate future.

The second element of taking action is overcoming challenges. Individuals recognise problems and consider ways to overcome them. In transformational leadership for example, challenges must be overcome to support others to achieve goals and develop potential (Leithwood, 1992). Challenges may emerge in distributed leadership when leadership is assumed by default or in a crisis situation (Levin, 2006). Leaders such as Colin overcome challenges to the implementation of initiatives, for example, in recruiting replacement staff, convincing a school principal to re-instate the allocation of programming time and gaining administration support to implement new curriculum materials. These actions are typical of those described in studies indicating that teacher leadership tends towards advocacy (Harris, 2004). Challenges also exist to achieving sustainable leadership as articulated by Hargreaves and Fink (2003, 2004). They describe problems to overcome which focus on leading learning and succession planning, in addition to distributed leadership. At River View College, Colin identifies and mentors a successor to lead the BushRangers program and in so doing he leads learning. He focuses not only on delivering new knowledge to colleagues but he also offers them exposure to new and holistic approaches to sustainable living. These actions are in keeping with the goals of education for sustainability which aim to transform the way people see, think, learn and work (Tilbury & Wortman, 2004). Similar
sentiments are expressed by Coburn (2003) in her argument that change should move from an externally understood theory to an internally theory-based practice. Ways of overcoming challenges to educate for sustainability, such as developing an appropriate pedagogy and reforming policy, are also articulated by Fien (2001). In contrast, at Summer Springs College and Valley Vista College many opportunities to overcome challenges and resolve problems are either overlooked or ignored. Challenges appear accepted as the norm and perceived as too difficult and time consuming to consider resolving.

The third element of *taking action* is reflective behaviour. In both transformational and distributed leadership models people contribute initiatives from across an organisation. It is therefore vital that initiatives which are implemented face review and that individual reflection occurs prior to initiatives being adapted and improved by others (Bennett et al., 2003). The concept of distributed leadership is of increasing interest in schools because the model is grounded in activity rather than position or role (Harris, 2004). Leaders, such as Colin at River View College, reflect on their own behaviour and initiatives in order to refine, improve and embed them. Others are supported to gain understanding and reflection on current practices then encouraged so that deeper and critical thinking follows. In modelling these behaviours others may adopt similar practices and follow suit. Further examples of Colin’s leadership include the off-site professional development for staff which he provides to introduce them to strategies for energy reduction and waste recycling in the work place. In addition he encourages colleagues to reflect critically on their curriculum to find common ground for integrated sustainability lessons. These actions are in keeping with education for sustainability which aims to provide opportunities to reflect on individual behaviour and consider preferred futures (Tilbury & Wortman, 2004).
Tenuous links to reflective behaviour also exist in the sustainable leadership framework articulated by Hargreaves and Fink (2005). These include, for example, the *justice* principle where leaders are encouraged to find ways to share knowledge and resources and the *resourceful* principle where leaders monitor the emotional state of themselves and others. Little evidence exists to indicate that reflective behaviour is a widespread practice at either Summer Springs College or Valley Vista College. Instead most educators at Summer Springs maintain an emotional approach to their work and those at Valley Vista protect their projects for the present.

_Taking action_, my final key concept in leading education for sustainability, has clear links to the leadership literature. While the concept is plainly relevant to both transformational and distributed leadership, striking connections are evident with sustainable leadership theory. _Taking action_ requires individuals capable of implementing strategies for educational change, striving to overcome challenges rather than accepting or avoiding them and reflecting on their behaviour to ensure initiatives and actions are reviewed and refined. These qualities are evident in Colin’s action which are empowering for him and others, and permit active and sustained participation in education for sustainability. In contrast many educators at Valley Vista College and Summer Springs College often side-step taking action to simply talk about the problems they face. While action is taken to involve others in hands-on activities longer term strategies and sustainable options are not the focus at these schools. Recognising the need to take action brings to mind a comment attributed to Gandhi who stated that to make a difference “you must be the change you wish to see in the world” (Gandhi, n.d.).
Findings

My research reconceptualises leading education for sustainability and makes a contribution to leadership theory in general. In my data analysis I identify four key concepts which I call \textit{understanding sustainability, imagining the future, building relationships} and \textit{taking action}. These key concepts provide the answers to my research questions and contribute towards an understanding of the leadership required to sustain change.

