Learning from Three Schools in Education for Sustainability (EfS): A Case for Reorienting Whole-school Systems Towards Sustainable Education (SE)

Alicia Flynn

Submitted in total fulfilment of the requirements of the degree of Master of Philosophy

JULY 2014

Melbourne Graduate School of Education
The University of Melbourne

Produced on archival quality paper
Abstract

This research investigated how three whole-school communities in Melbourne, Australia engaged with the current paradigm of Education for Sustainability (EfS). Local and international literature across a broad range of themes, including ecology, whole systems thinking, place pedagogies, arts-based ecopedagogy, Aboriginal Australian praxis of Country, new cosmology and critical spirituality formed the basis for a multi-pronged heuristic that is used to mount a case for reorienting whole-school systems towards Sustainable Education (SE).

This research took a qualitative approach using bricolage (Denzin and Lincoln, 2003)—layering a range of approaches to strengthen the study, adding an alternative, “new rigour” to qualitative research. This is a postcolonial, poststructural enquiry employing a postphenomenological lens as methodology, supplemented by narrative analysis of the fieldwork. But it is also post-critical, and therefore (perhaps perplexingly) postpost, as this study calls for moving beyond the deconstruction of “that which is”, into the fertile fields of generating new ways of being and becoming in school-based ecopedagogy, through the connectivity of learning with heads-hands-hearts, that is, learning embodied intellectually-somatically-emotionally-spiritually.

Over twelve months, three government schools in Melbourne, and three focus classes in each school, were investigated through participant observation and semi-structured interviews with students, teachers and other members of the school community.

The evidence indicates there is a great deal of positive ecopedagogy practiced in these three schools and that students are engaged in their eco-learning in particular programs, such as gardening and Outdoor Education. However certain students spoke about or alluded to disenchantment with the nature/culture of much of their learning and some teachers did not articulate nor exhibit a critical or intentional ecopedagogy. The data generated in this study shows these schools are still in transition from learning about “the environment” to learning for sustainability with little evidence of education as ecological/sustainable in an organised capacity, on all levels.

In conclusion, this thesis suggests there is much to learn from current EfS practices in schools, along with diverse streams of literature to deepen and re-enchant critical, whole systems ecopedagogy and praxis in schools.
Declaration of Originality

This is to certify that

(i) The thesis comprises only my original work towards the degree of Master of Philosophy

(ii) Due acknowledgement has been made in the text to all other material used,

(iii) The thesis is fewer than 50,000 words in length, exclusive of words in tables, maps, bibliographies and appendices

Alicia Flynn
Acknowledgements

I am so blessed to have been bolstered by a swathe of wonderful, supportive and loving people through this (seemingly endless) process of meaning-making.

Jeana—thank you for your incredible (saintly) patience—from the rhizomic discussions of transforming sustainability education to this thesis and beyond! My arduous drafting process is more than you bargained for when you signed on to supervising me! For your unwavering support and celebrative spirit I thank you dearly. You are a Great Teacher. I look forward to working with you well into the future.

To my unconditionally loving family: Mum and Dad—Thank you with all my heart, for entertaining my early obsession with rocks and the idea of becoming a geologist (and though it didn’t manifest, it fused my ecological identity), and for supporting my globe-trotting which expanded my worldview beyond comprehension. Mum—You are an inspiration to me as a living example of transformation. Thank you for feeding us, clothing us and doting on us! Dad—For opening up my senses to the Natural World and encouraging a passion for critical enquiry, thank you. Cint—Thanks for your quantitative researcher’s eye in the final stages. Cint, Tone and Clare—For shaping me through love, laughter and oppositional defiance! I love you dearly.

Caroline—For being my intellectual/psycho-spiritual life mentor since your first “Science and Technology” lecture I attended in 2002! You have broadened, deepened and expanded my consciousness and eco-sustainable horizons introducing me to Thomas Berry, Maturana and EarthSong; my perspective and praxis on teaching and life. I am eternally grateful.

Anne and Pat at EarthSong—For introducing me to Brian Swimme, Evelyn Tucker and the Universe Story through the enchanted song of the Earth, as well as providing my first foray into published writing, thank you in light and gratitude. You are soulful teachers leading the dance.

Tiff—For being my life-enhancing kindred spirit since the moment we met, and for always inspiring enchanted ways of being and becoming in our Earthly dance.

Gabby, Mum, Paddy and Tiff—For minding (loving and doting on) Euca, thank you! To all the friends who have lovingly withstood my sighs and moaning, thank you...It is over!

Bas and Euca—For unwittingly accepting my absent-mindedness and perpetual distractedness with unconditional love. I promise Mama will be all yours...for now! I love you sweet boys—you are my inspiration.

Dan—For everything. Without you—your love, your songs and music, your support and cuddles, your shoulder and ear, and your biting humour, this could not—would not—have come into being...You have permission to make a million more albums! I love you forever and always.
To my fellow students, travellers on this emerging vortex into consciousness, into the co-creative unknowns;
To the sages of the written and spoken word past, present and futures;
To the artists, music-makers, gardeners and lovers;
To the Traditional Owners of this Country, past and present, and to reclaiming the future together;
To Earth and all beings, for revealing magic, transformation and our kinship.

This thesis is dedicated to Bas and Euca—love personified. You are the sum of our stories, the sum of our love. To your future becomings...

In loving memory of Bill Flynn, for pushing my early thoughts to clearer horizons; for your wisdom and oceans of love
and
Tim Fuller, who knew love is the connection and dreamt of the ecstatic pinnacle of the possible

There is no map for the country of this writing. It is always being at the edge of territory, it is like being on the edge of the cliff, always shaping new words to make a bridge into that space. Each word is thrown into the empty space, the abyss of the white page, and each forms a link, ever so tenuous and fragile, that holds the body of the writer as she moves there.

—Margaret Somerville (2013, 19)
Table of Contents

Abstract ................................................................................................................................. 2
Declaration of Originality ..................................................................................................... 3
Acknowledgements ............................................................................................................... 4
Table of Contents ............................................................................................................... 6

Image 1: All Common Threads by Aviva Reed .................................................................... 8

CHAPTER ONE: Introduction ............................................................................................... 9
  My Place: Frames and Situations ...................................................................................... 9
  Setting the Scene .............................................................................................................. 13
  Progressing Paradigms ..................................................................................................... 19

CHAPTER TWO: Survey—Review of the Literature ................................................................. 21
  INTRODUCTION ............................................................................................................... 21
    Heads-Hands-Hearts ........................................................................................................ 21
    The Theoretical Tailbone .............................................................................................. 25
    Deepening the Base ....................................................................................................... 31
    Unlikely Bed-fellows: Social Theory and Eco Education ............................................ 34
    Systems, Holism & Diversity ....................................................................................... 37

CHAPTER THREE: Methodology ........................................................................................... 43
  The Journey ...................................................................................................................... 43
  Project Design Approach(es) ........................................................................................... 45
    ‘Gentle Empiricism’—Qualitative, naturalistic/interpretive, critical enquiry ................. 45
    (Post)phenomenology ................................................................................................... 47
    Narrative ....................................................................................................................... 49
    Case Studies ................................................................................................................ 53
  Fieldwork Widgets (aka Methods) .................................................................................. 56
  Primary Data .................................................................................................................... 59
  Reflexivity on Reflection: Researcher as Cyborg ............................................................. 65

CHAPTER FOUR: Fieldwork, Data & Discussion .................................................................. 68
  INTRODUCTION ............................................................................................................... 68
  MURRNONG .................................................................................................................... 71
  Place— ............................................................................................................................. 78
  Doing .............................................................................................................................. 80
  BANKSIA ......................................................................................................................... 93
  Food— ............................................................................................................................. 95
  Thinking— ....................................................................................................................... 107
Image 1:  *All Common Threads* by Aviva Reed

CHAPTER ONE: Introduction

Words are not meanings for a tree.
So it is truer not to say,
“These rags look like humility,
or this year’s wreck of last year’s love,
or wounds ripped by the summer’s claw.”
If it is possible to be wise
here, wisdom lies outside the word
in the earlier answer of the eyes.

—Judith Wright, Gum-Trees Stripping (1955)[abridged]

My Place: Frames and Situations

If looking at three case studies in Education for Sustainability (EfS) and the paradigm shift to Sustainable Education (SE) were possible to present on a multi-sensory platform, I would attempt it. To ground this study in the concepts with which it is concerned, it begs to be experienced with our heads, hands and hearts—sensed—by conjuring the taste of carrots pulled straight from the soil, the smell of Eucalypt just before a storm, the sound of enchanted children exploring their ‘special places’, and Pobble-bonks in the pond, the vision of regenerated bush scrub, and solar-panel covered roofs, the feel of fingers dipping in rain gardens, the sense of wonder with the Earth, the Universe, and our co-creative place in it!

Yet, this heady world of academia leaves little room for direct experience and thus we are left with words, representations of experience. Writing about the work of scholars that interprets the philosophy of ecology, environment and sustainability education is absurdly abstracted anthropocentric artifice. Participating in EfS, or Environmental Education (EE), is an implicitly embodied endeavour, one that is experienced sensually (somatically and affectively) rather than a disembodied solely intellectualised pursuit.

---

1 A ‘frame’ is the metaphorical tool academics use to picture ideas and a ‘lens’ the tool we use to look at something. Both terms are vision-centric - valuing sight as the way to knowing - stemming from a reduced Western tradition. I intentionally couple my frame with my embodied ‘situation’ in introducing my place and role in this research, and attempt to conjure meaning through more multi-sensory ways of knowing throughout this study, whilst recognising this thesis is a two-dimensional, representation of black words on a white page. So I hand it over to you, dear reader, to fill in the dimensions with your unique combination of insight and imagination.
So from the outset of this project, there is an unsettling fissure between the *theory* of EfS and the *practice*; a muddying of the praxis, but like Wright illustrates above, this study attempts to draw the headiness of academic theories down to the ground of lived, material—*as well as* supra-material—experiences. Mary Jeanne Barrett cautions, ‘the privileging of the intellect in research and pedagogy may be making effective environmental education almost impossible’ (Barrett, 2007, 209). We are still privileging mind at the expense of matter, as if head and body; human and “Nature” were separate, binary entities, when what we need in eco-pedagogy research and school-based practice, is to *actively* recognise the ‘connection across the discredited breach of nature and culture’ (Haraway, 1991, 149) and navigate ‘the path to closing the present hiatus between us and nature while preserving … techniques coherent with us *as* nature’ (Frank Fisher, in James, 2011, 20).

Overlaps and simultaneous realities exist in eco-pedagogical learning and teaching – experiences through *head, hand, heart,* and *spirit* (often all at once), can and *do* occur. For better or worse, language is our main method of communication particularly in the principally disembodied sphere of philosophy. Marcus Bussey argues, ‘language, as the primary tool of philosophy – as the vehicle by which we clarify—must push the limits of the intelligible’ (Bussey, 2008, 105), that is, *cognitive* intelligibility. While cautious of not falling into the trap of toying with words for the sake of it, this study employs particular words to conjure particular meanings—often the edgiest, *stretchiest* notion conceivable without losing its essence in abstraction—to sow the seeds for transformative shifts. Indeed, this thesis argues, it is in the reconciliation of these simultaneous, co-dependent experiences of our place in Earth and different *ways of knowing* ourselves in Earth (a phenomenological approach to consciousness) and uniting representational and more-than-representational ways of knowing, that *critical* ecological learning will emerge. In this study “ecological” means the living Earth, all systems and all members within Earth – human and other-than-human (inclusive of the human socio-political-psycho-spiritual domains).

---

2 The use of the term *critical* in this thesis is meant in a manner that is not cynical but careful, discerning, shrewd or insightful – “looking” at something closely, patiently, recognising its complexity and disparity. Bussey describes this flavour of critical ‘in the sense offered by Michel Foucault, as a critical attitude that fosters “the art of not being governed quite so much”’ (Bussey, 2009, 23).
This research is concerned with recognising the transdisciplinary understandings and acts of eco-pedagogy as distinct from the isolated morsels of a) indoor, intellectual thinking about environmental sustainability, b) outdoor learning in “the environment” and, c) the parochial notion of ‘stewardship’ for "Nature". This research will attempt to re-ecologise embodied knowledge (Bussey, 2008; Payne & Wattchow, 2009; Carolan, 2009) with intellectual, emotional, creative and spiritual ways of knowing, bringing UK scholar, Stephen Sterling’s learning as sustainable (2001) SE framework to the fore through the literature and empirical data from three school case-studies.

Bringing together these particular themes for close scrutiny is what makes this research meaningful, nuanced and hence, I hope, robust. In order to achieve this scrutiny of the subject, what are the questions that drive and frame this research? What does this study want to reveal or produce? What am I exploring in the three particular schools?

The major question motivating this study is –

‘How is EfS interpreted and enacted in three Victorian schools, and how does this relate to whole systems approaches to SE from the literature?

The detailed questions that guide the study are:

1. What is EfS and SE?
2. How do schools teach for, about, in and through sustainability?
3. How do children learn for, about, in and through sustainability?
4. How are metaphysical (representational, spiritual), embodied (more-than-representational, material) and creative aspects of sustainability incorporated in schooling, i.e. What role do story, love, experience, the Arts, ‘Nature’ and spirit play in SE?
5. How do the broader school community and the local ecosystems (bioregion) affect the school’s relationship with sustainability? What role does place, have on the school’s pedagogical practice?

To echo Margaret Somerville (2008, 328), a leading scholar in place pedagogy, ‘I write from a particular embodied, material and temporal location, from my own particular histories as a white Australian female anglo migrant’—I am thus likewise situated. In this introduction I frame my thinking, explain how my ideas have formed, who has
The literature from which I draw inspiration, ideas and inception for this research skirts the worlds of Ecology, Education, Cosmology and Consciousness, regularly finding common ground, interrelated and at times interdependent. For many educators involved with “the environment” — ecology, Outdoor Education, place-based learning, food gardens and sustainability - our values and practices are strongly influenced by the writing of naturalists and ecological research. We are often more informed by science (including social sciences, sociology) and liberal naturalist works than by “straight” educational research, though there is a dearth of research that overlaps. For example, though Peace Education, Human Rights Studies, Indigenous Studies, inquiry, experiential and play-based learning have not traditionally been encompassed within an Eco-pedagogy paradigm, this thesis argues each of these disciplines sits comfortably (and are necessary) in a whole systems, ecological SE and is engaged with learning from a range of progressive, transdisciplinary approaches to pedagogy to form ‘a more integrative conception of education’ (Sterling, 2001, 63).

The broader discussion and analysis will be informed by both the empirical data co-generated in three schools, as well as Australian and international research and literature. Thus this project is both an empirical study and a theoretical analysis, as the body of literature is larger than a singularly empirical project.

At this stage I should lay my dilemma on the page – I would rather be harvesting edible weeds along the Merri Creek, creating a blue-tongue lizard habitat, painting pictures in the clouds with my two young children, than sitting at my desk (kitchen table) writing this. However, something internal is compelling me to prioritise the latter – there is no external pressure to do so. Already as I write, I feel my blood rush to my neocortex and my toes and spirit become numb, so...

*Find a window and look outside*

*Better still – go outside*

*Cast your eyes on the farthest point;*
On the horizon; in the sky

On a dog-shaped cloud or an elegant Peppermint Gum

Breathe in through your nose

Wriggle your toes

Exhale into song...

Setting the Scene

Sustainability & Sustainability Education

The debate about adequate definitions for what is currently termed EfS has perpetuated for over a decade. Many have chronicled the evolution of EfS from EE, to ESD (Education for Sustainable Development) and the many and varied critical contemporary versions within the tradition (Sterling, 1996, 2001, 2008; Fien, 1998; Sauvé, 1999; Tilbury et al., 2002; Tilbury & Cooke, 2005; Gough & Sharples, 2005; Tilbury & Cooke, 2005; Tilbury & Ross, 2006; UNESCO, 2002, 2006; Potter, 2007; Jickling & Wals, 2008; Wals/UNESCO, 2012). Kahn’s critique (2010), based in a critical ecopedagogy frame, most adequately informs the discussion of the various incarnations of this area. This thesis does not allow me to comprehensively participate in that discussion, nor do I feel a desire to retrace the well-trodden path, as Gough warns ‘...an obsession with defining terms is one manifestation of a weak conception of literacy’ (Gough, 2008, 74), however this study will demonstrate that EfS is still narrowing the scope of what is possible in ecoeducation and is not an adequate alternative to EE and that we could be reaching beyond this frame into more radical, truly transformative ways of conceptualising education as ecological. Hence, this research argues to stretch and deepen our current school frameworks, basing this paradigm progression in Sterling’s notion of SE (2001), coupled with Capra and Orr’s Ecoliteracy (see details below), Bowers, Kahn and Jucker’s (context-placed) critical/emancipatory ecojustice ecopedagogy; the re-embodiment of Somerville and Payne’s place pedagogies and arts-based approaches; Bussey’s critical spirituality, neohumanist education and a more enchanted conceptualisation of embodied SE (2008); Berry, Swimme and Tucker’s new cosmology and the First Australians’ praxis of Country, particularly Kanyini (discussed further in Chapter Five) to emerge into a wholeystems, transdisciplinary process-approach-realisation of transformative
ecopedagogy\(^3\). That is, there are no set “models” outlined in this research, nor definitive “solutions” for reorienting schooling towards whole-systems SE. There is however a rich discussion of current practices and perceptions, and future possibilities and, as such, this study joins the confluence of many different critical, eco/social philosophies (pedagogical and other) in the discussion of a rich and contextualised process of paradigm change for schools through important themes and approaches in individually nuanced ways.

The “sustainability” discourse is now problematic however; we are exposed to corporate “green washing” on a daily basis – business that purports to be engaged with so-called sustainable practices while disguising much of their destructive behaviour under a thin veil of tokenistic “corporate responsibility”. Systems theory pioneer, Fritjof Capra warns us that ‘the term “SUSTAINABLE” has recently been so overused, and so often misused, that it is important to state clearly how we understand it’ (2005, xiii). But in doing so Capra suggests we don’t need to “reinvent the wheel”, we can ‘learn from societies that have sustained themselves for centuries. We can also model human societies after nature’s ecosystems, which are sustainable communities of plants, animals, and microorganisms’ (2005, xiii). Rather than relying on the oft’ cited Brundtland Report (Our Common Future, 1987) or a dictionary definition, ‘sustainability’ herein refers to mutually enhancing relationships for all (eco) systems and all members of the biosphere, in a frame of biophilia (Wilson, 1984; Orr, 1994; Sobel’s ecophilia, 1996) – love of/for the biosphere—the living Earth.

[Acronym Alert!] Anecdotally eco-educators on the ground are often weary of using the term sustainability, preferring instead the theoretically out-dated (Fein, 2001; Sterling, 2001) EE. EE is more concerned with learning about and (less frequently) in "the environment"\(^4\) (though Jickling & Wals [2008] provide a persuasive case supporting the long-held standing and continued rigor and relevance of EE), while EFS

---

\(^3\) Ecopedagogy is ‘a discourse, a movement, and an approach to education that has emerged from leftist educators in Central and South America including Paulo Freire, Moacir Gadotti and Leonardo Boff’ (Practicing Freedom, 2013, NP) and now including Bowers, Jucker and Kahn, amongst others

\(^4\) The inference here is that one fixed ‘outside’ or “natural” environment is not set and pre-constructed separate from any other co-emergent environments or realities, as material semiotics (nature-culture theory, Actor-Network-Theory amongst them) stipulates there are simultaneous, co-created realities rendering the idea of one distinct non-human “environment” redundant. However, I still use this term (critically) as I recognise the common/everyday understanding of the notion in schools and its significance in describing places beyond the human-centred.
is hinged on learning for sustainability. Sterling (2003) argues against EfS, saying, it ‘tends to put the emphasis on the effects of education...as “subjects of change”’ [rather than] “agents of change”’ (2003, 22) which diminishes its depth, breadth and gravity; its capacity for transformative and lasting change. Instead, SE goes beyond a tweak here and a polish there; it requires ‘a shift of culture in educational thinking and practice itself’ (Sterling, 2003, 22). SE encompasses the coal-face concerns of teaching and learning, as well as the meta systems within and outside school settings, in an interwoven and permeating matrix—

Sustainability does not simply require an 'add-on' to existing structures and curricula, but implies a change of fundamental epistemology in our culture and hence also in our educational thinking and practice. Seen in this light, sustainability is not just another issue to be added to an overcrowded curriculum, but a gateway to a different view of curriculum, of pedagogy, of organisational change, of policy and particularly of ethos (Sterling, 2004, 50).

While the interpretation of sustainability and sustainability education changes from country to country dependent upon the politico-economic situation and socio-cultural context, it is largely recognised as a universal issue that has been perceived and practiced in a range of ways from Sweden to the Solomon Islands. The scope of this study does not allow for global discussions and although this research may have global implications, the flavour of EfS and SE will be distinctively placed in an Australian, and specifically Melbourne, context through the case-studies.

Ecological Literacy

Eco-literacy (EL) has in part been superimposed on EE (at least theoretically, if not necessarily in practice), and is a critical part of SE. SE ‘transcends and includes’ (Wilber, 2000, 67) EL in that SE extends to the whole educational paradigm, but SE depends on the principles and re-languaging of EL. Learning about ecology does not happen anywhere near enough, and it is of great importance in these times of ecological turmoil to re-ecologise the people part of the Earth through explicit eco-literacy, learning the principles that keep life on Earth possible and in balance such as thermodynamics—energy flows, matter cycles, and the Precautionary Principle (Orr, 1992; Capra, 1995; Fien, 2001; Sterling, 2003), as well as how we can live in a more co-creatively abundant way in Earth (Berry, 1988; Orr, 1992, 1994; Abram, 1996; Capra,
Fritjof Capra (now based at the Centre for Ecoliteracy in California), interprets the field of ecopedagogies and the imperative of ecological literacy —

To understand how nature sustains life, we need to move from biology to ecology, because sustained life is a property of an ecosystem rather than a single organism or species. Over billions of years of evolution, the Earth's ecosystems have evolved certain principles of organization to sustain the web of life. Knowledge of these principles of organization, or principles of ecology, is what we mean by "ecological literacy." (Capra, 2014, NP)

These core aspects of EL as conceived by Orr, Capra and the Centre for Ecoliteracy group in California (www.ecoliteracy.org) are parallel with the principles of SE (as outlined by Sterling, 2001, 63), though lacking the supra-system strategies:

1. Principles of Living Systems
2. Design Inspired by Nature
3. Systems Thinking
4. Ecological Paradigm and the Transition to Sustainability
5. Collaboration, Community Building and Citizenship

These are further fleshed out by Goleman, Bennett, and Barlow (2012) and woven into current school curriculum as discussed in the literature review [see also Appendix A1]. EL emerged from new ecology, whole systems thinking and is situated within a progressive, social pedagogy in schools. Much like the way Sauvé (1996) speaks of EE, EL somehow avoids the political/economic issues involved in the loaded “sustainable development” frame. But as discussed, there are likewise limitations to the discourse of the “environment” (discussed further in the final Chapter) hence this study aligns with the language of ecology, in “ecolearning, “ecopedagogy” and later “ecological education”, as ecological includes and connects all systems.

**Whole Systems and the Rhizome**

Whole systems thinking provides an antidote to anthropocentricism, individualism, the mechanistic-reductionist worldview and business managerialism (Selby, 2006) largely responsible for the current unsustainable fracturing of the micro and macro systems.
concerned with education. Instead of promoting education to 'compete and consume' as Sterling critiques (2003, 2), SE along with EL, ecojustice pedagogy and adjunct theories seek to empower and reconnect teaching and learning to 'care and conserve' (Sterling, 2003, 2). Whole systems thinking is not top-down and nor is it centralised, it is more rhizomic/rhizomatic (Deleuze & Guattari, 1987; Bussey, 2008a; Gough, 2008; Somerville, 2008) than linear or hierarchical. It is relational and connects and contextualises everything, as Capra explains ‘what we call a part is merely a pattern in an inseparable web of relationships’ (Capra, 2003, vi). The now familiar rhizome (becoming ubiquitous in qualitative research of the post tradition) will appear through this study as one of many things to think with much like Bussey (et al, 2012) describes—

Our attempts to theorise our madness lead us to the work of Deleuze and Guattari (1987) who suggest rhizomes as a metaphor for understanding the process and networked nature of reality. Rhizomes, we discovered, move across and between structures and allow us to understand the process orientation of learning as “always-becoming-other”. (Bussey, 2013)

Whole systems theories including Capra’s ‘new paradigm’ (1991, xii), Sterling’s ‘postmodern ecological worldview’ (2003, 1), Berry and Swimme’s ecocentric learning for the ‘Ecozoic era’ (1992) through the Universe Story, David Selby’s Quantum Model of Education (1999), Joanna Macy’s living systems and whole systems learning (2004), Bussey’s critical spirituality, tantra and neohumanist education (2006; 2008a) and David Holmgren’s Permaculture ‘Principles and Pathways’ (2002), amongst others, offer ways of being and becoming that reconnect, celebrate and sustain transformation in all systems – not just school-based sustainability learning but whole educational systems and connected systems\(^5\). These meta-theories offer spiralling layers within which this research flows, as they recognise the creativity and complexity of emergence within and outside systems as well as the importance of localised context and are thus appropriate chaperons for transformative ecological change in schooling—

Whole systems thinking is a name given to the quality of thinking and being that appears necessary in order to go beyond the dominant forms of thinking which are

\(^5\) It is important to place education in its network, acknowledging that school (and educational) transformations are co-emerging with the transformation of supra systems with which they are co-dependent.
analytic, linear, and reductionist. Through drawing on systems and humanistic ideas, it offers a way of making holistic thinking understandable, accessible and practicable. (Sterling, 2001, 52)

Hence, whole systems thinking fits as a hermeneutic for this study, as well as providing an overarching process with which to dance through other frameworks.

The weaving together of SE with whole systems thinking is not new, with much other work making this connection, even if they do not use these exact terms (see Orr, 1992, 1994; Bowers, 1997, 2013; Stone & Barlow (Ed’s) 2005; 2001; Fien, 1998, 2001; Jucker, 2002; Sterling, 2003, 2008; Lewis, 2007; Bussey, 2008; Gough & Sharpley, 2005; Henderson & Tilbury, 2004; Tilbury, Coleman & Garlick, 2005; Capra, 2008; Kahn, 2010). Although using the term “education for sustainability”, Emily Potter envisions beyond that limiting frame, here describing the whole systems approach to this reconceptualisation of education —

Recognising that a school is a "learning community", [the] implementation of education for sustainability incorporates all elements of school life: school governance; resource management; school grounds and physical surrounds; networks and partnerships; curriculum; and teaching and learning practices. (Potter, 2007, 13).

There is an implicitly fluid relationship between whole systems thinking and SE, as whole systems is conceptually synonymous with ecological in this thesis. The path to a transformative SE paradigm may be approached by engaging with whole systems thinking on all levels—macro and micro systems within and outside the school environment—from student to parent to teacher to principal, the school community and the bioregion; from curriculum to policy to research to the politico-economic and socio-cultural context; from body to mind to emotions and spirit (physical, intellectual, psycho-spiritual), as ‘the insights of whole systems thinking allow us to suggest the essence of the “pattern that connects” education and sustainability’ (Sterling, 2001, 54). The patterns, the connections, the Common Threads are beautifully realised by local eco-artist, Aviva Reed, in the opening of this thesis (see Image 1).
Progressing Paradigms

In putting forward the case for reorienting schools beyond Education EFS, this study refers to the meta-paradigm as SE, ecological education/ecopedagogy or ecolearning, though it will be discussed variously as transformative education, whole systems education or transformative sustainability learning (Sipos et al, 2008), but never in the reductionist and oxymoronic frame of ESD. The “development” frame was superimposed onto education in the briskly economic-rationalist turn of the century, rather than emerging from pedagogical research. Jickling and Wals (2008) critically argue against the ‘homogenizing tendencies of these global policy movements and take offence at prescriptive constructions such as “education for sustainable development” that reduce the conceptual space for self-determination, autonomy, and alternative ways of thinking’ (2008, 3). Likewise, Selby offers a luminous critique of the inherent problems with ESD (referencing Sachs in his discussion) he writes ‘the concept of sustainable development “emasculates the environmental challenge by absorbing it into the empty shell of ‘development”...The approach is managerialist and technicist’ (Selby, 2006, 355). Finally Sneddon concurrently asserts, ‘the notion of "sustainable development" has reached a conceptual dead-end’ (Sneddon, 2000, 521).

A UNESCO report (2002) critiqued the limitations of the EE framework, at the time reporting, ‘much of current education falls far short of what is required’ (UNESCO, 2002, NP). It called for a 'new vision' and 'a deeper, more ambitious way of thinking about education’. Their response was EfSD, but this study argues, a deeper vision is not found in the “development” paradigm (complicit in the ongoing colonisation of the Majority world), creating a corporate “double-speak” even within the sacred sphere of education. Government schools are axiomatically conventional and often disinclined to change, but ‘perhaps that’s for good reason’, writes sustainable systems educator Ann Evans, as ‘they are designed to resist experimentation on our most precious natural resource, our children’ (Evans, 2005, 251). In this final year of the UN’s Decade for Education for Sustainable Development (2005-2014) the “development” frame may

---

6 Through this thesis the use of the term “progress” and “progressive”, in lieu of “change”, is quite intentional. Progress here does not conform to economic rationalist notions of “development” or what Thomas Berry (1988) called the “technological trance” that drives a ‘misguided dream of progress’. What is meant in this thesis is transformative, paradigmatic change rather than an ambiguous notion which may infer a shallow, piece-meal or “business style” change. “Progress” was usurped by industrialists; this study attempts to emancipate it, resituating it alongside the open-ended notion of becoming (Nin, 1932; Deleuze & Guattari 1987). Marcus Bussey (2002a) captures this poignantly interpreting ‘change’ as technical/material and ‘progress’ as a more profound spiritual shift (2002, 304).
have worked as a short-term panacea – meeting schools where they are; using the managerial language with which they have become accustomed. But this study proposes the tide has turned – a more relational paradigm is on her way and schools are not only more receptive to taking sustainability further and deeper, they are starving for the language and processes to navigate it.

While this may seem like splitting hairs, it is important to situate this research through the conceptual frameworks and lenses it uses to produce phenomena in order to establish the ‘difference which makes a difference’ (Bateson, 1972/1987, 321) within a long and ever-emerging tradition. But at the risk of confusing and conflating the issue—as Gidley warns, ‘even as we try to think ourselves forward, our own intellects trip us up’ (Gidley, 2004, 37)—this study now turns to the bodies of literature that inform the epistemological tapestry of this research, after which the methodological approach to this research will be introduced, followed by the details and discussion of the raw data through the crystallization of multiple methods and narrative analysis, then finally the study draws to a close with the concluding insights, dancing with the possibilities...
CHAPTER TWO: Survey—Review of the Literature

*Life is a process of becoming...*

—Anaïs Nin (1932/1985, 11)

INTRODUCTION

This wild world of transformative, ecological, whole-systems SE is transitioning from chrysalis to butterfly and growing rapidly in girth and depth, and (unlike an actual butterfly) hopefully longevity too! Left behind is its caterpillar carapace – its humble origins in the form of Environmental Education (EE) and the atrophied Education for Sustainable Development (ESD). This SE butterfly is intrepid and enchanting, flying where no caterpillar could. But unlike this transformed and transformative arm of sustainability education, the remnants of utilitarian, reductive, resource management-style EE and ESD programs and policies are still circulating. In this study, we follow the flight path of the young butterfly, but the slow, emergent journey of the indomitable caterpillar surfaces at particular points through this thesis as it still holds its claspers firmly on to the leaves of policy and school practices.

In order to present a compelling discussion of the themes concerned with this research, this study analyses the girth and the depth of the literature. There is girth in the wide range of sources and there is depth in the spiralling and elaborate theoretical base. It is My Literature – a diverse treasure trove brought together uniquely in this thesis, encompassing bodies of work, individual titles and odd references that have been sticking like burrs to a dog’s coat over the course of this research project. Though far-ranging, transdisciplinary and at times antagonistic, these scholarly works are united in the broad, emerging school Carolyn Merchant (1994) framed the *postmodern ecological worldview* (PEW) ‘based on interconnectedness, process and open systems’ (Merchant, 1994, 17) and discussed in the extended educational context by Sterling (2003) amongst others.

*Heads-Hands-Hearts*

*The Grand Narrative*

Throughout this thesis, the figurative *head* is concerned with intellect, mind, cognition, psyche, language-representation-symbolism, constructivism and adjunct theories concerning these heady particulars. The *hands* are extended, as in most uses of this
allegory, to embrace physical-bodily-somatic concerns, in this case human and other-than-human bodies, sensuality, materiality, and place pedagogies. Finally, the heart (as is customary) includes the realms of emotions, affective learning, passion and love, and in this study it also houses critical spirituality, consciousness, creativity and imagination.

While the “head, hands and heart” metaphor has been a well-worn one in the context of eco/social pedagogies (Pestalozzi, 1885; Steiner, 1912; Brown & Williams, 2011) it is none-the-less fitting. And yet while it is fitting it is also problematic. Allow me this self-reflexive critique – it may be precisely through this Cartesian polarisation; the severing of mind-body-soul from its interdependent whole, that we have become so obsessed with over simplified pigeonholes, stratification and binary extremes, which has in turn constructed our current crisis of unsustainability. However, at this time head, hands and heart are perceived as partially distinct (though intrinsically connected), so we pull them apart only to put them back together – a multiplicity rendered first in its parts; three movements in the one dance. So for the sake of situating and presenting the themes in this study through a relevant and lyrical metaphor, heads-hands-hearts it is; pluralised because a school is not one but many – a community of souls – heads, hands, hearts/spirits intact.

Though consciousness (and certainly “intelligence”) are customarily situated in the head, there is now empirical evidence to back up what intuition has suggested for a long time, that intelligence and consciousness emerge not only from our brain’s “rational” neocortex, but also in the limbic system – the “emotional brain” and not only from the brain, but also from our heart-based emotions and feelings which are intrinsically connected with our somatic (bodily) perceptions (Spinoza, see Deleuze, 1978; Damasio, 1994; 1999; 2003). By extension, intelligence is likely not contained in distinct organs, but more likely learning and intelligence emerges amongst, in and beyond the head-hands-heart, in the processes and flows of the connected whole. Seminal scholar Gregory Bateson mused, ‘I don’t know how many people today really believe that there is an overall mind separate from the body, separate from the society, and separate from nature’ (Bateson, 1972/87, 491), but for the most part, technocratic schools and societies largely act as though this separation still dictates.
For too long our increasingly technocratic societal systems have followed the divisive and reductionist path of Descartes to our detriment. But over the last decade, there has been a tangible confluence of the postmodern ecological worldview swelling, which is combining ancient relational knowledge with philosophical theories and modern scientific findings to support the Platonic/Aristotelian proposition (circa 400 BCE) that *all learning has an emotional base*\(^7\). This was further supported centuries later with Thorndike’s *social intelligence* (1920), Bar-On’s *emotional intelligence* (EI) (1988), Mayer and Salovey’s important extensions work on EI (1990) and Daniel Goleman bringing EI into pop-culture with findings that EI is at least as important as IQ in determining one’s “success” – sense of accomplishment or “human potential” (1995). As Orr brutally quipped—

> If there is such a thing as a societal IQ, what we call “developed” societies would be judged retarded by [Wendell] Berry’s standard\(^8\). Overflowing landfills, befouled skies, eroded soils, polluted rivers, acidic rain, and radioactive wastes suggest ample attainments for admission into some intergalactic school for learning-disabled species. (Orr, 1999, 50)

The heads-hands-hearts metaphor is also conceived of as *thinking-doing-feeling or intellectual-somatic-affective/spiritual* through this thesis, and conceived of elsewhere as *cognitive-affective-participatory* (Gidley, 2008, 30); Thinking/Feeling/Willing or Truth, Goodness, Beauty (Steiner, 1947); ‘intellectual, physical and spiritual’ (Bussey, 2006, v); ‘intellect, emotion, spirit and will’ (Palmer, 1998), amongst others. The Centre of Ecoliteracy in California (2013) frames the notion as *knowledge, action, empathy*, which they situate in UNESCO’s ‘four pillars of learning’—*Learning to Know, Learning to Do, Learning to Be, Learning to Live Together* (see Appendix A7 for further details). Goleman, Bennett, and Barlow in their poignant text *EcoLiterate: How Educators are Cultivating Emotional, Social and Ecological Intelligence* (2012) present a compelling discussion through school case studies showing how ecoliteracy flows from sustaining self, to sustaining relationships with others and sustaining bonds with all living systems – ‘we recognize emotional, social, and ecological intelligence as essential dimensions of our universal human intelligence that simply expand outward in their focus: from

---

\(^7\) While this quote is ubiquitously attributed to Plato, it is not found in any scholarly records or any of Plato’s original writing but the general conversation is chronicled in texts such as the *The Oxford Handbook of Philosophy of Emotion*, in ‘Emotions in Plato and Aristotle’, (Price, 2009, 137).

\(^8\) That ‘standard’ being that a mark of intelligence is that ‘any justification of ugliness or violence is a revelation of stupidity’ (1987, 33) [see Orr, 1999, 50 for the full conversation]
self, to others, to all living systems'. It is a conceptualisation of intelligence – a way of becoming affectively-somatically-cognitively mindful in the world – that is *planetary*, re-enchanted with our Earthly existence, rooted in place and mutually responsible to all members.

This study attempts to balance the *head’s* neocortex and its request for the rational, with the *hands’* needs for real-life applications and the *heart’s* yearning to go deeper into the realms of feeling, contemplation, the intangible and entirely unquantifiable. As warned earlier, there will be some points along this journey when post-structuralist alarm bells may start ringing at the anthropocentric and essentialist overtones of human preoccupations with critical spirituality and new cosmology – the hearty stuff. Bear with me; in the course of this conflated discussion, this study attempts the death-defying act seldom found in a large literature and praxis-base often top-heavy, favouring heady cognition, or at best materially-centric, with the exception of many of the works referred to in this study and never more poignantly than in Marcus Bussey’s *Towards a Spiritual Pragmatics* (2012). Biologist-philosopher Francisco Varela illuminates, ‘Emergent selves are based on processes so shifty, so ungrounded, that we have an apparent paradox between the solidity of what appears to show up and its groundlessness’ (Varela, in Brockman, 1995) and Bussey likewise muses ‘there is something liminal about reality – and pragmatism acknowledges that condition by working the between that lies betwixt idea and action, aspiration and perspiration, hope and the quotidian’ (Bussey, 2013, 1).

The complex, particular and dynamic requirements of SE and critical ecopedagogy situated in this complex metaparadigm, are captured by David Selby, thus —

A central thrust of holistic education is “an awakening to the interconnectedness of all life”; the interrelationships existing between reason and intuition, mind and body, different domains of knowledge, self and community, self and earth, (ego-bounded) self and (oceanic) Self (Miller, 1988). Transformative learning, inspired by the writings of Thomas Berry (1988; Swimme & Berry, 1992), calls for education that will assist and foment the transition from the present “terminal cenozoic” (industrial, consumer, market-driven) phase of earth history to an “ecozoic” phase, one where the well-being of the entire earth community is the primary project. Its curriculum and pedagogy
These themes, ideas, concepts, pathways and scholarly theories overlap the various disciplines entwined in this inquiry creating a ‘wild profusion’ of paradigms (Lather, 2006), crafting a creative, generative tapestry of thinking. Ecological thinking through heads-hands-hearts provides the meta-frame through which this study generated data. That is everything discussed within this thesis as well as the study itself, is connected—layers within layers, wholes within parts within wholes, so it is a (mostly) pleasurable challenge to detangle the interwoven strands for the purposes of rendering a robust discussion. Hence, John Muir’s assertion ‘when we try to pick out anything by itself, we find it hitched to everything else in the Universe’ (Muir, 1911, see Sierra Club Books, 1988) is both true of the paradigm in schools as well as the metalogue (Bateson, 1972/1987) and emergent process of this thesis.

Seminal systems scholar, Donella Meadows suggests, ’instead of becoming a champion for one possible explanation or hypothesis or model, collect as many as possible' (Meadows, 2001, 60). So here is my collection; the body of work stitched together to support this research in the most ontologically and epistemologically rigorous way conceivable in order to fulfil all the nuances, spirals and depths required of this study. However, given the tight parameters applied to a mere Master’s thesis – this study forms but a tiny appendage in the grand anatomy of meaning.

**The Theoretical Tailbone**

*We look at the world and focus on what we see but we cannot see the eyes that do the seeing.*

— Kevin Rathunde (2009, 190)

Many of the theories, philosophies and approaches relevant to this study are discussed in this section. As many of these works have been chosen precisely because they transgress the boundaries of heads-hands-hearts, they could be placed in any of the sections, however as we turn our gaze to discussing the philosophical, theoretical tailbone, they are most pertinently situated in this figurative vessel of thinking. But through this heads section, this study also aims at emancipating the ‘container-view of
the mind that is so ingrained in modern society [and which] affects the daily practice of education’ (Rathunde, 2009, 191).

**Ecopedagogies**

Ecopedagogy (ecological pedagogies) is the term used to describe the broad field engaged with ecology, sustainability, place-conscious (bioregionalism) and transformative pedagogies. In this school, US academic David W Orr is ‘simply the most important innovator in environmental education in the country and quite probably the world, and one of the great visionary educators of this time’ (Stone & Barlow, 2005, 85). Though this accolade is easily deserved, I would suggest that he is also the “godfather” of ecological or Sustainable Education (SE), beyond the limits of the traditionally narrow Environmental Education (EE). When other EE practitioners and pedagogues were still talking and walking along Cartesian planes, Orr was writing about the importance of love, virtue, spirit and transformation in education and entering the collective consciousness with his proclamation ‘all education is environmental education’ (1991, 52). He rigorously engages the notion of the “hidden curriculum” (popularised by Illich, Holt and Freire) to ecological learning, stipulating ‘by what is included or excluded we teach students that they are part of or apart from the natural world’ (Orr, 1991, 52). His timeless *Earth in Mind: On Education, Environment and the Human Prospect* (1994), was ground-breaking in opening up the discussion for reorienting school systems towards ecological education. It remains ahead-of-its-time and many scholars since reverentially refer to it along with his paradigm-framing text *Ecological Literacy* (1992) so pertinent to this discussion, as well as his contemporary work.

Stephen Sterling has been well introduced already as he is responsible for the pivotal thesis in which this research is encased, as pronounced in his seminal *Sustainable Education: Re-visioning Learning and Change* (2001). He provides extensive and rigorous ecopedagogy publications from *Education for Sustainability* (1996, editor with Huckle), to his doctoral thesis ‘Whole Systems Thinking as a basis for Paradigm Change in Education: Explorations in the context of Sustainability’ (2003), along with many adjunct essays, notably ‘Living in the Earth’ (2010a) and ‘Learning for Resilience’ (2010b). In this body of work, Sterling offers a vision of paradigmatic change – from policy to strategy to epistemological frameworks, as well as extensive ‘practicable’
applications of SE for pedagogues, practitioners, politicians, parents and others concerned with education.

In this company stands Rolf Jucker whose less known but equally indispensable text *Our Common Illiteracy: Education as if the Earth and People Mattered* (2002), offers a critical, ecojustice flavour to this discussion. This book offers an in-depth analysis and engaging discussion about the most important themes and issues in education and society regarding sustainability or ‘unsustainability’, as he calls it ‘going for the big picture’, pivotally stating –

Sustainability cannot be properly understood, let alone achieved unless we grasp it in its full complexity and multidimensional nature. For EfS this has the consequence that we have to judge all teaching and research against the elaborated principles of future-proofness, complexity, diversity, acceptance of limits, slowness, impact and prudence, and assess it within the dimensions of ecology, empowerment, equity, economy and equipment (2002, 269).

But the real strength in *Our Common Illiteracy* is in drawing the ‘big’ discussion back to the ground and converting the vision into action, making it totally lucid, compelling and achievable for anyone engaged with EfS/SE practice.

Orr, Sterling and Jucker provide somewhat of a strategy for a whole systems revisioning and redesign of education; a flexible “roadmap” (rather than a fixed blueprint) for this emerging educational paradigm. They are not relegated to a fractional aspect of environmental education – they frame the educational debate through the lens of sustainable, ecological transformation. Rather than how to do sustainability in education, Orr, Sterling and Jucker reconceptualise ‘education as sustainability’ (Sterling 2001); education as ecological. From the ecological principles to the strategic redesign of education systems and the deeply epistemological dimensions of ecological intelligence – many of the imperative elements for educational pedagogy, of paradigm change and transformative learning are encapsulated. As well these three scholars deepen discussions of the ideology and pathology behind sustainability, education and the need to shift paradigms, and they are simultaneously very rooted in the concrete concerns of schooling.
While the work of Sterling, Orr and Jucker offer the background context and main foundations for a reoriented vision of sustainable education, they are greatly supported by the work of many others. Analysis of literature in this study’s adopts the tradition of ecofeminist Donna Haraway, as this research puts ‘a premium on establishing the capacity to see from the peripheries and the depths’ (1991, 196).

Much of the ‘Work That Reconnects’ (Macy, 2007) is largely based on the whole systems theory pioneered by Fritjof Capra, who is pivotal in placing systems thinking in an educational context through his involvement in the Centre of Ecoliteracy (California) his essays in Ecological Literacy: Education Our Children for a Sustainable World (2005) as well as his extensive, paradigm framing body of work (1982, 1991, 1996, 2002). His recent essays critique current issues and disseminate ecopedagogies to the broader community, writing, ‘Systems thinking involves a shift of perspective from content to patterns’, arguing ecoliteracy ‘should be the most important part of education at all levels – from primary and secondary schools to colleges, universities, and the continuing education and training of professionals’ (Capra, 2013).

Local sustainability hero, the late Frank Fischer, illumed ‘eventually ecoliteracy would become synonymous with education, just as today literacy itself is thought to be of the essence of education’ (Fischer, 2004, 4). He presents the central importance of the goal and process of ecoliteracy, posturing, ‘if ecoliteracy is our aim and ecology is the study of the natural systems around us while literacy refers to the intellectual frameworks that enable us to do the studying, we have the ultimate in physical and intellectual contexts’ (Fischer, 2005, 133). In a similar vein he champions Bateson’s “steps to an ecology of mind” and emphasises ‘deuterolearning’ (learning to learn) as seriously lacking in schooling and yet of primary importance. Fisher compels contemplation of the metaliteracy of ecoliteracy which provides the context for ecological learning. While this may seem less imperative than learning the ecological principles and learning about ecology and the urgency of our Earthly condition, Fisher posits that the ‘ecosystem would appear to take precedence over literacy, for without it there’s no life and literacy is an outgrowth of that’ (2004, 1), but he argues, without the literacy ‘we would not have been able to read … much less understand what “life” in that sentence refers to’ (Fisher, 2004, 1). Through the data and in the final chapter
we will explore the importance of language and the process of relanguaging in reconceptualising this ecological paradigm.

Ecojustice Education

Unless someone like you cares a whole awful lot, nothing is going to get better, it’s not.
— The Lorax, Dr Seuss (1971)


They are also foundational drivers of the “think-do-tank” Sustainability Frontiers, providing inspired voices in a murky sea of “sustainability” noise, through enchanted activism, weaving the underlying epistemologies within this thesis artfully together—

We go out on a limb by embracing the intrinsic value and right to exist of other-than-human and natural environments, by calling for education that is embedded in a planetary ethic of peace, environmental and social justice, and is restorative and celebratory of local and indigenous communities and cultures...taking sustainability education where it has rarely gone by also addressing the rich panoply of other-than-cognitive potentials in the learner (McIntosh, 2014).

The group champions whole planet, whole person and planetary responsive education, engaging with critically urgent pedagogy through transformative themes [see Appendix A4 for further details], working with community-based projects, formal schooling, and institutional change through a range of integrative programs, research and professional development in the progressive emergence beyond sustainable futures.

The critical (and metacritical) work of CA Bowers over the last two decades has been instrumental in bolstering the argument for not just critical ecopedagogy, but also a rigorous self-reflexive praxis within ecopedagogy, cautioning the trap of ‘double binds’
(Bowers, 2000), compelling us to lay down roots in our particular places, actively mindful of our embodied roles in the ecological and cultural commons. He offers very strong arguments against any tendencies towards ideological and ethnocentric thinking and brutally criticising transformative learning as ‘the Trojan Horse of the industrial culture that requires a rootless, unskilled, autonomous form of individualism’ (Bowers, 2005).

While recognising that Bowers’ work importantly voices the ‘silences’ and unearths the underlying assumptions in the work of some champions of transformative learning, this research interprets transformative learning more fondly, upholding it as a fitting adjunct to critical ecopedagogy and not inherently colonialist, individualistic nor undermining other ways of knowing. This research asserts that the critical inquiry of emancipatory ecojustice can dance with SE, place-pedagogies, ecoliteracy, whole systems thinking (including emergence, complexity and chaos theories) and transformative learning, to more fully flesh out and hearten real-life learning in schools for students, teachers and communities. This research engages with all claims and frames of ecopedagogy critically, while remaining open to the possibilities of each. Walking alone with a critical gaze likely leads to a top-heavy “doom and gloom” (Kelsey, 2011; Monbiot, 2014) pedagogical persuasion. Instead, Elin Kelsey argues, we need to ‘move beyond the narrative of “gloom and doom” toward more hopeful narratives grounded in resiliency, well-being, happiness and health’ (Kelsey, 2011, NP) and this study adds, even beyond these narratives to the re-awakening of consciousness in ecopedagogies through critical spirituality, indigenous knowledge, new cosmology and enchantment.

There are many other SE scholars whose work in place pedagogy, praxis, ecojustice and arts-based approaches have informed this research, particularly Bob Jickling’s extensive critical insights in EE/sustainability discourse (1992; 2001; with Wals, 2002, 2012) and also through the poetic, imaginative, ethical and emotional landscapes of ecopedagogy (Jickling, 2004, 2005, 2009). Daniella Tilbury, Jo-Anne Ferreira and John Fein (Fein, 2001; Tilbury, 2004; Tilbury, Fein et al, 2002; Ferreira, Tilbury and Ryan, 2006) among others in an Australian context and Arjen Wals (2004, 2007) and Lucie Sauvé (1999) have produced foundational EE/EfS research documents.
Theoretical Mentors

It is the work of three local scholar-pedagogue-activists—the transformative intellectuals (Giroux, 1988) mentoring this study—who guide the onto/epistemological concerns of this research, putting flesh on the discourse and situating the study in a contextually rich and familiar place. Firstly, Margaret Somerville (University of Western Sydney) whose poetic perspectives on place-conscious pedagogy (2007a, 2008a) and Indigenous Australian connections to Country (2010; 2013a, b and c) have greatly influenced my research as well as her narrative style of writing as methodology (2008b, 2012).

Secondly, Phillip Payne (Monash University) whose work in experiential, imaginative, outdoor learning provides fertile flesh, coupled with his critical ecological ontology (Payne, 1993, 1994, 1995a, 1996, 1997) and postphenomenological place pedagogy (2005), which particularly guide the methodological approach and ontological considerations of this study. As well as his written work, his role in the critical research in ecopedagogy praxis (with his team, the ‘Education, Environment and Sustainability’ (EES) research group at Monash University), bridges the academia-school gulf by creating fluid fieldwork experiences with both researchers and school teachers in exciting outdoor excursions in the re-Earth ing of the theory back into the lifeworld of schools.

And thirdly, Marcus Bussey (University of the Sunshine Coast) unites many of the themes with which this research engages, including critical spirituality, love, systems, story, embodied praxis and neohumanism in a most critical, compelling and musical way (Bussey, 2006, 2007, 2008a, 2008b, 2009, 2011, 2012, 2013) transgressing the boundaries of education, cultural studies, philosophy and spirituality. It is his work that chaperones the (spiritual) journey from whence this research emerges.

Deepening the Base

Possibilities for SE Beyond School-based Pedagogies

The work and embodied example of eco(theo)logian Thomas Berry offers a spirited voice from the graveyards of institutionalised religions reframing our (human) place through communion and kinship with Earth and the ‘more-than-human’ world, with his
ground-breaking *The Dream of the Earth* (1988). He was joined in this journey by evolutionary philosopher and cosmological mathematician, Brian Swimme (1985; 1990; 1992) and eco-theology historian Mary Evelyn Tucker (2011) whose works have opened-up pedagogical horizons, incorporating the Universe Story and New Cosmology, their narratives re-orient society for what they term, the “Ecozoic” Era—The New Story—as an ecologically, mutually-enhancing and exceedingly more humble alternative to the “Anthropocene Epoch” (the “Age of [Hu]Man”, as proposed by Nobel Laureate, Paul Crutzen). This story re-enchants our relationship with Earth, capturing our *sense of wonder* and providing ‘the zeitgeist of a people...a mythic vision ignited by our collective awakening to the “grandeur and sacred quality of the Earth process”’ (Laszlo and Combs, 2011, 56). In the Preface to *The Dream of the Earth*, Berry sings the imperative of the New Story into being—

> The time has come to lower our voices, to cease imposing our mechanistic patterns on the biological processes of the earth, to resist the impulse to control, to command, to force, to oppress, and to begin quite humbly to follow the guidance of the larger community on which all life depends. (Berry, 1988, xiv)

The eco-spirituality of Joanna Macy has also added to this New Story (as well as informing pedagogical practice and our metaphysical-embodied connections to our local places). Macy’s *Work That Reconnects* with her powerful Hope and Despair workshops, have provided the backbone of spirited community ecoeducation (emerging from Deep Ecology and Buddhism) with programs such as the community *Awakening the Dreamer Symposium*, *Generation Waking Up* for secondary students and *Jump Up!* for primary schools, through *Be the Change* Organisation (Australia) and its “mother” organisation, the Pachamama Alliance (USA), whose manifesto is ‘bringing forth an environmentally sustainable, socially just and spiritually fulfilling human presence on this planet’ (Be the Change, 2014).