My first research question was How is education for sustainability conceptualised in Western Australia secondary schools? My elaboration of key concept \textit{understanding sustainability} addresses this research question. While the concept of education for sustainability, with its balance of environmental, social and economic elements, has been in existence for many years, it is not widely embraced in the schools of my study. By and large, the participants in my study focus on the environmental aspects of sustainability. In so doing, they focus \textit{on} and \textit{about} the environment, as described by Heck (2003) rather than the core values articulated by Fien (2001). While the participants in my study maintain the historical focus of environmental education, their use, and understanding, of sustainability, is superficial.

How education for sustainability is incorporated across the curriculum in Western Australian secondary schools was my second research question. In general, the participants in my study deliver the environmental elements of sustainability because of their own interest and passion for various issues. Nevertheless, this widespread emotional involvement from the participants in my study did not broaden to enthuse others. Interest in sustainability education remains concentrated in the Social Science and Science contexts.
just as Heck (2003) and Linke (1980) described for environmental education in the past. Even so, much of the sustainability curriculum that is implemented is fragmented, vulnerable to changing school conditions and could be considered serendipitous. This finding supports the view expressed by Smith (1999) that while education for sustainability is referred to often in curriculum documents, for many educators, the words represent hope and good intentions but little more. It is indeed an irony that leading education for sustainability in these settings, does not seem to be sustainable.

Throughout the elaboration of my key concepts my third and fourth research questions are answered. My third research question was: How is education for sustainability led in Western Australian secondary schools? Leadership does not seem evident consistently across the settings of my study. A basic tenet of leadership agreed upon by many leadership researchers, such as Fullan (2005), Hargreaves and Fink (2004), Locke et al. (1991) and Louden and Wildy (1999), is that leadership involves exercising influence over others. Much of the sustainability education in this study is delivered in isolated pockets, with limited collaboration among participants and their collegial networks. Across the study there is a general absence of long term, coherent planning, and the systemic building of alliances. By and large, education for sustainability is delivered whimsically, without assembling resources and without articulating a clear vision for the future. Ironically again, this absence of explicit leadership does not augur well for the long term future of education for sustainability for the schools in my study.

What are the processes which facilitate education for sustainability to become embedded and sustained into Western Australian secondary schools? This was my fourth research
question. This research suggests that understanding sustainability is fundamental to facilitating the routinisation of education for sustainability in Western Australian secondary schools. Without themselves having a deep understanding of the concept of sustainability, individuals will struggle to engage others with the concept. This understanding is supported by Fien (2006), who articulates the view that the purpose underpinning the United Nations declaration of the Decade of Education for Sustainable Development is to build individual understanding of working for a sustainable future, responsibility for future generations and optimism for a sustainable future. However, it is not enough to understand the concept of sustainability. Those who would be leaders for sustainability need also to imagine the future. A future orientation, providing opportunities and a culture of innovation are the elements I conceptualise as shaping the key concept imagining the future. Such sentiments are consistent with the research reported by others such as Agyeman (2000), Tilbury and Wortman (2004) and Hargreaves and Fink (2006). Strong interpersonal relationships together with strong networking and delegation skills are the elements I conceptualise as forming the key concept building relationships. Those who would lead for sustainability need also to build relationships. Research reported by Tilbury and Wortman (2004) and Spillane (2006) also supports this conclusion. Finally those who would lead for sustainability need to do more than understand sustainability, imagine the future, and build relationships. They need also to be action oriented. Being strategic, overcoming challenges and behaving reflectively behaviour are the elements I conceptualise as shaping the key concept taking action. Such concepts are also identified in publications from Fien (2001) and Bennett et al. (2003). Each of these key concepts, and the elements within them, is interspersed in varying degrees throughout the settings of my study. Nevertheless, if education for sustainability is to become embedded and sustained in Western Australian
schools, local educators are obliged to deepen their understanding of these concepts. Being a leader for sustainability, in my view, requires a combination of a deep knowledge of sustainability; the forward thinking and ability to imagine a different future; the interpersonal and networking skills to build strong relationships; and the energy and capability of taking action.