In Gregory Bateson’s seminal work *Ecology of Mind* (1979) he poses the probing question, *what is the pattern that connects?*, which acts as a catalyst for driving thinking, through the compelling presumption that there *is* a connective pattern to everything. Bateson’s conceptualised connections here provided some of the earliest insights in the ‘confluence’ of PEW, Sterling describes (2001) and impetus for

---

9 Designed by Helena Reed and currently being piloted in Victorian schools
reorienting our consciousness towards ecological connectivity through whole-systems processes. He recognised ‘the natural world around us really has this general systemic structure and therefore is an appropriate source of metaphor to enable man to understand himself in his social organization’ (Bateson, 1972/87, 490) [sic—all uses of patriarchal (pro)nouns], thus articulating applied complexity theory and pronouncing the active interconnectivity of our ecological lives.

Bowers critically spotlights Bateson’s discerning focus on the root-metaphors at the basis of our languaging of our place in the biosphere. He likewise argues this is societally delaying our capacity to develop ecological intelligence (Bowers, 2012), and that the hidden curriculum endemic to tertiary education reinforces a crisis of consciousness —

Bateson explains the cultural/linguistic dynamics of how professors, focused on promoting cutting-edge critical thinking that supposedly leads to progress, continue to be complicit in reinforcing the same deep cultural assumptions that underlie the industrial/consumer-oriented culture that is ecologically unsustainable... (Bowers, 2012, 15)

It is regrettably beyond the scope of this study to explore the vast bodies of research and writing coming from the Majority World (the so-called “South”), though this thesis is mindful of not making occidental assumptions (unbinding cultural arrogance and complacency), and the ecopedagogy paradigm discussed through this study draws on the work of Central and South American scholars, including Freire, Gutierrez, Gadotti and Boff. This research recognises Traditional Ecological Knowledge (TEK) from the world’s many indigenous cultures is pivotal in reconceptualising our notions of living and learning in ecologically enhancing ways.

However, Aboriginal Australian ecological/place knowledge and cosmology of Country will be cautiously deliberated—these stories could and ought to strongly inform a local framework of SE as their sustained connection to Country is unparalleled—embracing these insights in locally-specific and culturally respectful ways, mindful of not appropriating ancient lore in a tokenistic way (discussed further in Chapter Five). The Australian Research Institute for Environment and Sustainability Australian (ARIES) has
developed the *Indigenous Concepts of Country and Sustainability: Applied Holistic Thinking from an Aboriginal Perspective* (ARIES, Perey and Pike, 2010) for teachers in higher education, which unites many of the foundational ecological themes in this study—

The Indigenous concept of Country provides an excellent way for students to engage with systemic thinking and sustainability. It is the holistic engagement of a person with a specific physical location that is both symbolic and real (ARIES, 2010, NP).

There is little written specifically from within EfS literature uniting Aboriginal Laws and the notion of Country with sustainability education, with the noteworthy exceptions of Ambellin Kwaymullina (2005), and Margaret Somerville (2010, 2013a, 2013b) who walks alongside Aboriginal Australian stories and weaves them lyrically through her work. This study attempts to follow her graceful lead and the powerful correlation between eco-learning and Australian TEK with *country* and *Kanyini* is discussed in Chapter Five.

*Unlikely Bed-fellows: Social Theory and Eco Education...*

Deleuze and Guattari, Harraway and Latour are often aligned as “the social theorists” for this area, with their *rhizomic becomings*, nature-culture, actor-network theory (ANT), material semiotics and so forth. And while this research is greatly strengthened by these vastly important, yogic\(^{10}\) theories, this study questions whether *any* singular theory, philosophy or approach situated traditionally in the area of human-centric social theory entirely fulfils all the epistemological and ontological requirements of ecopedagogy.

Sterling condemns the broad sweep of “progressive” educational theories as ‘conditioned by the ghosts of mechanism, positivism, and dualism, and the assumptions of modernism’ (Sterling, 2001, 50), and pinpoints the contrasting inadequacies of critical social theories, suggesting —

“Deconstructive postmodernism” is supposed to help us here, but it leaves us drifting in a sea of relativism. Thus a number of voices in the debate about paradigms are searching for a postmodern, ecological alternative that is more adequate and creative – and which gives us a basis for action. This is where we need to ground sustainable education. (Sterling, 2001, 50-51)

\(^{10}\) In the sense of *stretching* of our conceptual muscles, not “theories on yoga“
This field is exponentially emerging, and evolving beyond the traditional boundaries of social theory, even foundational theories which recognise our connective place in the world (Spinoza, 1677/[in Deleuze, 1988]; Steiner, 1912; Whitehead, 1929/78; Merleau-Ponty, 1945; Deleuze & Guattari, 1987), so can social theory adequately meet the needs of situated, whole systems, ecological SE?

As far as this study is concerned, the ‘adequate and creative’ onto/epistemological backbone as a ‘basis for action’ (Sterling, 2001) is partially realised in Bussey’s interpretations of neohumanism (2008) which ‘provides a solid basis for education that is both instrumentally useful and profoundly meaningful’ (Bussey, 2013) —

A working definition of neohumanism is that it is a form of spiritually anchored social pedagogy designed to empower the disenfranchised and increase awareness of both individual and collective potential. (Bussey, 2008, 18)

But instead of looking for definitive “solutions” and the Ultimate Paradigm to Trump All Paradigms, the proliferation of diverse approaches, processes and philosophical flavours offers a fertile ground for deepening SE, along with embodied, experiential place pedagogies and the open generativity of ecological emergence.

The emphasis here is in adopting the most pertinent processes and approaches to our particular contexts at the relevant times and being open to the flows and flux within those adoptions – sitting in the “wild” edges – rather than sticking with traditional allegiances. In practical terms, this paradigm may be described as the meeting place of progressive “Western” pedagogies with Eastern spiritual traditions, metaphysics, place-conscious learning, local Indigenous knowledge, critical theories and the Universe Story – traditional “foes” making friends but continually challenging each other’s assumptions and reducing complacency.

Both the meta work for researchers in ecopedagogies and the “rock-face” work for pedagogues in schools is a dance of being—here and now, in place, connected; and becoming—open to chaotic flux, creative surges, new narratives; being-becoming. Just as meaning in allegorical narrative is made by “reading between

---

11 As discussed previously this thesis does not take lightly the concept of ‘spirituality’, particularly in education. Yet the recognition and development of an emergent embodied spirit-fused pedagogy is hugely lacking in Western, “mainstream” education and this study asserts there is much to learn, discerningly, from Eastern traditions, metaphysics and alternative educational approaches.
the lines”, transformative eco-learning happens in the “in-between” – in the dance of particular places with open, generative, creative spaces (Deleuze, 1987; Haraway, 1991; Somerville, 2008; Gough, 2008; Bussey, 2013) bringing the nomadic fluidity of our metaphysical realities to our immanent places and particular situations. This is the coming into being of rhizomic emergence and a fully realised aborescent complexity, reinterpreting Deleuze and Guattari’s practical ‘geophilosophy’ (1994).

This onto/epistemological dance is described by Vermeulen and Van Den Akker as metamodernism (2010), ‘inspired by a modern naiveté yet informed by postmodern scepticism the metamodern discourse consciously commits itself to an impossible possibility’ (Vermeulen, 2010, 5). While this may seem too safe a fusion (or perhaps too scary a confusion), Vermeulen and Van Den Akker capture a sense of this coming together or splitting apart of the moderns – the “both-neither dynamic”, as they put it; somewhere between the modern ‘fanatic and/or naive, and the postmodern … apathetic and/or skeptic … a pragmatic idealism’ (2010, 5). Does this help us? Are we still ‘drifting in a sea of relativism’ (Sterling, 2001, 51) or does this discussion offer some way forward, with a nod to Neo-Romantic interpretivism, a step to emancipatory deconstruction and hinting at the dance of the in between and beyond?

As education sits in the uncertain lands between conservative modernist political forces and the remnants of postmodern epistemologies and methodologies, metamodernism’s ‘oscillations’ may be quite fitting a friend to sit with along the flows and flux of ecological pedagogy, keeping us on our toes yet also providing some comfort as it —

Deleuze and Guattari’s rhizomic thinking has permeated the work and thinking of many nature-culture writers since 1987. While the rhizome has become the metaphor for breaking free of our modernist assumptions and Romantic notions of the Tree of Life “root” metaphor (representing hierarchy, dominance and deterministic structures to Deleuze, Guattari and many since) this study recognizes trees as complex, open and generative systems which also contain the rhizomic beginnings—they are partly what we can see (the “close-at-hand”) and partly the hidden (more complex systems than recognized in simplistic metaphors). Rhizomes, on the other hand, represent metaphysical possibilities but unlike the tree, they lack material(visible) and aesthetic beauty, and are thus, much harder to cling to, climb on and make homes in. Trees provide totems for eco-activists for material-somatic and affective-aesthetic-spiritual reasons, so while learning from rhizomic emergence is an important intellectual pursuit it is much harder to empathise with a rhizome than a tree and embrace it as a symbol of our lived experience, much less as kin. So this study invites trees to re-enter our eco-imaginations, but through their wholeness, in all their complexity and unfolding, in all their poetic possibilities, not just as the Grand Monarchs of our parochial structuralist sensibilities.
...oscillates between a modern enthusiasm and a postmodern irony, between hope and melancholy, between naïveté and knowingness, empathy and apathy, unity and plurality, totality and fragmentation, purity and ambiguity. Indeed, by oscillating...back and forth, the metamodern negotiates between the modern and the postmodern. One should be careful not to think of this oscillation as a balance however...Each time the metamodern enthusiasm swings toward fanaticism, gravity pulls it back toward irony; the moment its irony sways toward apathy, gravity pulls it back toward enthusiasm. (Vermeulen, 2010, 6)

While metamodernism partially captures emerging realities, this study calls for a more (discerning) ‘dynamic balance’ (Capra, 1982). Let there be stillness at times; some steadying lest we lose our feet, dizzied by the flux. Varela writes, ‘life is in the configuration and in the dynamical pattern, which is what embodies it as an emergent property’ (in Brockman, 1995, NP) so let us seek to consciously and critically configure these patterns and processes, whilst remaining mindful that our cognition is ‘not to be understood as a representation of the world out there but rather as an ongoing bringing-forth of a world, through the very process of living itself’ (Maturana & Varela, 1992, 11). Thus we will always need companions and a diverse selection of guides to help navigate the dynamic dance.

Listen, ask, dance with systems, reflect, lay roots, wonder, sing, ponder relate, learn...

**Systems, Holism & Diversity –**

*The Web of Life*

*The forest burns, the tree-frog dies,*  
*yet one is all and all are one*  

What are we talking about when we say systems? It doesn’t sound very poetic does it? Perhaps even a little technological and inorganic. Sterling cautions —

...while ecological thinking is systemic (relational), systems thinking is not necessarily ecological. Systems thinking can be used as a methodology for anti-ecological, as well as ecological, ends. Yet at the same time, systemic thinking can help sow the seeds of an ecological worldview, it can help facilitate the critical reflexivity - or deep questioning of assumptions (Sterling, 2007, 2).

While systems thinking stemmed from a structuralist (even essentialist) origin and could be used for non-sustainable intentions, this research engages with systems in a
holistic, *post/critical* way. So rather than a mechanistic rigid structure, we’re really talking about *‘relationships, connectedness and context’* (Capra, 1999, 2) and in the context of schools we’re talking about whole-child, whole-school, whole-Earth learning. Macy likewise contends, ‘sustainability requires whole systems learning, in order to see the wider context in which we function, and the web of relationships upon which all life depends’ (Macy, 2014, NP). In this sense the needs of the child, or the teacher, are much the same as the needs of the school and the biosphere.

The connectivity and beauty of *whole* systems is captured in a most vivid description by indigenous Australian scholar, Ambelin Kwaymullina, who conveys complex physics through artistic metaphor making it more humanly comprehensible –

> Imagine a pattern. This pattern is stable, but not fixed. Think of it in as many dimensions as you like - but it has more than three. This pattern has many threads of many colours, and every thread is connected to, and has a relationship with, all the others. The individual threads are every shape of life. Some - like human, kangaroo, paperbark - are known to Western science as ‘alive’; others, like rock, would be called ‘non-living’. But rock is there, just the same. Human is there, too, though it is neither the most nor the least important thread - it is one among many, equal with the others. The pattern made whole is in each thread, and all the threads together make the whole. Stand close to the pattern and you can focus on a single thread; stand a little further back and you can see how that thread connects to others; stand further back still and you can see it all - and it is only once you see it all that you recognise the pattern of the whole in every individual thread. The whole is more than the sum of its parts, and the whole is in all its parts. This is the pattern that the Ancestors made. It is life, creation, spirit, and it exists in country (Kwaymullina, 2005, NP).

In recognising the interdependence of all members of Earth (the living system) and the notion that “we’re all in this together” (with Marxist overtones), it is not to diminish the importance of human agency, particularly in schools. While this notion may be daunting for libertarians and interpreted as creating a lack of personal identity, individual agency, self-determination and uniqueness as interpreted in “traditional” critical theory, through an ecological approach schools can become communities of even greater empowerment through rich relational connectivity, cooperative learning and embodiment. This study seeks to orient away from the neoliberal construct of
individualism, towards the ecological – to the benefit of all threads. And diversity and uniqueness can and do exist in an ecocentred whole systems epistemology.

Holism is dependent on abundant diversity rather than homogeny otherwise the whole would decay, as is currently occurring under our anthropocentric (human-centred) and even more specifically (and disconcertingly) egocentric status quo. This paradigm presents a creative, emergent enactivism (self-actualisation) of each within each, each with each other and networks within the whole; where schools are recognised as autopoietic (self-organising) systems ‘dynamically related in a network of ongoing interactions’, (Maturana and Varela, 1992, 43-44), within which distinct assemblages emerge. In describing the social justice and environmental “movement of movements” in Blessed Unrest, Paul Hawken writes —

What binds its constituents is a modus operandi that could be called the autonomy of diversity [and] the key to its strength and success is this very diversity. (Hawken, 2007, 18)

Vandana Shiva calls diversity ‘women’s expertise’ (1993, 165), and while this work is clearly not singularly the work of women, ecofeminism has greatly strengthened this discourse through passing on ancient knowledges of cycles and seasons, flows and songlines; traditionally the sacred domain of “women’s business”.

The Metaphysical Turn
There are many and varied approaches to conceptualising whole-part-whole relationships, holism, complexity theory and more metaphysical interpretations, including Maria Montessori’s Cosmic Education, amongst others. Ideologically Wilber’s Integral Theory (or Theory of Everything) is too totalising for my taste, to use Gough’s phrase (2008, 72) and thus quite incompatible with this research. Marcus Bussey warns against falling into the ‘integral trap’ and critiques the theory as —

...imperialist in nature and bases its power on its ability to define...Such a gaze is ultimately about assimilation not mutual discourse and should be set aside for more inclusive and less culturally aligned forms of cultural analysis such as Causal Layered Analysis which accounts for the primacy of context and local knowledge and finds agency in the working of those who constitute the multitude. Such work is process oriented and stands in real contrast to the definitional power (and terror) of the integral gaze’ (Bussey, 2010, 110).
Wilber’s Integral approach is also inherently less creative and open to emergence as it is teleologically fixed, so while there are particular aspects of integralism that conjure deep contemplation, this study rejects the “closed”, universalising nature of their transcendental enlightenment and Creationist “Omega Point” subjuncts, choosing instead to dance with a diaspora of immanently Earthly, contextualised and co-creatively emergent characters.

Bussey’s spiritual pragmatics (visited in more detail in the final chapter) flies in quite a different trajectory, with Deleuze and Guattari’s discussions of rhizomic becomings accompanying his deeper considerations of the open-endedness of vertical paths of development (the metaphysical spectrum) rather than submitting to essentialist finalities —

...the relational logic of becoming-whole is generated through our paying attention, listening careful\textsuperscript{13}, feeling the story, tasting the dust... there is no end, no terminus to this becoming-whole. We are forever becoming and therein lies both the beauty and the paradox of spiritual pragmatics. (Bussey, 2013, 10)

In science and philosophy circles alike, theories tend to be placed in rigid, segregated boxes. An infinitely emergent epistemology which may be considered a quantum or tantric worldview ‘requires that each of us, to some extent, let go of our fixed perceptions, our habits, our obsessions, our rigid ideologies, our parochial devotion to our own corner. It requires, instead, that we stand poised and alert, poised to let our inner freedom (our indeterminacy) give rise to the unfolding, common reality of self and community’ (Zohar, 1994, 135). Whole systems thinking is generally situated within complexity theory in which organic processes are intrinsically more complex than mechanical processes—‘what is woven together’ (Morin, 2007, 6), though this research contends there are also lessons to be learned from many adjunct postulations including metaphysical philosophies and Chaos Theory (see Guattari, 2009).

Caroline Smith argues 'Chaos theory reveals the conflict between the spontaneity of young minds and the rigidity of hierarchical structures in traditional teacher-controlled classrooms' (Smith, 2013, 7). The iron wall between teachers and students in Australian schools has been undergoing slow deconstruction over the last three

\textsuperscript{13} Bussey is here referencing Aboriginal Elder Bill Neidjie (1920-2002)
In Australia (and elsewhere) there is generally no longer a “fear” of the teacher as authoritarian, though what is still common is the teacher standing at the “head” of the class, “instructing” while students sit still, purportedly “absorbing” information. We are, as Thomas Berry pronounced, ‘in between stories’ (Berry, 1978, 1) and poignantly so with the role of the school teacher. It is a fraught time for pedagogues – on the shifting sands from the “bearer of all knowledge” and authority, along the treadmill of high-stakes testing and managerialism, and emerging through the spiralling vortex, on the way to somewhere much more ecological—participatory, democratic and life-enhancing.

Education systems have been devoid of both tangible, material participatory learning and simultaneously the intangible, the mysterious, the spiritual; sucking the wonderment from schooling with the educational role whittled back to largely utilitarian, sometimes humanitarian, concerns. Of course not in all cases, but commonly, a disenchanted “standardized”/homogenized style of schooling, at times fun and other times “inquiry-based” but seldom transformative, ecologically whole or relationally enriching. There has been a bow to constructivist philosophy; lip-service to “student-centred learning”, “whole child development”, and “student-directed inquiry”, but rhetoric is where it remains much of the time. Payne & Wattchow reference Elisabeth Grosz (2004) saying, ‘in forgetting where we have come from, we need to “return to” or “invent anew the concepts of nature, matter and life if we are to develop alternative models to those inscriptive and constructivist discourses that currently dominate”’ (Payne & Wattchow, 2009, 29). And in some small, inspired pockets we are slowly emerging into these ecologically transformative times Grosz elicits.

This study is concerned with how this sweeping tide of opening philosophies manifests in ecopedagogy in schools and how it affects the practice (and praxis) of ecopedagogues—how does it reach students? Parker Palmer asserts —

Good teachers possess a capacity for connectedness. They are able to weave a complex web of connections among themselves, their subjects, and their students so that their students can learn to weave a world for themselves ...The connections made

---

14 Though since Rousseau’s *Emile* over three hundred years ago (circa 1762), critical inquiry of hierarchical educational assumptions has been emerging and likely even earlier.
by good teachers are held not in their methods but in their hearts—meaning heart in its ancient sense, as the place where intellect and emotion and spirit and will converge in the human self (Palmer, 1998, 11).

The role of ecopedagogues, of all of us, according to Joanna Macy, is to engage and enhance our own and each other’s capacities in recognition of our mutual causality in life-affirming, enchanted ways (Macy, 1983, 1991, 2007). Fairly simple? Entirely complex, but abundantly rewarding and infinitely transformative.

Through this chapter, a multiplicity of approaches and emergent thinking has been encountered, including: Sustainable, whole-systems, ecological pedagogies; embodiment, new cosmology, critical spirituality; modernism/meta/postmodernism, and has transversed the proliferation of theories, mythologies and philosophies in the archipelago of the figurative East, West, North and South. The next chapter introduces the methodological approaches of this study before walking towards the fieldwork conducted in three schools in Melbourne, forming the primary evidence in this research. The following poem was written by a student participant in this research about her experience in “Nature”, which likewise seemed to capture the process of this study—

Hard as rocks
Smooth as stones
Soft as Lamb’s Ears
Sweet as strawberries
Muddy as a mud pie
Clear as the creek
Warm as the sun
Wet as the rain
Messy as me

—“Penny”, Grade 3/4 student, Banksia Primary
CHAPTER THREE: Methodology

When we judge a research project solely on the apparent truthfulness of its parts, we neglect its larger purpose: generating new knowledge about education.

— Jon Wagner (1993, 15)

The Journey
The rationale for this inquiry is less about making definitive “truth” claims about EFS and SE in schools, and more about decreasing the ignorance (Gough, 2002; Wagner, 1993) by adding multi-layered flavours to the ecopedagogy palate. Mendaglio concurs with Wagner in describing ‘the goal’ of qualitative research as ‘understanding a person’s perspectives, not attaining truth’ (Mendaglio, 2003, 169) discrediting “bottom line” policy prejudices in which overly-simplistic, slapdash strategies are the flavour of the decade.

“Conventionally” researchers have a particular methodology appropriate to their study decided on and written about before conducting fieldwork. The way I approached this research may thence be considered unconventional, though unconventional does not denote uncommon given the recent proliferation of ‘an ontology of postmodern emergence that emphasises the irrational, messy and embodied process of becoming-other-to-one’s-self in research’ (Somerville, 2008, 209). This researcher had her mind mostly made up before setting afield, but upon the first days of research my methodological orientation shifted just a little and upon further epistemological examination the methodology morphed again and thus the overall approach was reassembled. Margaret Somerville powerfully expresses the conundrum that then arises in the spiralling, “messy” mix of processes—

At every stage of the research process the unacknowledged pedagogical processes for doing research—the structure of the research proposal, ethics applications and the structure of the thesis—emphasize conventions based on logics and the scientific paradigm of empiricist research (Burns, 1994). These practices fail to account for processes of emergence. (Somerville, 2007b, 227)

Herein lies my challenge: Having completed all the burdensome requirements, the ‘unacknowledged pedagogical processes for doing research’, allow me now an emergent process in my ‘writing-as-a-method-of-inquiry’ (Richardson, 1994). Throughout this research I attempt to weave the seemingly incompatible, antagonistic
worlds of science’s closed managerial conventions, with the fertile processes of postmodern emergence—a co-creative, generative process—without it undermining the validity of my research or stifling my narrative expression. Indeed, the rationale for taking this emergent, multi-layered approach is to strengthen my creative capacities to conduct and present research and therefore to strengthen the research itself.

Fortunately, according to Noel Gough, ‘asking methodological questions is a disposition rather than a procedure – a reflexive process of continually situating, framing and characterising the procedural status of your inquiry: How is it going? Is it OK or not OK?’ (Gough, 2002, 8) thus justifying this study’s spiralling process of methodology-fieldwork-reflection-approach… So, equipped with a motley, though tangible toolbox in an overlaying Mandelbrot\textsuperscript{15} set of my particular ways of being (ontology), particular ways of thinking (epistemology) and particular tools and techniques for producing “evidence” (methods), my methodology has emerged/is emerging into being. Hence my approach is, amongst other things, fractal – each section is a micro version of the whole; the literature base follows the patterns of its onto-epistemological constituents, the methods flow from the methodology, and so forth. In this way the research emerges into authenticity, philosophically congruous from one section to another and ecological in its design, interweaving all the related and relational approaches, and simultaneously ‘partially accepting of the limits of rational expression and their presentation’ (Payne, 2005b, 112).

Phillip Payne’s account resonated with what ensued for me in the process of determining the combination of postphenomenological enquiry through narrative analysis as the most meaningful approach to this study—

...for a critical phenomenology/ontology, the reflective reader is invited to self-consciously revisit the ontological question of his/her lived experience and experience lived of being an environmental education researcher or teacher. Perhaps, first and foremost for this audience, the question of being-a-researcher needs answering before methodological choices are made in doing research about the most appropriate

\textsuperscript{15} The Mandelbrot Set is based on the work of mathematician Benoit Mandelbrot who discovered the repeating patterns in nature which he called ‘fractals’ - ‘fractals teach us that just as the whole contains each part of the image, so too does each part contain the form of the whole. Fractal interconnectedness is fundamental to nature’ (Smith, 2013, 6)
starting points needed for entering into and enquiring about “other” subject’s experiences. (Payne, 2003, 188) [Emphasis in original]

So I was doing postphenomenological enquiry on the metafoundations of this research project even before I had pin-pointed (obscurely) this particular methodology as my approach to the flesh of the study, that is, through postphenomenological reflections of the ontological embodiment of ‘being-a-researcher’ in ecopedagogy, I discovered postphenomenology as methodology.

Project Design Approach(es)

‘Gentle Empiricism’—Qualitative, naturalistic/interpretive, critical enquiry

...I’ve no wish to chisel things into new shapes. The remnant of a mountain has its own meaning.
—Judith Wright, ‘Rockface’ (1985)

While this inquiry is implicitly ethnographic – in studying the people forming school communities, how they engage with ecopedagogy, each other and the physical surrounds, ‘research that takes its starting point in the empirical realm of everyday lived experience’ (Van Manen, 1997, ix) – it is also involved with the human insights emerging from text – literature-as-data rather than literature forming solely the base from which the epistemologies emerge. As Van Manen frames in Researching Lived Experience: Human Science for an Action Sensitive Pedagogy (1990/97) —

The notion underlying this approach is that interpretive phenomenological research and theorizing cannot be separated from the textual practice of writing. Thus, a semiotics inspired dimension is part of this research approach, while the practical nature of the pedagogic lifeworld demands that this form of educational inquiry does not convert into armchair philosophising or abstract theorizing’ (Van Manen, 1990/1997, ix).

This research works with bricolage (symbiotic with the ecological core of this research), by tinkering with the available materials (Denzin and Lincoln, 2000), known in sustainability circles as “upcycling” — interlaying a range of approaches, ways of

---

16 Adding value to an object by reusing existing materials, e.g. patching knees on jeans, as opposed to recycling which re-processes materials requiring new inputs of resources, e.g. melting a glass bottle down to make another one or downcycling—melting a plastic bottle down to make a plastic bag.
thinking and writing styles to improve the overall entity. Thus engaging with a Goethean “gentle empiricism” which emerges ‘when your work becomes infused with a circumspect attitude of questioning wedded to a strong desire to engage in the phenomena…[and] is dependent on transformation within the human being’ (Holdrege, 2005, 33) and thus entails “mutual interaction” or a conversation (Holdrege, 2005, 30). This upcycled work is rendered by placing the primary evidence produced in three public schools in Melbourne, alongside the literature and “living” philosophies, that is, theories engaged in praxis; active rather than “armchair” philosophies, accompanied by this mix of methodologies and embedded in the onto-epistemological fibre.

Whole-systems thinking re-enters the project here in its approach to fieldwork in that the theory and practice of whole-systems SE also provides a framework for understanding phenomena as an integrated whole (Capra, 1996; Sterling, 2003b; Tilbury, Coleman et al., 2005) – Where does this student fit in the school and how is their particular story comparable to the whole school story? Or How does the school’s bioregion influence its commitment to ecological sustainability? Whole-systems thinking provides the meeting place of the epistemology, methodology and praxis of this research, which flow from the ontological (ecological) orientation and emerge in layered causation; they are meaningfully intertwined, not isolated. That is, through postphenomenological observations and narrative analysis, armed with the heuristic of whole systems thinking and placed in this particular case, this research produces data that in some way ‘generates new knowledge about education’ (Wagner, 1984) to support the paradigm shift to ecologism in schools.

But the shift into becoming sustainable in schools must happen in nuanced, context specific, co-creative ways rather than in one homogenized “model” as Donella Meadows (2001) reminds us in her wondrously evocative Dancing with Systems—

Let’s face it, the universe is messy. It is nonlinear, turbulent, and chaotic. It is dynamic. It spends its time in transient behavior on its way to somewhere else, not in mathematically neat equilibria. It self-organizes and evolves. It creates diversity, not uniformity. That’s what makes the world interesting, that’s what makes it beautiful, and that’s what makes it work. (Meadows, 2001, 59)[see Appendix B IV for full details]
This research is thus interested in ‘the process of knowing mess’ (Law, 2007, 595) for which ‘simplicity won’t help us’ (Law, ibid). Instead, this complex splattering of heterogeneous approaches may help navigate the contours, for ‘in a world of complex systems it is not appropriate to charge forward with rigid undeviating directives’ (Meadows, 2001, 60). Sohail Inayatullah (2010) terms this approach ‘epistemological pluralism’ and his fellow futures scholar/practitioner, Jose Ramos, adds ‘it is not in the integration of a diversity of elements into a single model where we will find holism, but rather I believe it is to be found in an ongoing relational process of dialogue across diversities, where holisms can emerge as aspects of our ongoing journeys’ (Ramos, 2010, 32).

*(Post)phenomenology*

Phillip Payne underscores the benefits of walking with a phenomenological perspective and the postmodern pitfalls encountered with phenomenology’s constructionist limitations, thus as a response to ‘the need to incorporate ontological considerations into the politics of environmental education research’ (2003, 169) Payne frames critical or post-phenomenological enquiry—

Enquiry of a phenomenological type deals assertively with “constructionism” because of its quest to interpret human experience as it “itself” is “lived” and “structured.” Postphenomenological enquiry can reveal the embodied relations of those socially constructed experiences of self and environment/nature. (Payne, 2003, 169)

That is, the co-constructed, inter-subjective realities emerging in contextualised local places.

All agents involved and implicated in research have traditionally been acknowledged in phenomenology in which the relationship between the phenomenon, the world and the subject are more important than the single entities (Merleau-Ponty, 1962). This study walks with this phenomenological perspective in order to navigate and unearth the “hidden curriculum” at play in schools and get to those *in between* places where learning happens – not solely in the content, not nor in the materials, nor in the relationships, but almost in(di)visibly amongst it all. Coupled with this, *post*phenomenology adds an extra layer of critical embodiment and reflexivity, in establishing the meta-contextual landscape.
Payne describes the complex obligations involved with this approach which I found at once daunting and exhilarating and provided great impetus for my fieldwork expeditions —

...the contours of this postphenomenological approach to enquiry include—participant/observer in conduct, socio-ontological in focus, interpretive of human agency and its material, habitual, social, and symbolic structurations and technological mediations...is multi-“layered” and “memoried,” has continuity and can be habitual, uses bodies as both site and tool of enquiry, is experientially empathetic between researcher and researched, is generative of coproduced meaning-making via a range of representational mediums indigenous to the experiences of the participants in question (Payne, 2005b, 112)[emphasis added].

**Sustainability Context**

Like the literature base and meta-approach to research, the methodology is aligned with ecologism and sustainability as a way of *being, becoming* and *doing*. So “sustainability” becomes not solely an (abstract) noun, but more like an embodied verb according to Bussey who establishes a ‘being-doing-teaching’ approach to pedagogy and praxis —

... I sought to avoid essentialising the term [sustainability], locking it into a recipe or an absolute state. Instead I argued that it was something to be embodied, as a state of being, as an orientation to life. In this I was working with the understanding that ‘reality’ is neither a given nor purely subjective. Following Michael Bonnett (2006) I feel that “reality itself is human-related, that things only ‘show up’ ... in the space which is consciousness” (Bonnett, 2006, 273). This situates me and my teaching in a phenomenological ‘space’ in which I *am* my consciousness, I *enact* my consciousness, and that therefore I *teach* my consciousness. And this being-doing-teaching all occur within a relationship with those things which constitute reality. (Bussey, 2008b, 140) Sustainability is therefore my phenomen/ontology as well as informing my methodological approach; my ‘sustainable praxis’ (Bussey, ibid) and embodied personal context, that is not just researching *about* sustainability but researching *as* sustainable, for ‘how can we teach what we do not live?’ (Miller 2000, 53).
**Narrative**

*No textural staging is ever innocent*
— Laurel Richardson, 1994, 521)

While the implicit material embodiment involved in postphenomenological inquiry may seem somewhat incompatible with the *representational* mode of narrative analysis, the argument made in this research design is that combining them creates a more fertile, generative picture; it recognises the *cocreativity* of realities through different mediums, ways of knowing and meaning-making (Van Manen, 1990) and is the coming together of the material-semiotic flow embedded in this thesis, particularly in the storytelling of place.

In this research approach, the process of writing and generating stories (based on the raw phenomena from the context of the case studies), becomes my ‘way of “knowing”’ (Richardson, 1994, 516) how to become a researcher and forms part of the approach to *doing* research rather than just ‘a mopping-up activity at the end of [the] research project’ (Richardson, ibid). Richardson further critiques, this is an indictment on our empirical-heavy researcher education in which we are—

trained to conceptualize writing as “writing up” the research, rather than as a method of discovery (and hence) almost unthinkingly, qualitative research training validates the mechanistic model of writing, even though that model shuts down the creativity and sensibilities of the individual researcher. (Richardson, 1994, 519)

S J Gould likewise critiques that ‘many scientists have abandoned the written word’ (Gould, 2007, 127) which has resulted in a ‘verbal wasteland’ for research (ibid) even for *social* scientists, as Gould continues—

...even historians are supposed to ape the stereotype of physics and be quantitative, or cliometric... [But] Narrative remains an art and science of the highest order. (Gould, 1987/2007, 140)

While for many (even qualitative) researchers this “mopping-up activity” is a burdensome requirement, the process of writing forms part of my way of discovering ‘new aspects of [my] topic and [my] relationship to it’ (Richardson, 1994, 516) and is a rich aspect of the research process. Through interviews, stories are *generated*, and in weaving the stories through this thesis the evidence is *presented*, thus the ‘form and content are inseparable’ (Richardson, ibid) by rendering the narrative contexts in the
very method they were produced. This is a process of “bearing my soul” in the same vein as Bussey’s ‘sustainability praxis’, as Richardson celebrates, ‘writing from our Selves should strengthen the community of qualitative researchers and the individual voices within it, because we will be more fully present in our work, more honest, more engaged’ (1994, 516) and hence, in rational parlance, more “rigorous”—more committed to the raw process of meaning-making in the spirit of “new” or post-rigour.

While the onto-epistemological and methodological bearings of this study skirt the worlds of the interpretivist (see Lather, 2006, 37) and metaphysical spheres, the danger of falling into preconceived hypotheses is swept into order with emancipative, postcolonialist sensibilities through ecojustice frameworks, allowing for less boxed-in, more from-the-ground-up phenomena to emerge in a co-generated dynamic. Narratives help navigate this multiplicity of philosophical frames as well as allowing a “gentler” encounter with participants. When combined with observations, the stories people tell and the school storylines offer the chance to garner individual insights through participants direct and candid accounts, as well as producing data for comparison and situating individual nuances within the context of the whole school community, thus building a textural installation in the co-production of situated meaning-making, ‘the study of narrative, therefore, is the study of the ways humans experience the world’ (Connelly and Clandinin, 1990, 2).

So this study employs the narrative on multiple levels—firstly, through narrative analysis of participant’s accounts from the field; secondly, through the research process of ‘writing-as-a-method-of-inquiry’ (Richardson, 1994) ‘narrative is thus both phenomenon and method in narrative inquiry’ (Gough, 1991, 33) as well as the style of presentation, but also thirdly in this study it is linked with place pedagogies through the storying of place and place mythology.

I now turn to the role of story in place-responsive pedagogies as a central link between narrative methodologies and the tradition of generating stories of place through the “narrative arts”, including oral storytelling, song and drama, and written stories in prose and poetry, non-fiction and myth. Much like Bussey’s sustainable praxis as methodology (2008b), Margaret Somerville interprets place-as-methodology (2007a)—
...place is productive as a framework because it creates a space between grounded physical reality (landscape or terrain) and the metaphysical (language, stories and other representations of place) (Somerville, 2007a, NP).

Place and the storying of place as framed by Somerville here, embody the material-semiotic relationship and the (perhaps quintessential) “infolding” of nature-culture.

Bioregionalism activist-scholar Barry Lopez, ‘argued for the importance of a storied relationship with place rather than a purely sensory awareness of it. Its value is as much for our relationships with each other as for our place relationships’ (Cameron, 2005, 178), that is, place as the context for our human-to-human as well as human-to-other relationships, including in communion with Earth itself. Stories – recounts, mythologies, Grand Narratives – form part of my way of knowing places, help navigate my place in the world, capture my ecological imagination and radically enhance my ecological/biospheric identity. This practice has a very long tradition in Aboriginal Australian songlines/storylines, Dreamtime and being in Country, as well as in TEK and ecological mythologies throughout the Biosphere. The practice of storying place is supported by many proponents of bioregionalism, the Sense of Place work and literature, including Barry Lopez, Wendell Berry, Barbra Kingsolver, Judith Wright and Margaret Somerville whose principles of place-pedagogy assert ‘our relationship to place is constituted in stories and other representations’ (Somerville, 2008, 335). Somerville’s methodological approach grows from the ‘conceptual framework of place’ (Somerville, 2008, 335) and likewise this study partly seeks to elicit understanding of subjects’ ideas of place, connections with places and notionally their situated pl(sp)ace in ecopedagogy, through stories and thence through the analysis of these narratives.

But Seamon (in conversation with Cameron) cautions the comfortable custom of “storying place” (Cameron, 2005) which poses a dilemma of a romanticised interpretation of narratives which, Seamon asserts, may paradoxically distance people from the “real” place and reduce the complexities of the interwoven lifeworld to abstractions —

...stories of place, and particularly stories of encounter with place, conceal as much as they reveal. They impose a narrative structure of character, development and continuity that might not actually be there if one paid closer attention to what actually
happened in the process of getting to know a place and was less concerned with finding a story in it (Seamon in Cameron, 2005, 79).

Yet the positivist claim of “what actually happened”, here assumes one fixed reality rather than an inter-subjective process of emerging realities based on relationships in places over time, that is, even one person’s experience of and relationship with a place likely changes over time.

*When I first moved to the city, I thought of my local water catchment—the Merri Creek—as a polluted cesspool, an ignored and abused mess of a waterway within an urban wasteland. Now I think of the Merri as part of my lifeblood. In helping regenerate the Creek biodiversity, riding, walking along the Creek, harvesting edible weeds and rock-hopping in the creek with my sons, I have come to know her flows intimately, adore her resilience and beauty, and notice the changes like I would in a close friend. The Merri now forms an extension of my body, my Self.*

We each have our own particular stories of particular places at particular times, and this emerging story plays an intimate role in ‘the process of getting to know’ our bioregions, fellow kin and ourselves. There is not one way to experience a place; what is common to us is the bio-geographic-ecological place itself, but what is perpetually nuanced and emergent are our *relationships* with that place, and part of those developing relationships are our *stories*, like in every relationship and every cultural practice. So meaning-making in this context is partly dependant on the stories we make of places; of our place; the associated memories, perceptions, feelings captured in our own interpretations—becoming our narratives.

In this study stories/narratives provide methods for turning perception into interpretation and understanding in personally and socially meaningful ways; at once creating both a *representational* understanding (for example, through stories) and a more-than-representational (Carolan, 2008) knowledge through embodied, lived, generative ways of knowing. But these pictures, these “facts”, as Richardson argues, ‘are interpretable (“make sense”) only in terms of their place within a metaphoric structure. The “sense making” is always value constituting—making sense in a particular way, privileging one ordering of the “facts” over others’ (Richardson, 1994, 519). So, much like Frank Fisher argued earlier, without the literacy, the language or other *representational* ways of knowing we cannot fully “make sense” of places, of *our*
place, of the Earth, and thus the storying of places is part of learning as the act of becoming sustainable.

But story is problematic in this research, in its role as a method. Interpreting individual narratives (not to mention the collective storyline of the whole school) poses problems such as trust and openness between researcher and researched—in asking participants to recount (or conjure) stories of their interpretation and relationship with “Nature”, “sustainability” and “environment” in interviews, they are revealing intimate feelings and recalling potentially emotional memories (which obliges particularly astute acumen, poise and empathy from the researcher). For some subjects, story may offer a comforting medium in which to express their feelings and thoughts gently; for others it is too open-ended or exposing, particularly if they have never thought about these notions or engaged with storytelling before; and, for others still, it may, to echo Seamon, ‘conceal’ what actually occurs in participants’ relationships with the Earth and sustainability, in embellishing their “realities” for the sake of “telling a good story”. Yet do these new, conjured stories not reveal in themselves a great deal about participant’s notions of places, help unearth their “special places” and generate rich data? The evidence generated in this study would appear to uphold this hunch and the critical/postphenomenological lens ensures these problems are mindfully held and rigorously reflected on.

**Case Studies**

*There is clearly no universal agreement as to what researchers mean by methodology*

— Noel Gough (2002, 1)

Nor, it seems, as to what is meant by *case study*. In this research does case study act as methodology, heuristic, conceptual framework, *method* or other? Flyvbjerg (2011) suggests, 'If you choose to do a case study, you are...not so much making a methodological choice as a choice of what is to be studied’ (Flyvbjerg, 2011, 301), which is mostly true in the context of this study – that is, *three schools in Melbourne* form the case alongside *the practice of EFS* and thus the schools are also *where* is to be studied, the sites or *places* to be studied. The case-study in this research behaves partly as a meta-sample, that is, each site (each sample) was intentionally chosen not just because of what they *do* but what they *are*, *where* they are; the *story* of the
sample, the *place* itself is a participant in this research, sitting alongside the human participants and the storylines within those contexts.

Carla Willig (2008) asserts case studies ‘are not characterized by the methods used to collect and analyze data, but rather its focus on a particular unit of analysis: a case’ (Willig, 2008, 74). So the methods employed (described below) are not essentially implicit in the case – the schools did not demand particular methods; the methods emerged as the most potent for generating the particular phenomena, through postphenomenological observations and narrative analysis of interviews and documentation, with whole-systems ecologism and accompanied by a sustainable ethos/praxis. The case-study, the whole school context, also mentored me through the process of research; it taught me how to *do* research —

For researchers, the closeness of the case study to real-life situations and its multiple wealth of details are important in two respects. First, it is important for the development of a nuanced view of reality... Second, cases are important for researchers’ own learning processes in developing the skills needed to do good research... concrete, context-dependent experience is just as central for them as to professional learning on the specific skills’ (Flyvberg, 2011, 303).

Mitchell (2007) critiques the current trend in ethnographic research toward shorter investigations in multiple sites, raising the question ‘if ethnography abandons its commitment to long-term participant observation and holistic description, then what makes it different from any other qualitative method?’ (Mitchell, 2007, 64). While this research attempts to honour the ethnographic tradition of participant observation and ‘holistic description’, one longitudinal case study was not relevant for this study in that a great deal of detail may be generated about what was happening in one particular context, but how much could this be engaged with to inform our understandings of ecopedagogy in local schools? Cousin argues—

...sample size in qualitative research is not about representativeness, it is about creating a sufficient and plausible basis for exploring the meanings people bring to a particular experience/phenomenon. Put differently, sample size in qualitative research is about the construction of an adequate ‘laboratory’ for in depth investigation, not the exhaustion of a range of experiences. It’s about substance. (Cousin, 2009b, 4).

Including multiple samples in this case-study is not to infer this research produces evidence of general or universal school ecopedagogy in Melbourne, but in generating
data in *more sites than one* it provides the ‘adequate [context] for in depth investigation’, and not just a broader perspective, but a substantively deeper one too, with perpetually richer data and multi-layered storylines.

Hayes more loosely situates case studies within qualitative, ethnographic research which is closely aligned with the approach of this study —

*qualitative* because there is not normally a clearly defined hypothesis underpinning the research which can be tested by analysing sets of figures... but rather through dealing with interpretation of events, opinions, perceptions...*ethnographic* because they deal with real people in real settings doing real things. That is, the context and inter-relationships between people are likely to be very significant in the search for a helpful explanation of the realities being investigated. (Hayes, 2006, NP)

The main place from which I draw conclusions in this delicately empirical study is the primary sources – the three schools and the thirty-nine or so human subjects, the school communities and the places. This particular combination of schools has not, to my knowledge, been bundled together in a case, and certainly not through the lens of SE. Rigor is gained by using a critical, self-reflexive lens and adopting this particular methodological (and epistemological) pluralism, which ensures no sweeping generalisations, abstractions or reductive descriptions are produced. But it is also seeking a fertile confluence of conceptual vigour with methodological rigor (Lather, 1986, 76).

**The Case**

I wanted to focus on active and assorted examples of current eco-education (EfS) in schools, initially pegged as *lighthouse* schools in EfS in my original research plan. Upon approaching particular schools – determined through conversations with peers, from experience in working with the school or from vaguely *knowing they were active in EfS*—I started to reconsider the notion of “lighthouse” and what it meant for the trajectory of this study. If I had already labelled the schools as *leaders* could real learning emerge from these cases? Would I be blinkered to the notion of them not living up to this label? Would I be tempted to skew the findings to uphold this presumption? Could I really see them for what they *are*, and are *not* and how they are emerging? In light of my postphenomenological lens, these schools could not be presumed as *anything* from the outset.
I had already assumed a closing argument in the second part of my research title — *A case for reorienting whole school systems towards sustainable education*, an assertion based partially on the literature analysis. So there was a degree to which my research was already determined before I ventured to schools and hence, there were “blind spots” (Wagner, 1993; Gough, 2002) inherent in the plan. Had I maintained this lens, my case study may not have been as open and my data not as compelling, so with the guidance of my supervisor, the current title—*Learning from three schools in EfS*, came into being, which is more honest, less deductive and (in keeping with the ontological spirit of this study) more open to emergent learning in a critical capacity.

The enquiry is now reframed as producing an inner-urban snapshot of the way three schools perceive and do sustainability, how they are *becoming* sustainable, in their own nuanced, creative and ever-emerging ways in Melbourne, *or*, the insights we can gain from the current paradigm of Education for Sustainability (EfS) as *lived* in schools in order to inform the transition to a deeper and wider understanding of sustainability in schools, through whole-systems ecopedagogy, towards Sustainable Education (and beyond).

*Context = Beings and becomings through ecoeducation in three inner-urban formal public school settings in Melbourne generated through multiple visits over the course of a year*

**Fieldwork Widgets (aka Methods)**

*What we observe is not nature itself, but nature exposed to our method of questioning*  
— Heisenberg (in Capra, 1975, 152)

The idea of approaching fieldwork was riveting (though a little terrifying) at first and its appeal did not wane during my days in the field. Indeed, the more fieldwork I did the more gratifying it became; as my skills in interviewing grew, so too did my confidence as a researcher and my level of satisfaction and efficacy (though there are many expeditions ahead of me before I could be considered anything other than a novice).
Samples

The symmetry of the schools chosen for this study is in their all being urban public schools. Once I had reframed and opened the school contexts, I recognized my implicit biases in learning from public schools – schools (technically) anyone could attend. My final samples are purposeful yet more relaxed; more open to emerging insights than the “pinnacle” schools I originally pegged. One school is a co-educational primary school (pseudonym Banksia Primary), another is a girls’ high school (pseudonym Murrnong Secondary), and one is a coeducational P-12 college with a Steiner stream and early years Reggio-Emilia program (pseudonym Correa College).

Case Study Samples =
- Banksia Primary (P-6)
- Correa College (P-12)
- Murrnong Secondary (7-12)

Ethics Details and the Problem of Anonymity

I invited each school to participate in the research. The Principal, Vice-Principal or Sustainability Coordinator at each school invited teachers and their classes to participate. The classroom teacher approached students in their class to participate in observations and interviews. University ethics protocols were followed: Formal consent was obtained for every participant using plain language statement and consent form and each school formally agreed to participate (see Appendix C for forms and further ethics details.)

The major problem in maintaining the anonymous identity of the schools in this research is in the descriptive detail of their places and broader context that must be disseminated for the purposes of creating a vivid, “thick description” and situating each school in its particular bioregion and social contexts. Because of this, if you were inquisitive enough you may discover the identity of the schools, then having achieved this you may be able to deduce the identity of certain people (though this would remain purely speculative) and in no case would the identities of students be certain. Having added this disclaimer, while all the participants understood that that one of the ethical obligations of this research was to maintain their anonymity, no participant made a point of reinforcing the need for anonymity.
Crystallization: Beyond Triangulation

In this research, the case—school sites/samples and subjects are made of clusters of three—three schools, three classes, three teachers, three students in each of the three classes; three main methods—observations, interviews, documents. Three is the thematic metaphor for the whole study—head-hands-heart and three also bears spiritual-religious-mythological significance providing harmony, unity or synthesis between two poles; past-present-future(s). Three offers the capacity for an evaluation of this data which is more than one-dimensional; it provides the opportunity to gauge a spectrum of interest/awareness/engagement in participants; because three is manageable and instructive—not too big, not too small, just right—a veritable Baby Bear of a research project. But the strength of “three” is not in its three-ness exactly, but in the notion that it is more than one, thus, in this study three infers multiple. This study generates the possibilities of connective, richly contextualised (Jick, 1979) meaning-making which is beyond triangulation in an ‘attempt to map out, or explain more fully, the richness and complexity of human behaviour by studying it from more than one standpoint’ (Cohen & Manion, 2000, 254).

Todd Jick (1979) cautions ‘in all the various triangulation designs one basic assumption is buried’ (Jick, 1979, 604), describing the complacency of accomplishing rigor simply by virtue of triangulating phenomena —

The effectiveness of triangulation rests on the premise that the weaknesses in each single method will be compensated by the counter-balancing strengths of another. That is, it is assumed that multiple and independent measures do not share the same weaknesses or potential for bias (Rohner, 1977, 134). Although it has always been observed that each method has assets and liabilities, triangulation purports to exploit the assets and neutralize, rather than compound, the liabilities (Jick, 1979, 605).

Similarly, Laurel Richardson (1994) argues that postmodern/postructuralist writers would be wise to break free from the inflexible constraints of “triangulating data” which was traditionally used in scientific research, critically framing a new approach —

These methods...carry the same domain assumptions, including the assumption that there is a “fixed point” or “object” that can be triangulated. But in postmodernist mixed-genre texts, we do not triangulate; we crystallize. We recognize that there are
far more than “three sides” from which to approach the world. (Richardson, 1994, 522)

Here Richardson poetically proposes a shift in the “central image” used to maintain “validity” in postmodern texts is not the triangle, but rather the crystal which —

...combines symmetry and substance with an infinite variety of shapes, substances, transmutations, multidimensionalities, and angles of approach. Crystals grow, change, alter, but are not amorphous. Crystals are prisms that reflect externalities and refract within themselves, creating different colors, patterns, arrays, casting off in different directions. What we see depends upon our angle of repose. Not triangulation, crystallization. (Richardson, 1994, 522)

While crystals are less organic than the oft’ used rhizome metaphor, Richardson offers a compelling alternative frame of rigor which partially assists this study’s navigations. The strength in this inquiry is in holding these pulls in mind while dancing through the convolutions and potential pitfalls in order to generate fleshy and richly contextualised new knowledges.

**Primary Data**

The crystallization of data in this study takes shape through three main methods: Participant observations, semi-structured interviews and documentary analysis.

**Participant Observation:**

Critical, embodied phenomenological observations enabled me ‘to dwell with and deepen the phenomenon through what Goethe called the “exact sensorial imagination”’ (Gidley, 2008, 19). In conducting participant observations in schools I acted not as a “fly-on-the-wall” as in hard empirical/scientific studies, nor as an active participant in the learning process as in action research (though there are overlaps with action research in that there were times in which I was implicated by the teachers in schools, “outed” as a “Sustainability Educator” and pulled into a co-teaching role). While conducting observations I danced within and between self-reflexive realisations of researcher inter-subjective embeddedness, and the detachment of a “stranger” observing foreign lands, at times maintaining a degree of distance and other times coming up close. Thus I mostly adopted Spradley’s (1980) “moderate participation” role in observation which he asserts is most effective in producing rigorous data by building rapport without becoming too close. In this way the multi-sensory experience
of being in the research context—in the school, amongst the phenomena—enabled my research imagination to emerge into becoming increasingly astute over the course of fieldwork.

I made multiple visits to each school, observing each class for a school day, including during lunch and recess, before and after school, and in between classes. The teacher and student semi-structured interviews were usually conducted during the day with the focus class, though at times teacher interviews and further conversations occurred on my return to the school for a different focus class. As well as the three days spent at the school with the three focus classes, further fieldwork was conducted for whole school events and special occasions of relevance to this research, for example, the Murrnong Environment Conference. [For a detailed outline of the participant observations, please see Table 1 below].

**Semi-structured Interviews:**

Face-to-face semi-structured interviews provided the opportunity to talk directly with participants—students, teachers and other community members—as well as gain their spontaneous stories, stories from the soul, rather than potentially contrived narratives, over-intellectualized and abstracted. The order and wording of questions in the interviews were not fixed. While I had a prepared “set” of questions, they were willingly abandoned or adapted, and the sequence of questions changed in order to follow the flight path of each participant’s stories and the rhizomic generation of data. The interviews started with an open-ended line of enquiry, such as, Describe this school to me/paint me a picture of your school, which, for some (particularly young) participants was too open to navigate and they asked for clarifying guidelines and more structured parameters.