**Implications**

Embedding change in secondary schools is acknowledged as difficult (Hargreaves & Fink, 2003; Wildy & Louden, 2000). This is due in part to their size and complexity. In addition, secondary schools are structured along subject traditions in readiness for university selection. Educators are not short of creative and innovative ideas to engage students in learning. Problems arise, however, in embedding or sustaining initiatives once they are implemented. My research into the three cases indicates that some educators have under-emphasised, or remain unaware of, the planning necessary for the sustainability of their initiatives. Many initiatives are adopted in an *ad hoc* manner and therefore doomed to collapse without being normalised into the school culture.

Sustaining initiatives does not occur as a consequence of the actions of charismatic or passionate individuals as typified in transformational leadership. Instead collaborations within and among committed teams as practised in the distributed leadership and sustainable leadership models face greater likelihood of success. Teams with an explicated common focus towards the future, the skills to forge strong relationships and the ability to collaborate as they take responsibility to act together are more likely to embed change. Furthermore a comprehensive and clear understanding about the concept being
implemented whatever the context is vital among the team introducing an initiative and is applicable to other settings. Without this deep comprehension participants are not in a strong position to embed and sustain educational change.

Each of the schools selected for my research is a co-educational, metropolitan secondary school regarded as typical within the government school sector. For this reason I believe my findings will resonate with educators in the Western Australian government school sector and that they will consider my findings transferable to similar school settings.

**Limitations**

Notwithstanding the meticulous care I took in all stages of my research, all research is bounded by place and time. These are also the boundaries of my study. In the first instance, all participants were interviewed until we were each satisfied the topic was exhausted, or could be continued on another occasion. However, had I conducted more follow up interviews with each participant, so that my study was longitudinal rather than snapshot in nature, I may have identified alternative issues in my narrative accounts. As this is the nature of creating narrative accounts it is not of concern though important to acknowledge. Furthermore such feasible variation could impact on the selection of themes I identified within my data analysis. Interviews with more participants within the cases may have also enriched the quality of my data collection. Such a modification may have included, for example, a short questionnaire seeking information about participant interests, previous involvement and future intentions in education for sustainability. However, this was a study of the view of those who would be leaders, not those who followed. Further, my study sought the perceptions of those would-be-leaders about their own experiences, not about
the implication or impacts of those experiences on others. That, of course, would constitute quite a different study from the one I have undertaken.

The second limitation concerns the timing of my data collection. During my research significant changes were already occurring in Western Australian schools. During this period the Australian Sustainable Schools Initiative (AuSSI) was introduced into some pilot schools in Western Australia (Flinders, 2005). Although none of my cases was involved at this stage, each school was aware of the pilot program and was monitoring its implementation. As a consequence education for sustainability and sustainability issues were topics of general discussion though perhaps not as well understood as I anticipated. It is possible that participants were hesitant about further commitment to their projects while the direction of the AuSSI remained unknown. Simultaneously, in the years surrounding my data collection, secondary school teachers in Western Australian schools were under intense stress. This was due to widespread opposition to the proposed implementation of outcomes based courses of study in upper secondary years. Consequently, my research was undertaken during an unsettled political climate in education. Participants may have responded differently during interview in a less pressured work climate. Notwithstanding these possible limitations the data presentation as narratives accurately represents my interpretation of the information gathered during my interviews.