The semi-structured interviews provided guidance for a purposive approach to producing “evidence”, while still being conversational and situational (Cohen, et al., 2007) and hence eliciting rich stories and insights, to ‘get at more layers of meaning’ (Cousin, 2009a, 72) in order to produce thick description, which is also partly ‘the outcome of thinking with data’ (Cousin, 2009b, 5) in the reflective process of writing in the post-fieldwork stage. Coupled with the range of observations, semi-structured interviews appeared to be a most effective way of understanding the heart of the
participant’s experience from their perspective, through the stories generated in our encounters.

Before commencing interviews with participants in the schools, I vigorously engaged in preparation in the ethical sensibilities necessary for a postphenomenological research practice, and critically reflected on my epistemological and ethnocentric assumptions, hyper-conscious of my researcher tone. I took to heart Jo-Anne Ferreira’s critique of ecopedagogy which likewise acts as an insightful cautionary tale for conducting research —

...we need to remain vigilant in environmental education to our own rhetoric—and vigilant of the ways in which such rhetoric is indicative of rationalities of rule through which we are governed and through which we seek to govern others, that is, of our own “govern-mentalities”. It is only through making these visible that we are able to reflect on their effects on our thoughts and practices, and to consider whether to keep using them or seek to change them. (Ferreira, 2009, 618)

This provided greater impetus for not just a critique of current behaviours in EFS in schools, but a meta-critique of the way in which—the frames through which—researchers critique and the implicit assumptions in a ‘transformative/empowerment’ framework, so as not, paradoxically, to close down the possibilities of transformations emerging. This research sought not to lead participants to respond in a certain way or to generate particular “evidence”, though it is duly acknowledged that no research can escape all assumptions, biases and implicatedness. The close scrutiny of the research design and critical construction of questions, methods and the general flight of inquiry is designed to assist participants in finding/making meaning for/in themselves to generate authentic stories in order to produce the most poignant data possible.

I did not conduct member checking with participants in the interviews. I had asked each participant if they wanted a record of their data (a full transcription) to which everyone answered to the negative (though some teachers requested a copy of the whole thesis upon completion) hence not all interviews were transcribed verbatim.\(^{17}\)

\(^{17}\) This approach allows me to more critically examine the poignant data and collective storylines without disregarding the “incidentals” and capture direct language while transcribing it discerningly.
Relevant themes and insights were grouped in order to generate the contextualised collective storylines. [See Table 1, and Appendix C for the Interview Questions].

**Documentary Analysis:**

The documents gathered and analysed in this study were obtained in the schools, from their websites and from other websites in which the school featured. Documentary evidence added its own particular style of rigour to this research in that they ‘have been recorded without a researcher’s intervention’ (Bowen, 2009, 27) and provide further insights about the context within which the participants operate (Mills, et al., 2006). In short ‘document analysis offers advantages that clearly outweigh the limitations’ (Bowen, 2009, 32) yet they do not provide the emergent and generative capacity of observations and interviews – they are less raw, nuanced, personalised and recent, and so could not be used singularly to generate data in this study, in which ‘it was vital that the voices and views of ordinary people be heard’ (Bowen, 2009, 32). While the documents are not discussed directly in the analysis of data in Chapter Four, they did inform the overall story of each of the schools.

Field notes taken during observations as well as reflections made immediately after the school visits are used to strengthen the thick descriptions of the case and build context – situating the data in a particular time and place. Field notes also act as a method of self-reflection for my research practice, offering insights from which to notice self-reflexive implications and the chance to distinguish the embodied fieldwork from the “thinking” work that happened before and after fieldwork, and the subsequent shifts in perspectives. During fieldwork, I harvested themes as I went to capture a raw sense of what was happening in a particular place, at a particular time. But it also proved a great challenge alongside the other pressures of conducting fieldwork for the first time (intensively), with my inner critic playing over and over—*Where should I place this morsel? How will I describe that?* I was conscious of not wanting to box in the data – squishing a spiral in a square or a jagged tangent on a line (or conversely overly complicating something simple), but I was likewise eager to capture the data succinctly and immediately so the “moment” was not lost.

I was hesitant to take notes during the interviews lest the note-taking cause a rigidity and distance between the researcher and researched, so I recorded all interviews with
a digital dictaphone and transcribed sections electronically later. I also recorded some casual conversations with participants (particularly with teachers but also some students and other members of the school community) which emerged as providing some of the most compelling insights and are woven into the data discussion.

After each session (usually the school day) with each class, I had a period of reflection, around one hour, to make additional notes, reflect on my notes and record the insights I hadn’t captured during the course of being immersed in school life. I then revisited my field notes and reflections about a month after each session, partly for the raw findings to not become warped by the tricks of memory and potentially feed into the study’s narrative in a skewed way, also as an exercise in placing the empirical evidence in the context of shifts, policy changes and new knowledge pertinent to schools, and finally also to add my own renewed interpretations ‘with fresh eyes, afforded by distance and the lapse of time’ (McLeod & Thomson, 2009, 145).
**School Observations and Interviews**

**General Details:** Three government schools in inner Melbourne:
- One Primary (P-6) — Banksia
- One P-12 College — Correa
- One Secondary (7-12) — Murrnong

<table>
<thead>
<tr>
<th>Subjects</th>
<th>Observations</th>
<th>Interviews</th>
</tr>
</thead>
</table>
| **General School** | Whole school community:  
  - Before school  
  - During recess/lunch  
  - After school  
  - Between times  
  Focus:  
  - Community participation  
  - Bioregion/ecosystems  
  - Flows, behaviours – how people interact with outdoors and each other | Semi-structured interviews were conducted with a total of 13 participants at each school:  
  - The Sustainability Coordinator  
  - Three class teachers  
  - Nine students (three students from each of the three classes as per observations) |
| **Classes & Teachers** | Three Classes in each school:  
  - Spanning a range of year levels, subjects and streams  
  o Banksia Primary – One class from grade 1/2, one from grade 3/4 and one from 5/6.  
  o Correa College – One Reggio-Emilia grade 3/4 class, one Steiner Class 2, and one Steiner class 9.  
  o Murrnong College: Three classes were chosen based on the subjects – One year 8 Environmental Science, one year 9 Outdoor Education, and one year 9 Marine Biology  
  Focus:  
  - Teacher approach to ecopedagogy  
  - Student behaviours, attitudes to EFS  
  - Interactions between students, between students and teacher  
  - Interactions between people and the “environment” (built and ecological; inside and outside) | The “lead” teacher in EFS, i.e. the Principal or Sustainability Coordinator was interviewed:  
  - At Correa College (P-12) and Murrnong Secondary, the Sustainability Coordinator was interviewed  
  - At Banksia Primary the Food Garden Program Educator was interviewed  
  Classroom Teachers:  
  - Three teachers from each of the observation classes (as identified in the ‘Observations’ column)  
  - The durations of teacher interviews were between 20 minutes and 40 minutes as well as up to 20 minutes in further informal conversations |
| **Students** | Three students from each class, invited by their teacher (Nine students from each school 27 students in total across the three sites):  
  - One keenly engaged with ecolearning  
  - One moderately engaged  
  - One disinterested/unengaged | The same student participants from the observations were interviewed in informal semi-structured interviews.  
  - The duration of student interviews was between five and 20 minutes |

Table 1: Outline of School Observations and Interviews
Reflexivity on Reflection: Researcher as Cyborg

Writing as a way of making meaning is synonymous with the reflexive nature of this study. I am implicated in this research and the process I came to in conducting research and writing “about it”, is emerging in the same vein that Richardson describes her experience of coming to writing as a methodological process. It is worth evoking here at length —

I was taught...as perhaps you were, too, not to write until I know what I wanted to say, until my points were organized and outlined. No surprise, this static writing model coheres with mechanistic scientism and quantitative research...the model is itself a sociohistorical invention that reifies the static social world imagine by our nineteenth century foreparents. The model has serious problems: it ignores the role of writing as a dynamic, creative process; it undermines the confidence of beginning qualitative researchers because their experience of research is inconsistent with the writing model; and it contributes to the flotilla of qualitative writing that is simply not interesting to read because adherence to the model requires writers to silence their own voices and to view themselves as contaminants. (Richardson, 1994, 521)

Higher education researcher, Glynis Cousin, asserts ‘reflexivity demands that we think about our own positionality, power and investment in the research process; it accepts that we can never be outside of it’ (Cousin, 2009b, 3) but then critiques the overtly reflexive turn in qualitative (or “subjective”) research, saying ‘you can overplay the reflexive card such that research reports seem to be more about the authors than the actual research’ (Cousin, ibid). While this is a valid criticism, I argue there is always a researcher narrative which affects the way research is conducted, analysed and presented, but it is regularly absent from positivist research thus diminishing their trustworthiness. In this intersubjective study, I (researcher) am part of that which is researched, as it is cogenerated by and through me, rather than ‘gathered’ or ‘collected’ (Gough 2002, 7) and this process is unearthed and given a voice in this study. ‘Research is an embodied performance’ argues Gough (2002, 7), ‘data are not ‘out there’ waiting to be ‘discovered’, but are actively produced or constructed by researchers’ (ibid), hence ‘methodological (dis)positions and preferences have a tacit or personal dimension that might be difficult (or impossible) to represent in

---

18 My use of the term adopts Haraway’s insights posed in A Cyborg Manifesto (1991), challenging the essentialising pigeonholes assumed in “traditional” feminism and pulling female identities into the 21st C, skirting the realities of material-semiotics and bridging the nature-culture divides, “cyborg” is used here to conjure the image of researcher as an emerging being rather than a (self)contained entity
conventional ways, such as in the standard research report’ (Gough ibid). Hence the emergent narrative style of this thesis.

By virtue of doing research in this context, embedded in this particular ontological orientation and with the mix of phenomena pertinent to this study, I became a researcher – the case, samples, subjects and meta-context taught me how to research, as Wagner writes ‘research itself is a form of learning’ (Wagner, 1997, 21). In this regard, Cousin argues that ‘qualitative research is a creative interplay between the intellectual and the empirical’ (Cousin, 2009b, 5) but it is also the creative and the embodied. Richardson counsels qualitative researchers saying —

Unlike quantitative work, which can carry its meaning in its tables and summaries, qualitative work depends upon people’s reading it. Just as a piece of literature is not equivalent to its “plot summary”, qualitative research has to be read, not scanned; its meaning is in the reading’ (Richardson, 1994, 519).

Hence the “research report”—the writing—must be engaging, compelling and solicit an emotional response, for what good is “lifeless” writing that is ‘simply not interesting’ (Richardson, 1994, 516) and which renders the whole exercise of conducting research ‘foolish at best, narcissistic and wholly self-absorbed at worst’ (Richardson, 1994, 517). Instead, researchers could be adding iteratively fertile flavours to academic discourse with nuanced, heterogeneous voices, much like Richardson herself achieves along with Somerville, Bussey, Payne and others mostly from emergent postmodern/poststructuralist, ecological bodies, creating research that is simultaneously astute, stimulating, convincing, and more compelling because it is also a pleasure to read.

I, like many researchers before, after and alongside me, am currently ‘waiting in the chaotic place of unknowing’ (Somerville, 2008), dancing the spiralling, generative process of weaving all the strands of this study’s tapestry together in a perpetually incomplete piece; making meaning of the big picture in all its micro details. My research comes from ‘a deeply relational space, a place where the boundaries of self, both physical and metaphysical, are open to other materialities and other knowings’ (Somerville, 2008, 4). These boundaries reverberate strongly with me at this moment – as I write in my parents’ study, in my childhood home, glancing longingly at the grand
Peppermint Gum that captured my formative ecological imagination with the colour shifts of the seasons and sunsets, while my sons are exploring the wetlands I know as well as the back of my hand. “Hooked into” my computer, my mind on a multiplicity of matters, my spirit aching to be with my sons, this researcher finds herself *becoming cyborg* (Haraway, 1991).

In the first two chapters we have established the theoretical tailbone, sitting with the multiplicity of onto-epistemological and methodological approaches, philosophies, pedagogies, heuristics and social theories. In the following chapter we walk through the field findings, the raw evidence generated in three schools in Melbourne. In keeping with my meta-approach of writing-as-a-method-of-inquiry, literature will be woven throughout each chapter, reminding us of the metacontext in which this work is situated.
CHAPTER FOUR: Fieldwork, Data & Discussion

‘Speak to Nature’, Dad said, ‘and it will speak to your soul’

— “Pei Ling”, Year 10 student, Murrnong College

INTRODUCTION

Fieldwork is ‘the co-production of the situated meanings of experience’ (Payne, 2005b, 115) and the meaning-making continues post fieldwork for this researcher—in the analysis of co-produced and situated experiences. The particular nuances of people (tone of voice, emotions, attitudes etc) as well as time, place and space are so difficult to capture even for a seasoned researcher. And the reflections generated since fieldwork are relational with the raw data in both conflicting and commensurate ways, ‘the evolving, recursive, messy and even at times troubling dialogue between fieldwork, field notes and attempts to make sense of these “in the moment” and “on reflection”’ (McLeod & Thomson, 2009, 145) which I alone could navigate. With this riddle—What is faster than a racing car and smarter than a computer?—my five year-old-son prompted me—the human mind. So I used my mind and here’s what I found...

The phenomena in this study are messy, they are chaotic and complex, they are nuanced and because of this they are far more interesting and compelling, hence the data cannot be summarised in neat tables, it must be ‘read, not scanned; its meaning is in the reading’ (Richardson, 1994, 519). I grouped the themes that arose from the participant observations of whole schools, classes and Individual observations, with the themes that emerged from semi-structured interviews and casual conversations (which were likewise convergent with the literature—as elucidated in the final chapter). I then analysed the data using a ‘collective storyline approach’ (Somerville & Green, 2012, 69), that is, I selected the most pertinent data that was generated during fieldwork, and in the reflective process since conducting fieldwork, rather than listing each sample and each participants’ responses chronologically. That is not to say that I

---

19 In this Chapter, direct speech by participants is emphasized by a change of font and colour (“Cambria” in blue, in contrast with ‘Calibri’ in black, as used through the main body of text), to also distinguish between secondary quotations obtained from texts.

20 See Appendix Cvi for the full list of participants (pseudonyms) from each of the three schools involved in the primary evidence.

21 As discussed in Chapter 1, this research recognizes the human mind is not just our cognitive thoughts but also a complex combination of feelings-thoughts-emotions-doings in a continuous cycle that inform our being and becoming, i.e. at least as much “hands” and “heart” as “head”
chose only data that supported the research agenda—there is information that does not fit a neat contention—but information that does not produce deeper insights is omitted, whether they supported or negated the narrative.

What follows are the collective storylines (the main themes and processes) that emerged from the field, across the three schools:

**Themes**

1. **Food**: As hub of ecological activity—patterns, flows; growing, harvesting, cooking; health/healing; closed-loops; waste reduction
2. **Place**: Outside, local, “wild”/urban, “Nature”/ecology/environment/Earth, private/common; spaces
3. **Story**: Storytelling; language; love/biophilia; art as story; school narratives;

**Processes**

a. **Thinking**: Ecoliteracy; sustainability principles; climate change education; SOSE (Studies of Society and Environment); patterns;
b. **Doing**: Experiencing/embodying; enacting/activism—“Green” Teams, peace and social justice initiatives; Outdoor Ed/learning outside; gardening; multi-sensory immersion; making places
c. **Feeling**: Relating/Being/Becoming; metaphysical experience/spirituality; love/biophilia; soft and slow; connecting; imagination & creativity – arts-based approaches

Initially these succinct themes and processes were not apparent. During the process of conducting fieldwork I had noted themes in vaguely twenty or so groups but on further reflection these three over-arching themes emerged as the common storylines from the various more specific notions. These processes, or ways of doing ecopedagogy which I observed through the behaviour, flows and organisation of sessions were not specifically recognised by the participants themselves but emerged through observations during numerous visits to each school.
<table>
<thead>
<tr>
<th>THEME</th>
<th>SCHOOL</th>
<th>PROCESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Place</td>
<td>Murrnong</td>
<td>Doing</td>
</tr>
<tr>
<td></td>
<td>Correa</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Banksia</td>
<td></td>
</tr>
<tr>
<td>Food</td>
<td>Banksia</td>
<td>Thinking</td>
</tr>
<tr>
<td></td>
<td>Correa</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Murrnong</td>
<td></td>
</tr>
<tr>
<td>Story</td>
<td>Correa</td>
<td>Feeling</td>
</tr>
<tr>
<td></td>
<td>Banksia</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Murrnong</td>
<td></td>
</tr>
</tbody>
</table>

Table 2: Collective Storylines—Themes and processes in schools

The themes and processes could be coupled in any and every possible combination – Story and Doing/Story and Thinking; Food and Feeling/Food and Doing; Place and Feeling/Place and Thinking. Each process is apparent in each of the themes to varying degrees—weaving inside, around and between them. But in this study each school embodied particular themes and engaged with particular processes most poignantly, that is, this particular combination (highlighted in Table 2 above) is what emerged from the generated data—what this researcher saw, heard, felt, sensed, participated in and later reflected upon—in this study. The collective storyline of *Murrnong Secondary* is focussed on in the first section through the theme “Place” and the process of Doing; we then learn about *Banksia Primary* in the second section through the theme “Food” and the Thinking process, and finally we turn our attention to *Correa College* through the theme “Story” and the process of Feeling, though other schools make brief appearances in other sections.

As a reminder of the frame through which this study generates data, please revisit the questions on page 3, in Chapter One.
**MURRNONG**

*In Context*

*There are two things that interest me: the relation of people to each other, and the relation of people to land.*  
—Aldo Leopold (*in Meine, 51, 2010*)

Perched on the bank of a major river, Murrnong Secondary is situated in a beautiful biome. Coming upon this place along the river trail by bike, the school seemed engulfed in revegetated bushland, including a strip of freshly planted bright yellow dandelions (which I later discovered were *murrrnongs*, Indigenous yams). Accustomed to seeing public high schools cloaked in concrete, it dawned on me that this was not a standard inner-urban state secondary school and the many accolades bestowed on *Murrnong* may well be warranted.

Pioneering pedagogue, “Anthony” (also known as “Mr Knight” by students), is Murrnong’s Sustainability Coordinator and convener of the sustainability group that brings in all member of the school community – student, parents, staff and other members of the broader community, to form the nexus of the school’s sustainability spirit. They meet one night per month, led by a student report about recent school sustainability activity. This group is responsible for organising the school’s commitment to sustainability in some inspiring initiatives (described in more detail below) and maintaining their certification with the Victorian Government initiative – ResourceSmart AuSSI Vic (which will be critiqued in the final chapter).

Anthony has been teaching at Murrnong for nine years. He realised early on that in order to sustain the school’s commitment to sustainability, the very systems by which they operated needed to be sustainable. He understood that it could not just be carried, in his words, by ‘one passionate, over-worked teacher’ (Anthony) without whom the project would collapse, but by an ongoing commitment by the whole community.

---

22 Also spelt “Myrnong”  
23 In this thesis ‘public’ schools are also referred to as ‘government’ or ‘state’, that is, schools that most people attend and which are inclusive, free (minimal-fee) schools. In Australia we have much higher percentages of students enrolled in private fee-paying and religious schools which we call ‘independent’, ‘private’ or ‘non-government’ schools, than most countries in the OECD, up to 40% of schools (OECD, 2011) and unconscionably higher rates of government funding to private students than public students, with private school students gaining up to $5 to every $1 spent on public school students (Patty, 2013; OECD, 2013).
Murrnong occupies a former landfill site and so the very Land in which the school is situated is testament to the school’s sustainability ethos. I asked Anthony about the place, the “hidden curriculum” and the built environment at Murrnong. He spoke about where they’ve come from and where they’re going —

It’s a city school on the banks of the [“Birrarung”] River with a really degraded ecology, but it’s incredible how much of it has improved over the last nine years. But of course over the last twenty years—as the regen was started by the old principal of the former school here. It’s so great that we can create a habitat corridor and make this place somewhere we really want to be (and even that whole notion of ‘corridors’ that students totally get by living it – doing it). The landfill is still there, under our feet, it’s so great to use it as a really rich teaching tool – to show the poor planning decisions that have been made in the past. But it’s, it’s still so sad to see it so close to the river. Some students get really affected by that.

Murrnong’s place informs their ecopedagogy and sustainability learning – it compels them to regenerate through action, propelled by the potent immediacy of their material realities, situated above (and in) the sinking ground of landfill, beside the river, flanked by brick and concrete buildings, amongst the revegetated Indigenous biodiversity, adorned with nesting boxes for targeted bird and bat species.

Embodying Place

When asked how she felt about the place where her school is, “Josie” (a Year 10 Environmental Science student) responded warmly and at length, offering nuanced details about this place she clearly knows very well through her full embodiment of place—being fully immersed and fully present. As an example of her insight, here she offers—

You sort of feel like you’re a part of the land almost. Like, my body is in the land, really a part of it. I thought about the trees and their roots are in the soil and my, I’m sort of [pause] I feel like that too.

Place as body is an ancient concept—Mother Earth, Gaia—the living Earth. A bodily way of knowing the Earth has been subsumed in the modern Western scientific

24 Through this thesis Land and Country are capitalized to acknowledge Indigenous Australian’s ecological laws, and also to recognize the Earth as living and sacred, not an inert piece of dirt.

25 ‘regen’ is short for regenerated/regenerating ecosystems
tradition to be associated with female, emotional and thus irrational ways of knowing. Yet David Seamon reinterprets it thus –

*Body-subject* is the term sometimes used to refer to the intentional but taken-for-granted intelligence of the body-enmeshed-in-world that French phenomenologist Maurice Merleau-Ponty described in *Phenomenology of Perception*. “Consciousness,” he wrote (Merleau-Ponty 1962, 138-39), “is being toward the thing through the intermediary of the body. A movement is learned when the body has understood it, that is, when it has incorporated it into its ‘world’, and to move one’s body is to aim at things through it; it is to allow oneself to respond to their call.” This manner of bodily being points toward an intentional corporeal unfolding as the world sustains that unfolding... (Seamon, 2009, 2).

Seamon maintains a ‘body-world intimacy as a lived wholeness rather than a conceptualized and dualized person/world’ (Seamon, 2009, 8). And it is this connected, rooted way of knowing that Maria Mies calls a ‘new science’ stipulating —

...a new science should never lose sight of the fact that we ourselves are part of Nature, that we have a body, that we are dependent on Mother Earth, that we are born by women, and that we die. It should never lead to the abdication of our senses as a source of knowledge, as modern natural science does. (Mies and Shiva, 1993, 52) [emphasis in original]

This is quite precisely the wisdom “Josie” tapped into—she feels strongly that she is ‘body-enmeshed-in-world’; she is of the Earth and rooted in the Earth, rather than occupying space “on” Earth as we have understood since René Descartes’ (1596–1650) thesis that mind and body are distinct, and Francis Bacon (1561–1626) infected our collective consciousness with the perception of Earth as an inert thing for human use and consumption.

This returns us to the reconnection of mind-body-spirit and embodied learning, which Josie exemplified during our chat – though she did not speak directly about “spirit”, she exuded it through her body; her being. Somerville describes the severing of bodily knowledge —

Human bodies have typically been conceived in Western thought from an anthropocentric, enlightenment perspective as discrete, rational, autonomous entities whose most important function is to house the soul, or more recently, consciousness. Bodily knowledge is regarded as base, to be erased, or subverted to the more important mind, or intellectual knowledge. (Somerville, 2007a, 6).
Josie had also said that she never gets a chance to talk about this ‘kinda stuff’ but it was ‘nice to talk about it’. This reaction was replicated by a number of participants in this research, which was totally unanticipated by this researcher before setting out in the field. Josie’s teacher Anita reacted likewise happily surprised when I asked her about passion and love (discussed in more detail below), wryly exclaiming ‘Wow, that’s funny – most people don’t ask you that sort of question!’ Josie, amongst other engaged students at Murrnong, has an intimate knowledge of their place and this seems to have grown into a tangible love. As Somerville again reminds us, ‘without an intimate knowledge of local places that we love there is no beginning point’ (Sommerville, 2010, 331); accordingly, Murrnong has well and truly begun their journey into becoming sustainable and on the path to transformative ecolearning.

Josie’s classmate, Pei Ling, told a moving story about her childhood in China, growing up with very little and living very busy lives. She became especially spirited when she spoke about going to ‘the woods and the hills’ with her Father at least twice a year. She spoke about how important being outside, in Nature was to her dad and recalled (as referenced at the beginning of this chapter) he used to say

“Speak to Nature... and it will speak to your soul”.

Again, there is the notion of a deeply spirited connection to place and one that is seldom spoken about, particularly in secular state schools. I felt honoured to hear these intimate insights. Yet such spirited connection was not described by all. When Josie and Pei Ling’s classmate, “Jinora” how she thought about this place she remarked

I suppose it’s quite pretty. Cos we’ve got the river and the trees and the possums and the rowing sheds and stuff. So it’s quite nice, I suppose.

This posed as a markedly tepid response in contrast with her classmates.

Bodies are also often the first to alert us to our health and psycho-emotional-spiritual condition. Likewise, the body of a school – the school grounds – regularly indicates the school’s connection to Country, place, or lack thereof. A proverbial “concrete jungle” may (often unbeknownst to the school) disclose its lack of participation in and commitment to ecological, place conscious sustainability learning. And by further extension, the Earth’s ecological crises due to abusive human behaviour are perhaps

26 As I sit writing my bottom is becoming numb and my lower-back seizing up. Are these solely physical aches and pains or do they indicate psychic overstimulation – urging me to take a breather, get up and stretch, focus my eyes on the farthest star (as it is nightfall as I type) for the good of my whole being?
indications of the crisis of consciousness and psycho-somatic-affective relationships with each other, other beings and the Earth herself. The great scientist and Nature communicator David Suzuki wrote in his beautiful book *The Sacred Balance*, ‘A human-engineered habitat of asphalt, concrete and glass reinforces our belief that we lie outside of and above nature, immune from uncertainty and the unexpected of the wild’ (Suzuki, 1999, 180). Instead Murrnong exudes immersion in their ecosystem – both built and “wild”.

Bodies, places and participatory learning enmesh when, for example, students regularly take “active transport” options to school and on excursion. In a recent excursion to CERES Environment Park 27 (12 kilometres away) the group rode their bikes in convoy along the river trails. The importance of embodiment for making sense of the world’ (Carolan, 2008, 409) was stipulated by many Murrnong students and is exemplified, for them, by Anthony. The teachers and students talk of the connection between healthy planet – healthy people and how being personally healthy is more sustainable for all. This indicates students are “closing the loop” in their thinking and approach to ecolearning, hence the school is engaged, to some degree, with whole-systems thinking, discussed further in the ‘Doing’ section.

As I walked around Murrnong, I had a wistful sense as a teacher strolling through a school that is not my “own”, that I don’t work at and are therefore not responsible to(!), that put me in a heightened state of awareness – mindful of the incredibly powerful and intricately interwoven fabric of which schools are made. We forget this when we’re marking essays, writing reports or burdened by an ephemeral conflict or school politics, what some blithely call the “reality” of schooling. But given the chance to experience schools from a somewhat removed vantage point, I had the spine-tingling sensation that made me want to become a teacher in the first place – the realisation of the potential of schools as educational homes; to be the central, thriving organism of deep, lifelong transformation and learning of our place in the vast

27 CERES (Centre for Education and Research in Environmental Strategies) is a community environment park, which was rehabilitated from a former landfill site and is free for anyone to visit. It has an organic farm, market and a wide range of on-site education programs (for which schools pay) in many areas of environmental and cultural sustainability, as well as outreach education to schools and community/ adult workshops, amongst many other enterprises. It is known as a local stalwart in sustainability living and learning and has affected change nationally and internationally.
Concerted Place Consciousness

David Gruenewald outlines high expectations for place-making in schools stating —

...the aim of place-conscious education is ambitious: nothing less than an educational revolution of reengagement with the cultural and ecological con-texts of human and nonhuman existence, what theologian Thomas Berry calls "re-enchantment" with the world (Gruenewald, 2003a, 645).

While each of the teachers involved in this research at Murrnong were passionate about regenerating their place and the natural surrounds, they were all teaching subjects implicated by Nature – Environmental Studies, Outdoor Education and Marine Biology. Does their commitment and passion to place-making permeate the whole school? Are other teachers in subjects not directly “involved” with Nature, the outdoors, engage in this way or offer chances for students to develop a connection with place? This remark from Jinora, Indicates that not much learning in the outdoors happens beyond the ‘obvious’ times. When I asked if she ever learned outside, she said —

I think last it was last year, we read a book under a tree on a warm day for English. Um, yeah, that's about it. I mean, do you mean "real" learning or just like sport and stuff? And also we planted trees and we go out sometimes for science – water testing in the river, but not, like most of the time, or hardly any of the time except lunch.

Jinora’s reflections here posed the first disjunction I encountered at Murrnong. Her criticisms pointed to tensions with the Murrnong storyline in a discord with the reflections of the otherwise overwhelmingly enthusiastic participants in the study.

Somerville stipulates ‘essential elements of place pedagogy’ (2008a, 342):

- Our relationship to place is constituted in stories and other representations;
- Place learning is local and embodied;
- Deep place learning occurs in a contact zone of contestation

While Murrnong engages heartily with Somerville’s second and third elements in Environmental Science, Marine Biology, Outdoor Education and through the
sustainability group initiatives, it was not at all apparent that the first element in Somerville’s proposed methodology for place-making was explored at all. Also, there was a tone of vague reverence to the accepted reality that Murrnong’s ecological place was special, but through students’ narrative accounts of other disciplines, actively engaging with place and ecopedagogy is minimal, hence this study brings into question whether Murrnong participates with SE on a whole systems level.

Somerville further maintains that ‘place can offer an important framework for an integrated educational curriculum’ (2010, 331) and while this is very difficult in our current secondary school system, in which all subjects are distinct and isolated islands disconnected from the central body of a school, Murrnong is beginning to integrate sustainability across many different aspects of the school, using their place as a motivator for action as we will further explore in “Doing” below.

Orr likewise argues, ‘The study of place enables us to widen our focus to examine the interrelationships between disciplines and to lengthen our perception of time’ (Orr, 1992, 129). “Sustainability” is entering the Australian Curriculum this year in the form of one of three “cross-curriculum priorities” with the intention of embedding these themes through all learning and thus linking curricula, and is designed through the frames of Systems, Futures and Worldviews (AusVELS, 2014). In theory this seems to be transformative thinking in line with the thesis of this research, however cautious optimism is employed by this researcher and more critically by Anthony at Murrnong, who poignantly reflects —

I just saw the same thing happen with the VELS – it took responsibility out of science and spread it across all other areas, but then it sort of made it no-one’s responsibility. So it’s a tricky one. It should be everywhere, but how do you implement it properly if it’s an overarching principle? In one sense it’s good so you can get it as a priority, but really it’ll just be like anything – if it’s already a priority people will push for it and support it, but if it’s not it could easily be lost.

28 As well as “Aboriginal and Torres Strait Islander Histories and Cultures”, and “Asia and Australia’s Engagement with Asia” (both of which could do with snappier names and will no doubt be reduced to acronyms)
Place –

We are the mothers and fathers of the future….What will we birth here, in this ancient southern land? The land which my grandmother once told me she saw in a dream as a place where everything lived and nothing died. A place far older than she or anyone knew. A place where too many people were still walking around blind. A place of much power and many secrets, if only you had the eyes to see the awe and wonder of it all.
— Sally Morgan (2008, 287)

*Place-pedagogies* sit either alongside sustainable education or within whole systems SE as a framework through which ‘ecological intelligence’ (Orr, 1994) and eco-literacy may flourish. It is also known as *place-based education* (Sobel, 2004; Gruenewald, 2006; Bowers, 2005), *place-conscious education* (Gruenewald, 2003b; Somerville, 2010), *critical pedagogy of place* (Gruenewald, 2003a) and *place-responsive education* (Cameron, 2005; Gough, 2008), *bioregional education* or *learning outside the classroom* (in UK), and in community education is also known as *Sense of Place*, as explored beautifully by Karen Harwell and Joanna Reynolds (2006).

Somerville expertly chronicles this field, writing, ‘place-conscious education include[s] liberal humanist approaches that evolved from the work of Wendell Berry...and critical place-based approaches such as those advocated by David Gruenewald’ (2010, 326) and now also includes her proposed ‘reconceptualized framework of place as a pedagogical practice that draws on contemporary feminist poststructural and postcolonial philosophies’ (2010, 326). David Seamon use place phenomenology or ‘phenomenological ecology...concerned with place’ (Seamon, 2007) as methodology while Phillip Payne stretches his place pedagogy through a post phenomenological frame, overlaying traditional phenomenology with the primacy of co-created meaning making –

Enquiry of a phenomenological type deals assertively with “constructionism” because of its quest to interpret human experience as it “itself” is “lived” and “structured.” Postphenomenological enquiry can reveal the embodied *relations* of those socially constructed experiences of self and environment/nature (Payne, 2003, 169).

Through this study, I noticed schools and individual students interact with their *place* in various ways and on many levels:
- Place consciousness: Students growing awareness of the living landscape; the biome and ecosystems – the built and “natural” environment;
- Place-based: Learning in “the outside”; learning in rich non-built places; being in the “wild”;
- Place making: Creating “habitats” (tree-houses, cubbies, shelters, willams\textsuperscript{29}; constructing the outdoors as an extension of “home”/school; celebrating places; storytelling in place and about places; making places more sustainable/rejuvenated/full of life.

Gruenewald asserts places are ‘profoundly pedagogical’ (2003), however the data generated at Murrnong fits better with Noel Gough’s (2008) tempering of Gruenewald’s assertion, as he postures —

I can imagine ‘places’ (as specific locations) becoming ‘pedagogical’ through cultural practices that enable or encourage us to attend closely to their multifarious qualities, including not only those that we might consider to be ‘profound’ (such as the deep, pervasive or intense qualities that we sometimes call the ‘spirit’ of a place), but also their more superficial, ephemeral or obvious characteristics. (Gough, 2008, 72)

The primary evidence from this research upholds Gough’s critique that places are not inherently pedagogical, that is, teachers and students don’t step into their place and suddenly learn or be inspired, but their place may become pedagogical in the hands of an active, critical, committed and embodied pedagogue and in the bodies, hearts, minds and spirits of conscientious/intuitive students, engaging with their place regularly – exploring, learning, caring and creating in, about and through their ecosystems, in both material and metaphysical, practical and ‘profound’ ways. So then Gruenewald’s contention comes to the fore and the school’s bioregion can become profoundly pedagogical; the place can take students (and teachers) to the lengths and depths of ecopedagogy – rooting bodies in Earth (and earth), capturing imaginations, inspiring hearts and enchanting spirits, but more often when it is intentional.

\textsuperscript{29} willams are temporary shelters constructed by Woiwurrung people (and other Aboriginal groups)

Doing

...what I say counts for little, it is always what I do that comes first.
— Marcus Bussey, 2008b, 140

Year 9 Outdoor Education students, “Lily” and “Hannah”, who recently returned from their ‘totally amazing, like really actually unreal’ (Lily) term at the Alpine School (at Dinner Plain in the Victorian high country), were bubbling with delight from their radically transformative learning experience. Their Outdoor Ed teacher “Jane” (known as “Ms Hills” to Murrnong students), nominated them to participate in the study, describing them as ‘thoroughly passionate about Earth-learning’.

The energy and exuberance they displayed while reflecting on their term at the Alpine School seemed dampened, however, on this Murrnong fieldtrip to Lysterfield Lake Park in Melbourne’s outer-eastern suburbs. I accompanied the group on a walk around the lake, guided by Jane’s student teacher “Scott”, who stopped the girls at various intervals to run mock emergencies, such as a snake bite. Jane humbly took a back seat to the walk without asserting her authority over the class, with no suggestion she would override or interrupt her student teacher. The girls walked around the lake like they were walking down a suburban street—seemingly unimpressed by the landscape of regenerated bushland surrounding the lake. It was a relaxed, circular walk, without any challenges along the way, besides the mock drills mildly punctuating the two-hour walk.

Over lunch I asked Lily and Hannah how they felt about the trip today. Hannah responded blandly—

It’s fine. It’s just not anything amazing. It’s just, Ms Hills is really good and when she teaches it’s really good. She puts, like, a bit more thought into it and we do some interesting things. Today, it’s just a pretty boring walk on, like, gravel.

---

30 A school campus for year 9 students from government schools across Victoria, for which there is a selection process. There are now two additional campuses - Snowy River Campus at Marlo and the Gnurad Gundidj Campus at Glenormiston in Victoria's Western District. This is the only such initiative for government schools in Australia.

31 Yes, international readers, Australia has snow-fields (though, like everywhere, vastly diminished since anthropogenic Climate Change)
Lily added—

Yeah like, Ms Hills sort of brings it to life but we’re just beyond walking around a
dirt track now, you know. Like the Alpine School was really, it just, it changed our
lives. So nothing compares to that now—it’s not like we can do that at school, or
like, every day.

Hannah—

Yeah, it really was the best time of my—of our lives. It’s like the first time I really
felt alive. Like, not sort of sleeping and bored, but really like aware of what was
happening. Thinking about it all for myself for like, the first time.

“Not sleeping” anymore, they had been awoken by this ostensibly transformational
experience. I needed to know more about this incredible place the girls were
describing. What did they do? How did they do it? What was this “Alpine School” I
had never heard of? They of course couldn’t believe I didn’t know about it—born-
again voyagers on their first encounter with the lifeworld. Their specific details about
the day-to-day goings on were less explicit than the overall euphoria about the general
notion. A few fragments slipped out such as doing a ‘really powerful Community
Learning Project’ (Lily) which was driven by the student’s passions, raft-building and
rafting in teams which was ‘awesome! Like scary and fun and thrilling!’ , and meeting
‘heaps of really cool, really awesome people from all around different parts of
Victoria’ (Hannah).

Upon further enquiry about the Alpine School, officially the School for Student
Leadership (SSL), I discovered government schools can nominate students to attend a
9-week, residential term. The curriculum flows through the main focus areas of
personal development, leadership and Outdoor Education, with a concurrent theme
based on Mark Reeves’ (Alpine School principal) research on the role of the “Rite of
Passage” in education—meaningful learning for disengaged/uninspired adolescents—

...somewhere in our pre-industrial era societies, the notion of “it takes a village to raise
a child” rang true, and teenagers were raised by the village and given access to what
we now realise is a rite of passage to adult-life. We just do not, at all, do that in
schools today. Not systemically anyway. We need to recreate the village and the rite.
(Reeves, 2013, NP)[emphasis not in original]

32 Students are chosen by the Alpine staff to ensure a combination of regional and metropolitan
students, including Koorie students in close partnership with Wannik, Education Strategy for Indigenous
Students.
Which appears entirely compatible with whole systems, community-connective sustainability as engaged with in this study.

Pointing to the Alpine experiential methodology, Reeves reflects on his blog—‘Notice how often I use the term “doing” when referring to adolescents and teenagers?’ (Reeves, 2012). Like many before him, he argues in order for students to be engaged in schooling ‘they actually want to be active participants in the world and their learning’. But prior to speaking with Lily and Hannah, I considered the Murrnong year 9-cohort distinctly more engaged than many other year-9 groups I had previously encountered. Granted, I observed two of the three groups in outdoor field trips, so I certainly sat from a skewed vantage point from which to ascertain engagement. And two of the three students in the indoor (year 10) group did speak about disengagement to some degree (too much indoor learning in the case of Josie, and according to Jinora too heavy a ‘focus on negative stuff, like Climate Change’, discussed further in Active Hope).

Yet Murrnong students are offered a distinctly more participatory experience than many, so what did the Alpine experience offer Lily and Hannah that Murrnong does not? It may be partly the intensive, 24-hour experience and level of responsibility given over to the students at Alpine. But the intangible ingredient seems to be at least partially on a deeper level not generally given words at Murrnong, but for which their teacher Jane later “found words”, pondering —

I haven’t thought about it as spiritual really or taught it like that, but I suppose it definitely is a spiritual connection with the Land.

In the wake of a momentous turning point in their personal development, worldviews and scholastic outlook, Lily and Hannah were feeling frustrated that the “system” back home, in their normal schooling, came nowhere close to matching the transformative experience they had so relished at Alpine, as Mezirow explains ‘we transform our frames of reference through critical reflection on the assumptions upon which our interpretations, beliefs, and habits of mind or points of view are based’ (Mezirow, 1997, 7). These transformations of being will be spoken about further in the conclusion and final chapter.
Activism

Back to the banks of the “Birrarung”. In the space of thirty minutes in Anita’s Year 10 Environmental Science class, I gained a spectrum of subtly profound insights from the three focus students who initially seemed to have markedly different outlooks (Anita had pegged them very well, I had thought). But upon reflection, after listening and re-listening to their interviews, I encountered a starkly fresh perspective of their accounts, revealing far more convergence than contradiction. What I found in Josie, Pei Ling and Jinora were not three people on a spectrum of engagement with ecolearning, instead they were all engaged, just in markedly different ways. Jinora was connected with the thinking involved in the systems at play in ecopedagogy, Josie was engaged with her body in the doing and emancipation or ecojustice and Pei Ling had a profoundly mystical connection—enchanted—with the Earth.

For example, upon hearing of eco injustices, atrocities and issues, Josie exercises her learning by enacting, as well as feeling innately ‘close’ to Nature —

I’m a doer. I really like making things happen and working on projects outside and with people... I love planting trees and doing all the, all the great opportunities we have here, especially with the Enviro Team but also in some of our classes.

Jinora, on the other hand, feels more closely connected to her human community and wants to be engaged through growing her own food —

I think it’d be really nice to have, like, a communal vegie patch, or something. Like grow our own food and have chickens

which she deems

more positive, empowering and real.

Jinora pointedly critiques —

If we just always learn about the bad stuff and all the doomsday stuff people say about Climate Change, then no one, it doesn’t motivate people. My friends just tune off and get more into their clothes or Facebook or other dumb stuff. They care but they just don’t really care, if you know what I mean. Not enough to do something. They just say it can’t be that bad.

So what empowers Josie, disempowers Jinora (and her friends). Whereas, Pei Ling offers a cross-cultural perspective, amazed at the Murrnong experience (which she regarded as an Australian approach, rather than solely pertaining to Murrnong)—
We are learning all the time to do all these things—where to put our rubbish and how to plant trees, how to make a better future. In China, I know they are still throwing, er, rubbish out to the outside of their house, in the water or where they want, anywhere. Nobody know about Climate Change and nobody know...but some people, farmers and some people in China I think do care about this and making it better. But not like here. We do it in all the school.

Even in the theory-based (hence indoor) subject of Environmental Science at Murrnong in which Climate Change was a major focus, there was an impetus on turning knowledge/learning into action. The culture of environmental action as set by the teachers at Murrnong (in the Sciences and Outdoor Ed departments), is not so much about how students feel about climate change and ecology generally, as what they do with the information at hand, encouraging students to act—in class through inquiry projects; during the school week through participating in the Environment Team; through the whole-school community Sustainability Collective or other personal actions (taking active transport options to school, ethical consumption etc). Orr affirms, ‘in the reciprocity between thinking and doing, knowledge loses much of its abstractness, becoming in the application to specific places...tangible and direct’ (Orr, 1999, 129). This is upheld by my observations of three classes, where there has been a concerted air of “applied ecology”, active rather than armchair ecologising or green-washed philosophising.

Anita discusses the different approaches by the girls upon learning about particular issues and posits —

Not everyone's an action person. There are creative thinkers, bureaucrats... I’m the “give me the plan and I’ll do it” person. Anthony is like that too. But we still need all types, everyone to work together... There's some stuff these girls won’t recognise, won’t get, until they're older. And that’s okay.

Josie is also an ‘action person’, a strong example of an impassioned eco campaigner —

When we watch the river just outside and we see the pollution going into it and flowing down, it's like, it’s real, it’s right there, happening and so some people get more interested in it. Sometimes they [other students] think it’s just something they can choose to do but not that they have to. But I just have to do something.
This resonates with Donella Meadows’ declaration in her wonderful *Dancing with Systems* (2001)—

> If something is ugly, say so. If it is tacky, inappropriate, out of proportion, unsustainable, morally degrading, ecologically impoverishing, or humanly demeaning, don’t let it pass. (Meadows, 2001, 62)

According to Bussey, ‘the world needs activists of all kinds to step forward. Thankfully there is no shortage of such people ... and their struggle is to realise their inner riches while working for the world’ (Bussey, 2013, 17). Josie has pinpointed her “inner riches” and is motivated by them. Whereas, there are signs that Jinora is becoming increasingly disenchanted with the methods taken to encourage ecological commitment at her school and in the broader community. She has not outwardly recognized her own strengths and role to play in a deeper, more systemic approach to transitioning to sustainable futures.

I asked Anita if she thought students need to put their learning into action in order for it to foster connection and commitment to Earth, to which she asserted —

> I think just knowing the information will make them more open to supporting sustainability.

And while this is a hope-filled philosophy, there is evidence to the contrary. Kelsey and Dillon (2010) conducted research in the area of public sustainability awareness as raised in community conservation programs and how this relates to changes in sustainable life-choices. Their preliminary research debunks the myth that “if the public knew better, they would act better”, instead arguing there needs to be much more connective, transformative and inspiring triggers than just *information* to encourage action and commitment (Kelsey and Dillon, 2010). There is very little longitudinal, school-based research focusing on how information/awareness, and even concern, translate into students making sustainable choices, taking action and changing behaviour/orientation towards Earth, now and in adulthood (if only I could shadow these girls into their adult futures...), but indications from this study suggest Josie will likely maintain her commitment to sustainability, while Pei Ling may face setbacks to her heightened awareness on return to China, and Jinora is almost entirely unpredictable – if her disillusionment continues, she will likely turn increasingly away from an eco-centric lifestyle, but if she had a teacher or peers who particularly inspire
her, a transformative experience, she may well re-orient consciously towards sustainability. And of course, just as easily, anywhere in between.

*Hidden Curriculum* –

...**buildings have their own hidden curriculum that teaches as effectively as any course taught in them**

—David Orr (1994, 113)

There are not just the micro concerns of individual students and teachers at schools, but an added layer of complexity in the macro systems at play in students’ learning, from the school building design to the subjects offered; the cars the teachers drive, to the food sold in the canteen. ‘All education is environmental education’, David Orr famously pronounced, ‘By what is included or excluded, students are taught that they are part of or apart from the natural world’ (Orr, 1994, iv). And while Murrnong would appear to include a great deal on “the environment” it is what is *excluded* that stands out for Jinora. The tone set before visiting the school, through the numerous accolades, media attention including acting as the host of environmental conferences, there is an implication that Murrnong is sustainability-centred. It was quite a surprise to hear extensive criticisms from Jinora (in particular) who raised the issue of the hidden curriculum – the finer details she reads “between the lines” at Murrnong —

...we still use caged eggs because supposedly we don’t have the money for free-range eggs. Which is ridiculous. I just want it to be like more positive and making our own, coz there’s all this processed food in the canteen and we could make our own, we have an industrial kitchen now so I think it would be much better if we made all our own food. It would make it much more fun for way more students who don’t think they care about Nature.

After saying, in a somewhat defeated tone —

I know we’re a really good school. Like, we’re really successful and we’ve got all these opportunities to succeed

she offered this sweeping criticism in an increasingly animated manner —

There’s no community, I don’t feel. There could be a whole lot more softer feel to the school that we don’t have at all. There’s a big gap between – there’s like student, then there’s teacher, we’re separate. We’re just supposed to get good grades and do work and get out. There’s not even that much, like we should do much more art and music and stuff, rather than just maths and science. I know we’re really a maths and science school, but there’s a real stigma about arts and
that they’re not “serious” or whatever. If we did more positive stuff then my friends would be, like, take more interest in the environment. They really would.

This upholds Payne and Wattchow’s contention —
...there needs to be a shift in emphasis from focusing primarily on the “learning mind” to re-engaging the active, perceiving, and sensuous corporeality of the body with other bodies (human and more-than-human) in making-meaning in, about, and for the various environments and places in which those bodies interact and relate to nature.

(Payne & Wattchow, 2009, 16)

While I witnessed a great deal of learning about environmental issues and participating in conservation actions at Murrnong, there was no time to reflect and to be; no explicit pedagogy of concertedly sensuous experiences or reflective practice, even when we were immersed in the Natural world. There was likewise, as Jinora and others mentioned, no expression of artistic or imaginative approaches to ecolearning (or other learning), during my visits to Murrnong and nor did students or teachers indicate this was part of school practice or culture in the interviews or conversations. Though entrepreneurial they are, feelings, creativity and “softer” approaches (in Jinora’s words) were not apparent.

**Active Hope**

*Experiential, Embodied, Participatory Learning — the Quest for Authenticity*

*Hope is a verb with its sleeves rolled up.*
—David Orr, (in Sipchen, 2012, NP)

Murrnong’s main sustainability driver, Anthony, says the key to getting students energized and involved is simply to—

**Make everything fun, then it’s sustained.**

I joined Anthony’s year 9, Marine Biology class for a research day jointly-facilitated by Anthony and TeachWild (Earthwatch)\(^\text{33}\). Their program ‘Scientists for a Day’ engages school students in one-day, hands-on fieldtrips using scientific processes for assessing and cleaning up marine/beach pollution (TeachWild, 2014). We started with an in-school presentation and engagement activities focussing on marine debris, then

\(^{33}\text{TeachWild is an education arm of EarthWatch Australia in partnership with CSIRO}\)
travelled by tram to St Kilda Beach to conduct beach surveys, with a particular focus on finding “nurdles” – microplastic pellets used in the pre-production of most plastic products, which were the most common contaminants we found on the day (amongst a motley array including bottles, bags, cigarette butts, and “personal hygiene products”). Every student was actively engaged and very enthusiastic, not complaining at all despite the cold wind and the long day; they wanted to be here and relished the opportunity to participate in a real life project (an ongoing initiative by Earthwatch to assess the entire coastline of Australia); the kind of learning the students considered authentic and transferable to their adult futures.

I spoke with three students, nominated by Anthony. Each of the students was more interested in eco-learning than the “average” year-9 student, though one student – “Sara”—described by Anthony as a young person whose activist spirit is ‘bordering on anarchy’, seemed to be more politically attuned to the eco-justice side of ecology, rather than demonstrating an overt biophilic connection with Nature, saying —

I just want to do everything I can and even though we’re supposed to be a really environmental school, there’s heaps of stuff we don’t, like, we still don’t do... We could do a lot more and there are so many people that do, like, totally nothing. I mean, we shouldn’t even eat the fish that we’re supposed to save today, but people think they’re doing good just because they pick up a bit of litter... I don’t like, hug trees or anything though. (Sara)

Elsewhere she wondered why they always needed to “use our laptops all the time, which use energy, when we can just write it down”. Sara exhibited tendencies which combine Josie’s activist spirit and Jinora’s critical vision.

The other two girls, Belinda and Tatiana, were friends and inseparable. They were very passionate about the Earth, science and learning as much as they could about Earth and “stewardship”. They spoke highly of Anthony (Mr Knight) saying —

We’re really lucky cause we’ve got Mr Knight – he’s like, a real scientist so he knows what he’s talking about. And he goes diving and gets all these cool creatures for our aquarium – the fish tank – at school and tells us all these great stories. (Belinda)

They spoke about always being interested in learning in science classes because —
...we always get to do great things. Not just sit in class but we're always doing, like, real learning about real stuff. It's not like other classes that you just sit and listen.

(Tatiana)

The girls both spoke excitedly about a recent trip to CERES Environment Park, citing it as a really important experience in their ecological education—

Tatiana: It was so amazing to go to a place that's so close that does everything, like, sustainable and really good for the Earth. It feels like it's real and we could really make all our lives like that – like solar panels and wind turbines and organic food.

Belinda: Yeah, the [CERES] teachers there were really, like, they knew so much. It was just fun and interesting and really made us want to do that one day.

Me: Be teachers?

Both: Yeah.

Belinda: I think so, yeah – teach about living sustainably, or be a scientist.

These similar insights were shared by Environment Team students I spoke with at the Environment Conference. A handful of schools from around Melbourne, around 100 students, congregate to the annual event hosted by Murrnong. The event is to share ideas in student-led discussion groups, to participate in workshops facilitated by ecological groups (such as Greening Australia) and attend a panel discussion with guests from advocacy groups. At a recent conference, speakers came from Beyond Zero Emissions (BZE), CERES, ACF (Australian Conservation Foundation), Future Spark, Pacific Hydro, Yarra Energy Foundation, AYCC (Australian Youth Climate Coalition) and was chaired by political comedian Rod Quantock who opened the discussion with a joke about “The People We Should Eat First” – the first of whom he listed as Tony Abbott (before he was Prime Minister), in order to ‘combat further climate strife’. Each of the other presenters was ‘cautiously optimistic’ about the future for climate action, so there was an empowering atmosphere, focussing on what can be done and collectively visioning more sustainable futures, while Quantock mockingly critiqued “conspicuous consumption” and the ‘vandals who turn to “retail therapy” to appease their crappy, meaningless lives’, to subdued laughter from the student audience.