**Future research**

There is substantial potential for further study to continue this avenue of research. For example, the research could be repeated in its current format over the remaining years of the Decade for Sustainability, for comparison. This would constitute one form of a
longitudinal study as alluded to in my comments concerning a possible limitation to my study. It would also be interesting to re-interview the participants in my study and ascertain whether their various projects continued and in what form. Similar research could be undertaken in secondary schools for comparisons between metropolitan areas or between metropolitan and rural secondary schools, between government and non government schools and between schools with different socio-economic profiles.

There is also scope for further research to compare my findings with similar research conducted in secondary schools participating in the Australian Sustainable Schools Initiative (AuSSI). This initiative claims a whole school approach to sustainability in schools (Ferreira et al., 2006; Flinders, 2005; Henderson & Tilbury, 2004) rather than the isolated and ad hoc approach adopted by schools in my study. For this reason, a similar but separate study to compare secondary schools not involved in the initiative with a number who are involved has merit. Scope also exists for research in secondary schools across Australian states to assess similarities and differences in their delivery of education for sustainability.

A contrasting research perspective could also be undertaken by rating the performance of participants as described in the narrative accounts. Each narrative could be assessed in terms of predetermined descriptors linked to leading for sustainability prior to statistical analysis. This could be completed while delivering a series of workshops explicating leading for sustainability and similar to studies undertaken elsewhere (Wildy & Louden, 2000; Wildy & Pepper, 2005).
Conclusion

During this analysis and reflection of my four key concepts, understanding sustainability, imagining the future, building relationships and taking action I argue that elements of three contemporary leadership models are evident in my data. While transformational leadership has a future orientation the concept has only a rudimentary focus on relationship building. Conversely, the distributed leadership focus is firmly on relationship building but lacks a strong focus on the future (Burns, 1978; Leithwood, 1994; Bennett et al., 2003). However, because of limits to these conceptions of leadership neither contemporary model adequately represents nor delivers an appropriate model for the leadership of education for sustainability. Preliminary iterations of the sustainable leadership model articulated by Hargreaves and Fink (2003, 2004) proposed three aspects for sustainable leadership. These aspects – leading learning, distributed leadership and succession planning – represent a repackaging of previous leadership models. The most recent iterations of the sustainable leadership model incorporate a number of principles and action principles (Hargreaves & Fink, 2004, 2005, 2006). While these are designed to clarify sustainable leadership, doubts are voiced about the usefulness of the model by other educational researchers (Knight, 2005; Levin, 2006). Despite the connections described between my research and the sustainable leadership model offered by the North American researchers, my research identifies both the complexity and the importance of understanding sustainability.

In contrast with the strong emphasis on understanding sustainability in the education for sustainability literature (Fien, 2001; Tilbury & Wortman, 2004) little emphasis is evident in the North American studies of Hargreaves (2004, 2005a), Hargreaves and Fink (2004, 2005) or Fullan (2005). These researchers are recognised for their expertise in leadership,
yet underplay the vital need for knowledge and understanding of sustainability by leaders. Instead they offer a framework for individual and systemic sustainable leadership based solely on leadership theory then seek links with the sustainability literature. Leadership in practice must be considered in relation to the situation or context. Unlike the North American studies which were conducted in exceptionally innovative rather than mainstream schools my research was conducted in typically representative co-educational, Western Australian government secondary schools. One of the strengths of my research is therefore its relevant context and transferability across many of the 59 similar schools in the Perth metropolitan area. Identifying and elaborating understanding sustainability is a powerful addition to re-conceptualising leading for sustainability.

*Imagining the future, building relationships and taking action* comprise the three additional key concepts identified in my research. Together with understanding sustainability, these concepts enhance the meagre knowledge base about leading for sustainability in Western Australian secondary schools. In reconceptualising leading for sustainability my research provides a new foundation for further research in both similar and contrasting secondary school settings. Furthermore, it provides a springboard for further research in the fields of sustainability and educational leadership.
Appendices

Coda

The closing passage after the formal structure

(Sadie and Tyrrell, 2001)

Appendix A
Division of Arts/School of Education
Project Title: Education for Sustainability

Dear Colleague,

You are invited to take part in a study designed to describe the leadership involved in establishing and maintaining Education for Sustainability in a selection of Western Australian secondary schools. I am a student enrolled in the Doctorate of Education at Murdoch University, under the supervision of Dr Irene Styles, and Dr Helen Wildy, and this research will contribute to the existing knowledge base relating to Education for Sustainability.