At the conference, I spoke with “Naomi” (Murrnong) who said ‘I’ve roped all my friends in this year’ to join the Environment Team. One of those friends, “Laura”,
agreed it was wonderful to be part of the Environment Team and they enthused that Anthony was —

so good at letting students really lead the Team projects. (Laura)

but he is also really good at keeping us focused and he always makes boring work fun. (Naomi)

In conversation with some senior students, leaders of the Murrnong Enviro Team, Anthony’s enthusiasm was becoming a recurring theme and seems to infect all who work with him. Year 11 students “Daria” and “Ingrid” said —

He’s very enthusiastic and he always puts learning in context, like, he gives us the real picture because he’s had real-life experiences... He goes off on tangents but they turn into these really meaningful things that are way more interesting than the stuff we’re supposed to be doing. (Daria)

They felt he was able to motivate their learning because they respected his lifeworld experiences —

He didn't just like come straight from uni, he worked as a Marine Biologist before and did all this cool stuff so he can tell really interesting stories about real things. (Ingrid)

Observing how Anthony engages with his students so effortlessly and respectfully at this conference was invigorating. It is clear his commitment to sustainability education comes from a deep place and it is this kind of teaching that ignites the hearts and minds of students who will in turn create sustainable pathways through their futures. The future of ecopedagogy is about teachers who inspire proactive learning through their own actions and students who feel empowered to create and live sustainably, much like Anthony embodies. Bussey poignantly captures this notion, writing —

...Students learn little from words and a lot from presence. Words transmit information, while presence teaches about integrity and, perhaps occasionally, wisdom. The microvita we transmit, the lived energy of relationship, insight, understanding and inspiration is rooted in this deeper reality of embodying or ‘presencing’ the possibility. (Bussey, 2008a, 140)

While Murrnong has only two stars (of a possible five) in the ResourceSmart AuSSI Vic program, (about which Anthony criticises the requirements, saying ‘ticking the boxes is just too time-consuming sometimes’), they have been celebrated extensively for their unique initiatives, including working with FutureSpark to generate a zero-emissions, pedal-powered cinema; partnering with Australian Youth Climate Coalition (AYCC) on a
recycling fashion initiative; they have developed a Bush Tucker garden; a frog-bog (with guidance from Wurundjeri Elders), as well as generally increasing biodiversity at school (in the lead up to a conference with Dr Jane Goodall), making, placing and maintaining nesting boxes in the trees to provide habitat for a variety of local species.

Ingrid says —

*Working with the Enviro Team and the Sustainability Collective really helps motivate me in all other areas of school. I feel like I’m doing something meaningful and real.* (Ingrid)

Anthony is clearly conscious of this process, saying it’s about—

*Getting them out and feeling connected to the world. Even looking after fish and cleaning out the fish tank, makes them connect. They start to care about the fish and realise it takes a lot of work to take care of them. Then you can sort of inspire them.*

But motivating students sometimes comes as a surprise —

*Sometimes you just think you’re really not getting through to some kids – like this one girl ... I just thought she was totally uninterested, but then her Mum said to me one day “You’re the reason we can’t buy flake on Friday nights now!” and I thought, “Oh wow! That’s really cool. It did get through”.*

Anita compellingly offers—

*You can’t teach passion. At all. You can teach information. Passion you need to show.*

And demonstrate—*engender*—passion she does, taking students to her parents’ farm to work on regenerating the land, her particular passion. She speaks about her connection with Land and how she converts passion into action, thus teaching through doing, by example, rather than just through rhetoric, a lesson not lost on these perceptive, intuitive, eager and engaged adolescents.

Jane offered further insight on our walk around Lysterfield Lake, describing a formative experience she had at the Friends (Quaker) School in Tasmania —

*It was really amazing to see them connecting all parts of sustainability. They do incredible community service but it is also sustainability service. I was really moved.*

And later —
I’m so lucky – I get to do what I love, outside, in Nature with kids. Yeah, I’ve got a great job. But we could always do more. I’m always looking for ways to make their learning experience more whole and get to a deeper level.

These teachers embody humility, dedication, passion, diplomacy and vision which pivotally sustain commitment in the whole community to create an enriched, dynamic and inspiring school, engaged community and increasingly thriving ecosystem.

Anthony says—

As much as possible we practice what we preach. I try to make it fun and encourage people to do the right thing rather than being a nag. But I think we have to be realistic about what we can achieve. It’s my job to remind us it’s [the responsibility of caring for Earth] for everyone.

In 2011 he was heralded by the Victorian Association for Environment Education (VAEE) as environmental Educator of the Year and Murrnong has been championed in consecutive years by the Sustainable School Awards, about which Anthony reflects —

A small thing to build on is far more successful an approach than constantly hearing bad stuff. I’m finally realising this! People get burned out hearing all the bad stuff all the time. Yeah, the awards definitely help motivate people.

While Murrnong has recognised they have areas to improve on and students have criticised some of the contradictions or “gaps”, they are overwhelmingly a positive example from which we can learn great lessons for ecopedagogy. In a recent email from Anthony (personal correspondence, May 26, 2014) he communicated how pleased he was with increasingly active support by the school leadership, indicating that their ‘constant eco-pestering has had an impact’. He shared an anecdote about a recent visit to the school by a prominent former Premier—

...When one of the students (one of the enviro kids) started to rave about our environmental programs, he [former Premier] replied by saying, “so are you teaching both sides of the Climate Change argument?” and “Joan”, the principal, replied, “well if you count the two sides as the facts and teaching students to be critical thinkers, then yes, we are.”

The Murrnong recipe for nourishing the school’s commitment to sustainability is through championing small wins, having fun and inspiring transformations in lifestyle choices through the whole community which engenders an ecological identity through the fabric of Murrnong Secondary.
Carbon’s mostly everything.
—“Philomena”, grade 5/6 student

It was a cold winter’s day when I visited Banksia for the first day of fieldwork, yet the children were happily engaging with their outdoor environment. Grade 1/2 students learnt about the transformation of water from liquid to solid to liquid to gas, through an interpretive dancing game. And they got it. Something they may not have understood as 15 year-olds in a traditional year-9 science lab, these six to eight year-olds understood that water changed form and how it changed. They watched as ice melted in hot water and then how salt dissolved, making predictions along the way. Then the group got to dig for worms and carefully transfer them to their compost bin. They transplanted strawberry seedlings for their upcoming Winter Magic Market, and the cooking group prepared a dish – a Japanese-inspired vegetable pancake (all the produce harvested from their garden and eggs from the happy chickens), “plated up” and presented it to their classmates for a delicious pre-lunch appetiser. All in an hour’s work!

While Banksia has a small human population, it has quite a sizeable other-than-human population, including chickens, guinea pigs, birds and bees, and indoor class pets. The school buildings are set on a hill with the schoolyard cascading down the slope. The hilly topography makes for an excitable, adventurous and joyous bunch of free-range children, weaving through the “forest”, exploring bugs under rocks, trickling fingers in the beautiful mosaic waterway, and inhabiting their special places. The yard is painted with gum trees and she-oaks (Casuarina), a butterfly garden, shelters (some permanent, enmeshed in wire), other temporary cubbies freshly constructed by students using harvested sticks and bark, a straw-bale outdoor classroom, and the lush, colourful vegetable garden and orchard. As grade 5/6 student, “Charlie” describes—

This place is so great because there’s flat areas and hilly areas, there’s trees but some places where there’s no trees. A good mix of everything.

It reminds me more of my school in country Victoria, than an urban school, with a
warm, creative and casual community atmosphere. The uniform is worn to varying degrees, with many colours and creative twists on the convention – not so much uniform as multiform. The produce from the food garden is also used in the school’s parent-driven café/canteen (think more “hip urban café” than an average school tuckshop!) There are freshly baked muffins, great coffee (much appreciated) as well as healthy lunch choices based on the seasonal produce available from the garden. In the morning it is bustling with parents, staff and members of the broader local community. Situated towards the entry of the school, this eco-centric café exudes a strong sense of community connectedness.

Banksia has a long commitment to “the Environment” and sustainability, partnering with the Gould League\textsuperscript{34} as early as the 1940s. It was also established as a multi-age school to train pre-service teachers for teaching in one-class rural schools in the 1920s and their commitment to multi-aging (mimicking mixed age structures in broader society) continues today. It is a multicultural school and one which actively recognises its place in Wurundjeri Country, flying the Aboriginal flag and acknowledging Country every morning as well as championing Reconciliation Week, NAIDOC week and Sorry Day. Banksia is also globally connected, participating in the Kids-to-Kids program with schools in Timor Leste – writing letters, sharing artwork and fundraising for school materials for Timorese students in Aileu district each year.

This study took me to three classes across the spectrum of grades at Banksia: Grade 1/2-L (Lucinda); 3/4-A (Amy); and 5/6-B (Belinda\textsuperscript{35}). Semi-structured interviews were conducted with three students in each class and the three classroom teachers, as well as the Food Garden Educator, “Molly” and conversations with the Principal “Theo Wright”. While student interviews were otherwise conducted one-on-one with individual students, the grade 1/2 class students at Banksia (and later at Correa) participated in a group interview, as they (or their teacher) indicated they were more comfortable participating in the research together. This changed the dynamic of discussion and possibly the responses, but while some individuals may have been swayed by their peers, the conversation that ensued was rich and inclusive (albeit more frenzied than one-on-one interviews). Overwhelmingly the main theme that

\textsuperscript{34} Victorian-based pioneer environmental education organization since 1909.

\textsuperscript{35} All teachers, including the Principal “Theo”, are called by their first names at Banksia
emerged from the interviews and conversations with all members of the Banksia community was food — gardening, cooking and the whole Garden program, so food is where we begin.

**Food—**

*Local, Slow, Sustainable*

...food can teach us the things that really matter – care, beauty, concentration, discernment, Sensuality, all the best that humans are capable of.

—Alice Waters (2005, 53)

When I ask students in schools “where does food come from?” a common reaction is “from the supermarket”, but at Banksia it was immediately “from the garden”, “from trees” or “from the Earth”. Indeed most of these children have a greater awareness of food production, seasons and cycles than many modern-day adults. School food gardens and cooking programs counteract the drift into detachment from food and the Earth, as grasped by David Suzuki—

Accustomed to thinking of food as a packaged commodity supplied by supermarkets, we...forget that all of our food comes from the earth. Uncoupled from the earth, we forget a fundamental truth: every bit of the nutrition that keeps us alive was once itself alive, and all terrestrially supplied nourishment comes directly or indirectly from the soil. (Suzuki, 1999, 77)

The reattached relationship to the Earth and our food sources is exemplified at Banksia, where the food garden is a hot bed for experiential, mindful immersion in ecology, whole systems and sustainable food production. Upon enquiring amongst students in the *in-between times* about their favourite part of school and learning, most students spoke about gardening and cooking, then the music program. Grade 5/6-B student “Charlie”, here encapsulates a common sentiment amongst Banksia students—

We're really lucky ‘cause we have a garden and the food program and it's really good. Like, when I talk with friends from other schools they don't have a garden, or some do, but they don't actually get to do much stuff with it, and learn about interesting things, like we do. It's really great and the best. I don't think this school would be as good if we didn't do that.
Every Banksia student has the opportunity to participate in the ecological patterns-based garden program from grade 1, one hour fortnightly, for only two terms of the year due to limited funding for the program. The classes have the opportunity to engage with the garden any time outside of the formal Garden Program times, however in the six days I spent at the school over the course of two terms, I did not witness or hear about this happening on a whole class basis. Each class gathers eggs from the chickens on rotation and empties their compost bins daily, students can mingle with the free-roaming hens through lunchtime and there are also a handful of students who centre their playtime activities around the garden regularly, yet the garden and outdoor, place-based learning, is not widely woven into the broader curriculum.

Molly starts each session in the group’s classroom engaging students with ecological principles, systems and cycles, through song, poetry and compelling resources, such as a little world globe, puppets, posters, diagrams and materials that are used in the outdoor activities. She also introduces new gardening procedures and practical skills, such as carpentry, as one of the groups in the grade 5/6 class was doing when I visited—

Molly: What material do we use for carpentry?
Students: Wood
Molly: What is wood? Where does it come from?
Students: Trees. Matter. Oh CARBON!

After immersing the students in the ecological thinking inside, they ventured outside for the experiential learning component. One small group harvested produce—vegetables, herbs and leaves—from the garden then started preparing the dish Molly planned for the week based on the available, seasonal produce. Today it’s Japanese green vegetable dumplings. Delicious! Sometimes the students prepare the food outside on a sandwich press (including perfectly-cooked zucchini brownies—crunchy on the outside, gooey in the middle) or in the solar oven, but today the dish required boiling water so they cooked in the indoor kitchen in the multi-purpose room. Another group was tending the garden—working the compost, weeding and mulching. This group also plants and harvests through the year. The third group was today outside sawing wood for a new compost box with the helpful guidance (and watchful supervision) of an adult volunteer. Groups rotate fortnightly through gardening,
cooking, and so forth. The students seem equally excited by each of the activities, even those students who are regularly disengaged in class are purposeful in their actions and “on task” for the majority of the session.

_Gardening_

_Gardens provide great metaphors for life, the circle of birth and death made palpable because it is seen firsthand, year after year._

—Michael Ableman (2005, 180)

In the Banksia garden with grade 5/6-B, the gardening group is assembling the compost heap, which Molly calls “compost lasagne”, layering “wet, green stuff” that is nitrogen-rich, such as food scraps, manure and fresh grass-clippings, with “dry, brown stuff” that is carbon-rich, such as leaves, shredded paper and cardboard, straw/hay and sawdust, finishing with a layer of carbon to detract pests such as flies and rodents and encourage decomposing. Molly explains to the group—

This layering effect means there is no need for “turning” the compost and it enhances and speeds up the decomposition process.

And most importantly, by making their own “closed-loop” system, it contextualises students’ learning about carbon and matter cycles. Composting unites the kitchen with the garden, the flows and connections mimicking natural systems. The whole program becomes a closed loop creating waste-free systems and fertilizing both the soil and the soul of students and the whole school community. It enables all members of the community to co-create living systems and participate in the process of food generation and the creative reduction of waste.

I asked this composting group “what is made of carbon?” They variously responded “trees”, “us”, “food”... “Philomena”, a grade 6 student, spoke particularly eloquently and patiently as if teaching a young child—

Molly says we are mostly carbon but our teeth and bones are calcium and there’s also a lot of water (that is hydrogen and oxygen) and some other things too. Oh air, yeah. Most of our bodies, trees, most of the things you touch and use are mostly carbon. And carbon is in the stars and the stars are in us and the animals. If there wasn’t carbon there would not be everything you see and touch. Apart from water and air, carbon’s mostly everything.
Astounded at how broadly the students seemed to grasp these scientific concepts, I decided in that moment to conduct a covert experiment – presuming the students could recall such information largely because they have just been focussing on it with Molly, I decided to follow-up with Philomena and other students on my final visit to the school, next term, when 5/6-B was no longer doing the garden program. The outcome is revealed towards the end of the Banksia study.

Class 3/4-A was gardening the following term. When asked how soil is made, “Henry” responded—

> Well, it’s about worms and other creatures like Butchy-Boys. We feed them our food scraps (not oranges or onions – they don't like them, it makes them sick), then they eat the food and poop it out – so their poo [laughing] is now soil. It’s called compost because the food decomposes. Um, yeah, that’s it. Then we have soil and put it on the garden and then grow more food and then eat and make more scraps and then it goes around again and around and around...

Banksia students are aware of the importance of soil, they know that it is *living* and they know how to help produce it. They have become intimate with worms – they know where to find them, they know they have five hearts and they know what food they like. And when I write “they”, I mean every student I spoke with through the various visits to Banksia in interviews, in class and in casual discussions. There were a couple of students who were less forthcoming, but when I asked them very specifically they responded as if it were common knowledge.

In 3/4-A, “Wasid” was described by his teacher “Amy” as ‘totally disengaged’. When I spoke with him in a one-on-one interview in class, he fulfilled this description, answering every question with ‘nah’ and ‘dunno’. He didn’t enjoy anything about school, he didn’t want to describe the place or talk about any part of “learning” at school that he variously referred to as ‘dumb’ or ‘boring’. However, when I observed him during the garden program, wheel-barrowing mulch up the hill with another student and forking it onto the garden beds, he was engaged, excited and working cooperatively. Conversing casually with Wasid while helping with the mulching, I asked if he enjoyed being outside and “getting his hands dirty” and he revealed—

> Yeah it’s the best thing about school. It’s good. I like it. But I don’t really wanna talk about it.
This blunt assertion reminded me of farmer-educator Michael Ableman’s contention that ‘talk and explanations become unnecessary as kids instinctively understand what they are learning when they grow things’ (Ableman, 2005, 181). It also brought to my attention that Wasid, and perhaps other students, don’t think of this gardening program as part of their “school work”, that it is somehow separate or because it is so engaging and free from “discussion” he is free to enjoy it and therefore it is not associated with formal learning.

Molly’s program makes learning meaningful for a wide range of students, flowing from the indoor, seated introduction of principles through to engaging with hands-on activities outside, developing life skills—learning how to grow their own food and feed themselves. In this incarnation the school food garden provides a central body from which whole systems SE extends its flourishing tendrils.

As a result of this whole-systems approach to food production, students are less likely to fall into the modern trend of over-consumption and more likely to eat fresh, local and healthy produce rather than highly processed, “fast-food” (Gibbs et al. 2007; 2013). The connective, conscious-awareness of healthy food production and consumption is a positive offshoot of this program and in itself is important in establishing more sustainable systems throughout society – from reduced food waste and energy consumption in food transportation to reduced pressure on health systems impeded by modern trends in obesity and diabetes, with disturbingly high rates amongst Australian children (Better Health, Vic Gov’t, 2104) due directly to poor eating habits and inactivity. While “food literacy”, nutrition and wellbeing outcomes of food-cooking gardens are well documented (Gibbs et al. 2013; Smith, 2009; Vileisis, 2008; Yamashita, 2008; Miller, 2007; Ozer, 2007; Ableman, 2005), there is little empirical evidence around the broader ecological/sustainable choices students make having participated in food gardening programs. Amy Cutter-Mackenzie’s ‘Multicultural School Gardens’ (2009), and Monica Green’s ‘Food Gardens: Cultivating a Pedagogy of Place’ (2007) begin important enquiry of food gardens as situated in the cultural commons and place pedagogies, respectively, in an Australian context.

While a food-garden-cooking program is just one program in myriad contiguous school sustainability programs, it could be the central focus of whole school ecopedagogy and a nucleus from which all learning takes place—
There are countless ways to weave a food program into the curriculum at every level of education. The depth and breadth of the subject – its relevance to ecology, anthropology, history, physiology, and art – assures that it could easily be integrated into the academic studies of every school, from the kindergarten to the university (Waters, 2005, 54-55).

Not only are the key aspects of sustainable education imbedded in the school garden-cooking programs, but it could provide the basis of a wholly integrated curriculum.

In the grade 1/2 class Molly started the session by teaching about Earth systems—

Humans are the only species on Earth that produces waste. When other species drop their “waste products”, like dead leaves from trees and scat (poo) from animals, it becomes food for other species. (Molly)

Molly teaches the concept of closed loops, cradle-to-cradle thinking and the notion of there being no such thing as “away”—

Molly: When we discard our “rubbish” where do we throw it?
Students: “In the bin”. “We throw it away”.
Molly: Yes. We throw it “away”, but where is “away”? It is still a part of the Earth. It changes but it doesn’t leave.

She explained these complex concepts with great clarity and poignancy, with the aid of a mini globe, pictures and singing a rap with the class. Almost every child was actively engaged in Molly’s elucidation yet simultaneously contemplative. All of this deep theory in a brief fifteen minutes, then after learning about ecology, they eagerly head outside, ready to learn in the outside and through cycles and systems; processes and procedures.

Grade 1/2 teacher “Lucinda” reflects on the program, saying —

It is such an important part of the school because it enables the students to actually construct their own learning, as well as getting outside and enjoying the fresh food. But they seem to understand otherwise difficult concepts with Molly’s program. And we [teachers] learn a lot too.

But outside of the garden program, how much eco-sustainability learning happens at Banksia?
Classroom Fodder

Hope & Despair – Eco-Activism

Raising whole young people is like raising good food. It is a sacred practice; it requires waking each day and seeing things anew, responding to the moment, listening, paying attention, observing...The kind of nourishment I am describing is based on relationships—local, biological, interpersonal, ecological. It is the result of understanding connections.

—Michael Ableman (2005, 179)

Class teachers participate in Molly’s program, so in principle it also acts as professional development and a link between the food program and the other class curricula, as 5/6 teacher Belinda reflects —

Stuff we learn in Molly’s gardening gives us ideas and facts for heaps of stuff – literacy, humanities—that we wouldn’t have otherwise had. It just pops up and we realise we know stuff about this...It dawns on the students, “Oh yeah, two things actually relate to each other. Two different subjects are actually connected”.

But does the patterns-based, ecological learning at the centre of Molly’s program really stretch back to the main class in ongoing ways and affect teacher practice at Banksia? It appears to inform some aspects of learning generally and provide impetus for some classes more than others.

In grade 5/6-B, their “unit of work” was “Sustainability”, looking at resources and the “four R’s” (Reduce, Reuse, Recycle and Rethink), with a particular focus on the reduction of the consumption of disposable water bottles. Belinda evokes the students’ reaction after watching ‘The Story of Stuff’ project’s video on the lifecycle of bottled water—

Bottled water really rallied all the students – some of them even more than others. They realised how ridiculous it was to buy bottle water. That was a real “Ah-hah” moment that immediately changed a lot of people.

Belinda also cites An Inconvenient Truth (Al Gore documentary, 2006) as a pivotal moment for her class in coming to terms with the gravity of our ecological crisis, particularly Climate Change and global warming. Parallel with much literature around the intellectual-psycho-emotional responses to crisis at this age (Sobel, 1996; Kool and Kelsey, 2005; Macy, 2007, 2012), Belinda says her grade 5/6’s —
... don't get sad, they get angry and motivated. It moves them to change, straight away, change their behaviour. They don't get depressed. They try to change other people. But it's a range, you know you get people who are apathetic and then others who become really passionate...

Richard Slaughter’s research (Slaughter & Beare, 1993; Slaughter, 1989, 1994, 2008), in the realm of Futures Education (FE), aligns with Belinda’s understanding of her grade 5/6’s. Rather than pessimism always being a negative force for learning and action in the classroom, Slaughter argues—

It is true that pessimism may lead to despair. However, it may also stimulate a person to search for effective solutions. On the other hand, optimism may leave an individual’s energy free for constructive projects or it may encourage bland, unhelpful, business-as-usual attitudes. In both cases the human response is crucial. Optimism and pessimism can both inhibit and encourage effective responses. (Slaughter, in Gidley, 2004, 9)

Steve Van Matre from the Institute for Earth Education, makes a similarly “balanced” argument, saying, ‘we have always found that conveying some sense that their planet is in ecological trouble (appropriate to their age level), and needs their help, will energize them, not scare them off’ (Van Matre, 2011, 1).

While, as Belinda implied, there are likely some people who demonstrate apathy towards issues that are beyond their individual person or their immediate circle of family and friends, are these eleven and twelve year-old children ‘apathetic’ because they are lazy, self-centred, uninterested/disengaged, or, do some of them perhaps demonstrate ostensibly apathetic attitudes because they are overwhelmed with the gravity of the situation and disempowered by the “doom and gloom”, as we heard from Jinora at Murnong? The literature and research on this issue is mixed, however the general consensus (as we heard earlier with Slaughter and Van Matre) is striking a fertile balance, introducing issues and eco justice/activism at an appropriate age/time and in an appropriate way (i.e. mindfully, compassionately, contextualised, localised, empowering).

In conversation with one of the ‘less passionate’ students in Belinda’s class, “Sandy”, her responses led me to wonder if there was an incongruity for her between home and school. When asked about how much they learn about sustainability at school and how
that compared to how she lives at home (for example, reducing waste and recycling), Sandy divulged—

My family doesn’t really do, like, much. I know we have more take-away food that has lots of wrappers and stuff, but I like it. And I don’t think we have a recycling bin anymore. We used to have one but I don’t know if we used it. It’s different from at school ‘cause Belinda, like, always talks about sustainability and how important it is. And I know it is but it’s just not sort of the most important thing, sort of. Is that okay to say that?

While her awkwardness was palpable Sandy was otherwise unemotional in her response. Sandy seemed quite indifferent towards the glaring contrasts in her family’s “sustainable behaviour” and her peers’ perceived behaviour which she seemed well aware of, commenting “they’re so good at caring and thinking about it all”. Yet, this disjuncture of values between her family and her school/schoolmates, seemed to leave Sandy at a standstill. At times confused about the “right” way to proceed, yet she appeared generally unperturbed about the disjuncture. Sandy’s comments, tone and engagement in class, suggested she was anchored in her family’s values while content, in her words to “say the right things in class”. Is this partly where apathy emerges? In the contestation between foundational values formed in early childhood in the home, butting up against social mores, pedagogical trends, peer-group trends and school ethics and behaviour? Are children and their later adult-selves left sitting on the fence partly because they are pulled equally in the opposite directions? Rather than the “fight” response common in activists, do seemingly apathetic students make “flight” or “freeze” responses, left at a standstill or torn by the choices at hand?

But, there are many passionate activists amongst these Banksia students who stem from a broad community active in participatory social democracy. In conversation with Philomena and Charlie in 5/6-B, they regularly used terms including “people are so lazy”, “most people don’t care enough”, “people need to do more for nature ‘cause it’s us and it affects everything”. The engaged Principal, Theo, who has been at the school in a leadership capacity for over a decade, reflects on the reaction to the removal of a tree to make way for a new building, and how the process was (mis)managed, considering the astutely aware and politically-active students at Banksia—

When the Art room building was being planned, the preferred site straddled a youngish deciduous tree which was a favourite quiet play area for children...
actually battled with the builder who was wanting to have a “scorched earth” policy regarding existing trees and was intent on clearing the lot. We won on most fronts and retained the trees around the structure. But that one tree had to go. Basically, there wasn’t enough discussion about this tree being removed, or an opportunity for children to express their opinions about the planned action. A group of middle and upper school children organised a poster campaign and put these up around the school. There was an informal march around the tree, and chanting and a deputation with a petition signed by a few children. There was a little bit of a “sit in” organised, but I think they got bored of that. I met with them and tried to explain what was happening and why we needed to remove this tree...This was a huge learning experience for me at the time. (Theo)

Connecting Practice—_the Shallow & the Deep_

There seems to be a range of diverse eco-teaching paradigms and styles within the classrooms at Banksia as well as on a school policy level. The policies and documents refer variously to their ‘Environmental Education Program’, ‘environmental learning’ and ‘sustainability’ (as carried down from AusVELS), but the general school discourse is still rooted in “the environment”. Initially I had hypercritically judged this inclination as antiquated or ambivalent, but after a conversation with Theo, I began to realise their approach may be a more discerningly proactive and critical choice than I had initially judged. Like Bob Jickling (one of the most cutting vocal opponents amongst the ocean of critical voices in eco-education, Jickling, 1992, 2001; Jickling and Wals, 2008, 2012; Orr, 2006; Bowers, 2001; Gough, 1991), Banksia seems dubious of the various guises in which eco-learning has appeared through the years. From Theo’s leadership, to Molly’s program and generally through the astute school community, Banksia is committed to learning _in, about_ and _for_ the Earth regardless of what it is called or how it is politically contorted.