You are invited to participate in an hour long interview in your school setting at a time to be arranged at your convenience. You will be asked to talk about some of the challenges that your leadership in implementing and maintaining Education for Sustainability presents to you. With your permission I will tape record our conversation and then will write up a short narrative illustrating the issues you have discussed with me. I will return this narrative to you for your approval. You will be asked to ensure that no identifying information (about you or your school) is included in the narrative. The narratives will be designed to explicate aspects of the development and implementation of the school curriculum that school leaders like you deal with in your everyday work.

If you are willing to participate in this study, would you please complete the details in the consent form below. (I will leave one copy with you and take a copy for my file). If you have any questions about this study please feel free to contact either me, (Coral Pepper) or my supervisors, Dr Irene Styles and Dr Helen Wildy. We are happy to discuss with you any concerns you may have on how this study will be conducted, or, alternatively, you may contact Murdoch University’s Human Research Ethics Committee.

Dr Helen Wildy (Supervisor)
Associate Professor in Educational Leadership
at Murdoch University, ph (08 9360 7476) h.wildy@murdoch.edu.au
Dr Irene Styles (Supervisor)
Associate Professor in Educational Psychology
at Murdoch University, ph (08) 9360 2613, i.styles@murdoch.edu.au
Ms Coral Pepper (EdD student)
at Murdoch University, ph (08) 9360 7559, coral.pepper@murdoch.edu.au
or Dr Sue Dyson (Manager Ethics)
at Murdoch University, ph (08) 9360 6170, ethics@central.murdoch.edu.au

Thank you,
Coral Pepper
Appendix B

CONSENT FORM

Education for Sustainability

I __________________________________________ have read the information above and any questions I have asked have been answered to my satisfaction. I agree to participate in this activity, realising that I may withdraw at any time.

I understand that all information provided by me will be treated as confidential and will not be released by the investigator unless required to do so by law.

I agree to this interview being audio-taped.

I agree that the research data gathered for this study may be published provided I (and my school) are not identifiable.

Participant’s ____________________________ Date __________________
Signature

Investigator’s ____________________________ Date __________________
Signature

Thank you for your willingness to be involved in this study. Your responses will be very valuable.

Any questions concerning the study, Education for Sustainability may be directed to

Dr Helen Wildy (Supervisor)
Associate Professor in Educational Leadership
at Murdoch University, ph (08 9360 7476) h.wildy@murdoch.edu.au

Dr Irene Styles (Supervisor)
Associate Professor in Educational Psychology
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Ms Coral Pepper (EdD student)
at Murdoch University, ph (08) 9360 7559, coral.pepper@murdoch.edu.au

or Dr Sue Dyson (Manager Ethics)
at Murdoch University, ph (08) 9360 6170, ethics@central.murdoch.edu.au
Appendix C

Questions used to prompt discussion during research interviews. (Not all questions were needed during all interviews).

1. Please tell me about your program to provide education for sustainability.
2. When did the program begin officially? Was this different from its unofficial beginning?
3. Who was involved in introducing the concept?
4. How did the program begin?
5. Please tell me about the support you received to implement the program.
   a) from the community
   b) from the Department of Education and Training
   c) from the staff and principal at your College
6. Please tell me about the challenges you faced in establishing your program. How did you overcome these challenges?
7. Please tell me about a stage or outcome you are especially proud to achieving.
8. Please tell me about any advice you would offer to others planning to introduce education for sustainability into their school.
9. How do you picture the future for your program?
References

**Concerto grosso**

A composition employing a small group of soloists within a larger group

(Sadie and Tyrrell, 2001)


Educational Administration Quarterly, 42(1), 3-41.