Students at Banksia engage in integrated inquiry projects on themes that revolve on a two-year rotation and all curricula, except literacy and numeracy, are taught through the integrated units. While grade 5/6-B seems to learn _for sustainability_, engaging with ecological crises, often actioning their inquiries through fundraising and awareness raising campaigns in the school, grades 1/2-L and 3/4-A seem to mostly learn _about the_

This argument has gained traction amongst more reflective ecopedagogues, penetrating discussion and, anecdotally, affecting a shift in practice. While crisis propels many environmental activist-pedagogues passionately to action and cements our commitment, this approach does not work for everyone, and some commentators suggest ‘by talking about “apocalyptic scenarios” environmentalists have made people more apathetic, less likely to fight for progressive change’ (Angus, 2013). Then suffering “compassion/crisis fatigue”, students (as well as some teachers), feel disempowered, despairing and helpless/hopeless, ‘In our zest for making them aware of and responsible for the world’s problems’, writes Sobel, ‘we cut our children off from their roots’ (Sobel, 1995) without also providing them with the chance to develop a sense of connection and love—biophilia—for Earth.

In conversation with grade 1/2 teacher Lucinda, about the way she teaches about “the environment”, it had not occurred to her that teaching about the gloomy side of environmental learning—often about endangered animals in far-away places that the students may never meet, decontextualizing “the environment”—could have potentially adverse effects on students at this age and reduce the efficacy of eco-education, Lucinda reflected deeply, slowly—

You know, I’ve never thought about it like that before. I guess, yes, some kids do get quite upset, but I suppose I just try and focus on the information and what we can do. But, yes, I think I might, I will think about this more. Yeah. Hmmm. This will stay with me. I think I will be thinking more about what and how we learn about these issues.

This decontextualized approach to EE is also in danger of setting up a “shallow” paradigm of ecological understanding, which is at odds with the depth of Molly’s

---

36 As discussed through this thesis, the ecological paradigm as in PEW recognizes all human and other-than-human systems, including social justice, community and peace education which are solely the domain of humans. Here the term “environmental” refers to the notion of “The Environment” that is anchored in the realms of other-than-human beings and ecosystems, such as other animals and biodiversity excluding humans, on par with Sauvé’s notion of environment-as-nature (1996, 10)
program and the wide-spread ecological commitment of the broad school community. Rather than developing a more intimate ecological relationship with animals from their own ecosystem whose lives the students have more agency to protect, honour and celebrate, Van Matre (2011) critiques (from a North American perspective)—

We have written ... about the dangers of issues-driven environmental education, and spoken out repeatedly that many youngsters today learn a lot about the rainforest and know nothing about their forest...Maybe it’s because the rainforest is somewhere else...and thus it is safe and secure to talk about it here. Teachers don’t have to leave the building, and they don’t have to risk upsetting anyone should their students observe that the forest nearby is being encroached upon. (Van Matre, 2011, 2)

While this not relevant to the broad Banksia community and the ecological ethos Banksia embodies, this notion certainly pertains to the approach of a number of particular teachers, and implications for the perceived learning experience and schematic connectivity of students, especially the “ecologically passionate” students. Banksia is generally place-conscious and celebratory of their local place, but some teachers display a proclivity for muddying environmental learning through abstraction and distancing it by framing it through issues-based lessons rather than learning to be where they are (Smith, G, 2002). Perhaps this is partly intentional — feeling they need to offer an international/globalised perspective, rather than singularly local, place-specific learning opportunities, or they may perceive Molly’s Garden Program as simply a garden program rather than layered, connective ecological pedagogy and thus feel it is their responsibility to “fill the gap” by offering traditional EE experiences.

Yet 'students in these one-dimensional environments report very little engagement with what they are learning in comparison to other school settings...that provide more hands-on and active opportunities’ (Rathunde, 2009, 190). Grade 3/4 student Penny (whose poem featured at the end of Chapter One), spoke at length about how good she feels in Molly’s program (and Music) and the contrast with other learning contexts at Banksia—

I just love being outside and being with the chooks and feeling their warm eggs in my hands and cooking and gardening and even making compost, coz it doesn’t smell because we know how to take care of it properly. And the fresh air is so good... I love music also. Actually I almost love music as much but I think I love
growing and cooking the most. Music is just so fun and real because we get to move and make music and be ourselves... “Louis” (the Performing Arts Teacher) is a really fun teacher and he's really a real musician...

With Molly we do learn so much about, well so much, EVERYthing. Almost everything yeah. Sometimes just being outside and how to grow food and then other times the universe and all other things. Sometimes it's really sad coming back in to our classroom coz we just sit and listen and sit and listen. I get a bit bored. I wish we had gardening and music and some art ALL the time. Just like, moving more and doing it ourselves.

Perhaps not all classroom learning can replicate the excitement of the Arts, gardening and cooking, but clearly it could do with an existential shake-up. When ‘children’s access to outdoor play has evaporated like water in sunshine’ (Rivkin, 1995, 2), due to being boxed into cars and classrooms, sedentary in front of screens and chauffeured to increasingly numerous structured activities (Rivkin, 1995; Sobel, 1996; Louv, 2006), teachers and schools could step up and intentionally provide time for play, being outside, ‘moving more’ and for children to do it themselves.

Thinking—

Cultivating Ecoliteracy

Molly’s program is greatly informed by whole systems thinking or “ecosystems ecology”, as Molly refers to it, based on the work of ecologist Eugene Odum (1993, 1997), which is demonstrably learned most effectively by experiencing it firsthand, and the most dynamic and sensorially rich place to experience it is in the garden, as Fritjof Capra here captures —

In the garden, we observe and experience the life cycle of an organism—the cycle of birth, growth, maturation, decline, death, and new growth of the next generation. Learning in the school garden is learning in the real world at its very best. It is beneficial for the development of the Individual student and the school community, and it is one of the best ways for children to become ecologically literate and thus able to contribute to building a sustainable future. (Capra, 1999, 8)

Banksia students personify this process. In contrast with many other school cooking-gardening schemes where there is experiential learning through the doing of gardening and cooking in the Banksia program there is a greater depth of connective learning
that is premised in the co-construction of thinking with ecological principles that preface every “garden” session and thus connect the doing with the thinking—both the material and the representational ways of making meaning. While Capra argues that gardening is ‘one of the best ways for children to become ecologically literate’, if programs are singularly about gardening (as noble as the process of food productions is) students today will be unlikely to draw wider and deeper connections between their garden practice and living ecologically enhancing lives on the whole. This unearths the frequent conversation in EE/EfS literature and research which—

might be illustrated by making a reference to the common triad of knowledge, attitude and behaviour: learning leads to a change of attitude which in its turn will lead to a change of behaviour. The desired effect is that this change of behaviour leads to ways of acting in an ecologically more sustainable manner and acting to protect and conserve the natural environment. The rationale is here that exposure to nature at an early age is carried by the person through the rest of his or her life. (Van Boeckel, 2010, 67)

**EcoPatterns Garden Program**

*Background Context*

Molly worked in community garden and permaculture organisations for many years. Then teaching in a range of schools gave her the time and space to develop and trial the framework for teaching from this ecocentric approach and to create a simple pedagogical framework that teaches tools and content for improving our understanding of complexity. She articulates the driving motivation of this process—

The framework was inspired by a need to “turn down the noise”, for myself and my students and focus on approaching sustainability education by filtering content and devising a pedagogy that addresses and teaches to the best of my ability from the question—What knowledge, social and practical skills will people need in order to be prepared for climate change and resource depletion?

This journey led her to pioneering such an inspired and critical food program which teaches energy flows and matter cycles through a dynamic and tightly structured approach, which Molly says, is—

...partly thanks to the lack of funding and resources that made the program so simple and tight and focussed. It made me be more creative within the constraints and so it's drilled down to the essentials.
Necessity is the mother of all invention and this inventive, reflective process of program design through tight parameters has made for a captivatingly efficient, effective, jam-packed one-hour.

Program Nuts & Bolts
The hour program is divided into class time (ten to fifteen minutes), and outdoor time (forty-five to fifty minutes). Molly has designed a layered approach based around levels, themes, types of activities and content, as follow—

A) There are three main Levels, with a different focus and overarching philosophy—
   1. Junior: Sense of wonder, curiosity and appreciation for nature (biophilia)
   2. Middle: Ecology, understanding ecological principles—how living organisms interact with each other, their environment and the relationships within ecosystems
   3. Senior: Applying understanding of ecological principles (energy, biogeochemical cycles, patterns of ecosystem organisation) in order to understand the role and impacts of human actions on our planet

B) There are three major Themes with multiple sub-components—
   I) Energy:
      a. Energy Flows = i) Energy flows through ecosystems/foodwebs; ii) Energy flows through human systems
      b. Energy Transformations/Thermodynamics = i) Energy types; ii) Foodweb Story
      c. Sun Patterns
   II) Matter:
      a. Water Cycle
      b. Carbon Cycle
   III) Natural History:
      a. Local Natural History
      b. Evolutionary History
      c. Food History

C) The Activities are grouped in three main styles—
   1. Experiential:
      a. Biophilia; b. Cooking; c. Eating; d. Exploring; e. Outdoors
2. Developmental:
   a. Playful; b. Practical
3. Practical Skills:
   a. Digging; b. Harvesting; c. Planting

D) The Content is organised around organisms and ecosystems:
1. Animals:
   a. Chickens; b. Insects; c. Soil organisms; d. Worms
2. Fungi
3. Plants
   a. Photosynthesis; b. Pollination; c. Seeds
4. Rocks

Molly’s program most resembles Steve Van Matre and the Institute for Earth Education’s transformative nature-based learning programs (Van Matre, 1990, 2009) particularly the Sunship Earth program, though these are mostly short-term holiday or excursion programs rather than ongoing school-based programs and are not as heavily geared in whole systems and ecology. Molly’s program remains locally unique and poignantly different to any other ecopedagogy with which I am familiar.

Interestingly, Molly had initially worked with classroom teachers to weave her program through their inquiry units each term but she expended an immense amount of time and energy on multiple team-planning meetings and the sum of her labour was largely entropic when teachers seldom integrated the learning meaningfully. The notion that EE/EfS is taught through multidisciplinary inquiry units and in the one-hour Ecological Garden program (once per fortnight, every second term), rather than as a set teaching area in itself means that, while schools could integrate ecolearning meaningfully and regularly, it could also mean that in a “crowded-curriculum” with increasing onus on standardized, high-stakes testing and in the absence of staff particularly passionate about ecopedagogy, it will be forgotten or taught in a haphazard, shallow way—

   Environmental education theorizes that every teacher will infuse all subjects and lessons with an environmental perspective. That’s why environmental education claims we don’t need programs. Not surprisingly perhaps, they are undeterred by all the studies indicating their approach does not work (Van Matre, 2011, 1-2).
Anthony from Murrnong had the same reservations about the ‘Sustainability’ cross-curriculum priority in AusVELS, concerned “when everyone has to do it, no one does”.

While this did not appear to be a serious trend at Banksia Primary, where the school community and the current leadership are passionate proponents for the environment and eco-learning, what is happening is a relatively haphazard and shallow approach in a portion of the classes with teachers less than passionate about ecopedagogy and sustainability. While they feel the need to teach it to some degree because they are required to report on it, if the individual teacher is not driven or feels ill-equipped to guide deeper ecolearning, “the environment” only seems to appear in a peripheral way, causing some students, like Penny above to express their frustration that there is not more opportunity to do “that kind of learning in other subjects” which is learning in a more connective process of thinking-doing and through embodied, multisensory, outdoor, experiential learning opportunities.

Almost every student I asked at Banksia said gardening was their preferred thing to learn at school – followed by music, then sport. And what do these have in common? They are all outside and/or creative, experiential and bodily-kinaesthetic — wholly embodied, corporeal learning. If these are clearly standout subjects for many and varied students at Banksia, across the year levels, are these learning processes and experiences lacking in the mainstream classroom curriculum? From what I experienced, outside of these programs, there was much indoor, sitting and listening, however certainly not as much as many schools as I have seen through professional experience and these seem to be counter-balanced by the other dynamic learning experiences, the garden, school yard, animal interactions and onus on active transport to school.

37 The music program (called Performing Arts) at Banksia is flourishing (right at the same time as Music and Arts Education are being axed in many public schools across Australia, struggling to fund them in any meaningful way and not at all supported by Government). Along with Ecological Literacy, the Arts are such a deeply important part of the rich tapestry of creating sustainable, colourful, healthy and celebratory communities. This combination creates a rich, dynamic culture at Banksia, which often seems to be doing more than just “schooling” students.
Working with many schools for over a decade has endowed Molly with a perspective from which to create a pedagogical framework which recognises the complexity and creativity of systems and patterns in Earth’s emergence. Translating these perplexing theories into tangible and enjoyable teaching tools is a grand feat. Molly’s approach is to teach in “incremental steps” to build a deeper ecological understanding over time. Students thoroughly embody the core ecological principles of flows and cycles by experiencing them in action and working with them closely and slowly. Molly’s pedagogy is a garden-centred ecological program – not your average school garden-cooking program, and because of this the students of Banksia are privy to some of the most transformative ecopedagogy I have witnessed in Melbourne. Weekly they are developing a new language about the Earth and their place in it; the language of ecology, of life, observing, exploring and contemplating over many months and years, with learning flowing from abstract concepts to lived experiences.

There are many cross-overs in Molly’s program with Permaculture principles and ethics. Permaculture—a portmanteau of permanent agriculture—originally a sustainable food production system, based on the earlier work of Russell Smith (1929) and infused with the energy dynamics work of Howard T Odum, 1971 (the father of ecosystems ecology pioneer Eugene Odum, who greatly informs Molly’s thinking as we learned earlier). Holmgren extended on the original thesis in his visionary foundational text, Principles and Pathways beyond Sustainability (2002), outlining principles and actions not merely for sustained systems but thriving systems.

So Permaculture is now extended to incorporate ‘permanent culture’ or sustainable culture as the principles and ethics incorporate all human-nature systems, not solely gardens and food production. With the core ethics of, Care of earth; Care of people; and Fair share and redistribution of surplus, Permaculture is an obvious companion to sustainable education, from reconceiving learning systems, to food production, building design and more. While Molly’s program is in some ways more open than permaculture, including more specific science/ecology-based learning and not feeling the need to stick to Permaculture “doctrine” religiously, this researcher is somewhat perplexed a Permaculture Education System has not yet been designed. There are permaculture gardening programs in schools, but apparently no sign of Permaculture schooling systems per say, however, Permaculture has spread through the world
widely so there is likely at least one school (beyond the reaches of electronic search engines) that is pivoted around Permaculture.

Molly’s program is also inspired by the pioneering work of David W Orr, Fritjof Capra and Donella Meadows, where ecological literacy is brought into a new realisation through Molly’s way of teaching – playing, storytelling, experimenting, experiencing, getting hands dirty, preparing food, observation, drawing, singing and conversation. The Earth Story, the Universe Story, the Story of Life is brought to life through Molly’s inspired program and the students who participate have fun and are actively engaged (at times feverishly) through the duration of the intensive one-hour session. The poignant Ecoliteracy learning through the flowing process of Molly’s program, provides a hopeful example of this vision of Capra’s—

> In the coming decades, the survival of humanity will depend on our ecological literacy – our ability to understand the basic principles of ecology and to live accordingly. This means that ecoliteracy must become a critical skill for politicians, business leaders, and professionals in all spheres, and should be the most important part of education at all levels – from primary and secondary schools to colleges, universities, and the continuing education and training of professionals. (Capra, 2014, NP)

**Creative Chaos**

Visiting Banksia primary, particularly on the food-garden day, reminds me of the creativity of (organised) chaos, without which Banksia may not have emerged as such a flourishing example of eco-schooling and connective community. While we generally think of chaos as a form of disorder, order is manifest in the chaos of the ‘creative unfolding’. Where disorder is entropic, organised chaos is incredibly fertile and abundantly creative, as Elizabeth Grosz portrays—

> Chaos here may be understood not as absolute disorder but rather as a plethora of orders, forms, wills—forces that cannot be distinguished or differentiated from each other, both matter and its conditions for being otherwise, both the actual and the virtual indistinguishably. (Grosz 2008, 5)

It is this type of chaos that emerges at Banksia – students bouncing and bursting around, eager to get into the garden, excitedly exploring their school; their Earth, flitting from activity to activity in inspired leaps and raucous bounds.
While Molly’s program is structured, carefully organised and time-constrained, it is through a rolling creative energy that it appeals to students and hence it works on a deep and lasting level. Brian Swimme and Evelyn Tucker write in their magical little book *Journey of the Universe*—

> What we can say with some certainty is that nature is creative. And the forms of creativity that pervade nature are neither haphazard nor determined, but are, rather, profoundly exploratory, capable of bringing forth such a display of magnificence that it endlessly evokes our wonder (Swimme, Tucker, 2011, 53).

Students at Banksia learn from, through and in nature and engage with the creative process of Earth’s emergence through Molly’s program, thus becoming mindful members in the Web of Life who will be co-creating the transition into an abundant new era to varying degrees and through many diverse avenues.

**Whole School Ecological Learning**

The propensity of the classroom teachers to adopt the ecological language, practice and principles of flows, patterns and cycles, as well as the sustainable praxis deftly modelled by Molly, varies greatly, but at no point through the course of fieldwork at Banksia did I notice the relational and transformative re-languaging characteristic of Molly’s ecopatterns ecopedagogy. What I noticed from all classroom teachers was a traditional use of terms endemic to a mechanistic notion of EE, with subject-specific derivations, such as “plants and animals”, “The Natural World”, “the Environment”, with a few additional terms used by Belinda from current sustainability discourse, such as “resource recovery”, “reducing waste” and “make it sustainable for everyone and everything”. At various other times teachers likely use other terms, but the unequivocally ecological language used consistently by Molly did not seem to permeate classroom discussions or classroom teacher lexicon outside of the garden program.

But this said, even though there are some notional short-comings in the style of some of the teachers at Banksia (through the frame of transformative SE), they are clearly open to reflective and emergent ways of knowing, learning, teaching and *becoming* in their eco-practice and their broader praxis, increasingly embracing whole systems thinking. It was clear that if Banksia students do not find deep, lasting ecological learning in their classroom, they will experience it in Molly’s program, and this will be
supported by the abundant environmental awareness generated in the broader school community, through the very fibre and spirit of the school.

Every student at Banksia participates in the purposeful, dynamic processes of sustainable food production. This inspired program brings to light connected processes, otherwise hidden or abstracted, engaging students in all stages and cycles of the food system: Making compost and preparing soil; propagating seeds from last season’s harvest; planting, mulching and tilling; harvesting produce—feeling and smelling the food in their hands; saving seeds for next season; preparing the fresh produce—thinking about the combinations of flavours, textures and nutrients; presenting the food in aesthetically pleasing and appetising ways, and eating the food—consciously aware of every step of the food’s lifecycle. It is a pedagogical system that weaves science, food technology, mathematics, oral literacy, aesthetics and embodied, multi-sensory, experiential learning in a tight one-hour program.

Sitting at the school café before school starts, I notice there is a large proportion of students who take active transport to school—walking, biking, scooting or taking the tram or bus. While there certainly are cars dropping children off, there is not the ordinary commotion of endless streams of frantic traffic and congestion that dangerously surrounds many schools. Fridays are a special day at Banksia where many parents congregate at the café, the weekly assembly is on (though Banksia gathers altogether every morning for a few words from Theo and other teachers), and Molly’s program is happening, so Banksia ends the week all abuzz, celebratory and active, as I observe multiple “riding school bus” and “walking school bus” groups cheerily flowing through the open school gate.

Speaking with “Anja”, a parent of a grade 4 student, over a coffee at the school café that morning, the raw passion for the Earth and sustainability at this school was enthralling. The school is a micro concentration of the broader local area with a politically active socio-cultural demographic. Anja offered her personal perspective on the school’s overall practice and philosophy—

38 The “walking school bus” is quite widespread at schools in Banksia’s council, but the “riding school bus” is unique to Banksia. In each initiative an accompanying adult takes their children by foot or by bike to school along a route that picks other participating students up along the way.
I really do love this school. I know how lucky we are. To be able to walk or ride to such a great school is really, we're very fortunate. There is such a close alliance between our home values and the school that makes “Luka” feel comfortable and confident and really so very happy at school. Everything we really value and care about—environment, social justice, food, creativity, music—the school cares about and puts energy and resources into. The music program is really wonderful and Molly’s amazing capacity to entice Luka to eat things she would never eat at home. And this great coffee! Yeah, it’s a whole community of goodness really.

In this, Banksia excels at ‘revitalizing the commons’ (Bowers, 2006) bridging the spaces between the “walls” of the school, the local ecosystem, the school community and local community and enriching the fabric of all in the process. And this revitalization pertains to the broader and deeper notions of SE, beyond “the environment”; it is the resilience and celebration of the whole organism of Banksia, from individual emotional responses and mental health, to relationships, the curriculum, ecosystems and all the spaces in between. Theo expresses his intimate understanding of this community, as ‘a school which is open to deeper expressions of what it means to be a community alive to its connections; connections between people and the environment in which we live and work each day’.

Here we revisit the “test results” from the follow-up chat with Philomena the following term. Bemused at me asking her again, she responded wryly—

Are you trying to trick me?

When I assured her I was so amazed at how much they seemed to know about carbon and parts of matter last term, she said —

Well of course I still know it. Carbon is almost everything – plants, animals, us, everything. But it’s also coal and other fossil fuels that won’t be around for very long, that’s why they let off carbon dioxide when you burn them or use them in your car and that’s what makes greenhouses gases. Um, yeah. There’s more but is that enough?

Yes, thanks Philomena, plenty. This confident erudition by a grade 6 student indicates that by the time these students finish their primary schooling at Banksia, they have a grasp of ecological connectivity. If ecological identity ‘refers to how people perceive themselves in reference to nature, as living and breathing beings connected to the rhythms of the earth, the biogeochemical cycles, the grand and complex diversity of
ecological systems’, as Mitchell Thomashow outlines (1995, xiii) then many students at Banksia are actively co-constructing intact ecological identities, a sense of ecological self (Macy, 1989; Devall, 1995) which will serve them vitally through their lives and in the co-creation of sustainable futures.

**Continuing Ecological Emergence**

Enjoy the view from where you are.
—Banksia ‘Memorial to Gum Trees’

Very recently Banksia had a ceremony to farewell three grand gum trees in the school yard. The trees were not covertly removed on the weekend and taken away without discussion. They were honoured and thanked in a student-led ceremony with poetic epitaphs. It was a markedly different experience to the conflict that arose four years ago, during the BER building tree removal as Theo reveals—

> It’s a mark of how we have grown as a school community, and how I have grown in my position, with the sensitivity I hope was shown about the recent tree removal compared to back then. There wasn’t any student organised protests and anti-logging posters appearing around the school... Perhaps that was because we explained the situation to the children in a respectful way, and involved them in the process.

The ‘Goodbye to Trees’ Ceremony was instigated by Theo—he generated the moving epitaphs (included at the end of this section) based on “voxpops” from the students after discussing the removal of the trees with every class individually. He passionately wanted the occasion to be honoured as he has increasingly recognised over the years, a sacredness about the school place —

> I don’t want to sound too “cosmic”, but I like to believe that certain places in a school have something mystical about them. For whatever reason, a tree, or a certain place, or a stump, or play equipment has a certain resonance with children. I have seen this before, and don’t understand it...

> When significant or minor changes are made to the school environment, we are actually altering the children’s/parents/staff connection to their natural world, at either a subliminal or conscious level. (Theo)

This incredible insight signals not just an actively reflective Principal-pedagogue but also a reflective ecological ethic and the flourishing of a vigorous ecological identity. Theo later evoked the emotion of the ceremony—
The ‘service of remembrance’ held with the whole school present just before they were removed was very touching and emotional...There were adults and children in tears as these words were expressed. It was an overcast and foggy sorta morning and the atmosphere was naturally poignant... and the sun was rising and silhouetting the shape of the trees in the western sky. It was a most memorable and evocative moment for all of us there...

This whole event really impressed upon me the way schools have to respect the connection between the natural environment and the community living within that environment. (Theo, via email).

The multi-sensory, material and spiritual experiences to which Banksia students have access is quite remarkable and seems to lucidly render their learning, at once pragmatic and profound. As magician-cum-ecosophilosopher David Abram poses, ‘It is [the] informing of my perceptions by the evident perceptions and sensations of other bodily entities that establishes, for me, the relative solidity and stability of the world’ (Abram, 1996, 39), and likewise for many Banksia students, learning of their place in the Earth is solid and stable, though emergent and abundantly creative. These students are well on their way to becoming conscious and connected members of our ‘Earth household’ (Capra), through heads, hands and hearts.

Herein follows an abridged version of the Banksia Memorial for Gum Trees, led by students (included here with permission from Theo)—

*Hundreds of children have grown up under their shade, played with their gum nuts and sticks, and enjoyed the oxygen they have given us to breathe.*

*They have stood as a beautiful green background to our life at school. We have tasted the flavour of eucalypt from their leaves, and thrilled to the rolling thunder of a strong wind tossing their canopy of leaves around on a blowy day.*

*The trees were first a microscopic seed, not much bigger than a grain of sand. They sprouted into little samplings and saw the passing of thousands of days and nights as they grew and matured. Their limbs becoming strong as their stature became huge and powerful. A tree is a slow, enduring force straining to win the sky.*

*As we the students of our school grow and mature, let us learn from these trees how to grow strong and sure in our stature too.*
The wisdom we can learn from these trees—

Stand tall and proud;
Go out on a limb;
Remember your roots;
Drink plenty of water;
Be out there in the sun and light;
Be content with your natural beauty;
Enjoy the view from where you are;
Give and give and give to others around you.

These three elders of our forest community are now to leave our school and no longer be the jolly green giants looking over our shoulders as we play and learn.

We thank them for being such great giving trees,
And we look forward to the new life and growth we will soon see in their place.

‘The guy who removed the trees spent many days carving a throne out of one of the stumps. It is such a wonderful way of having the tree part of our school life into the future, even if its trunk and branches are no longer with us.’

—Theo Wright, Principal, Banksia Primary

*Image 2*: Stump throne at Banksia Primary
CORREA

It’s always about love. You’ve got to love teaching; kids; learning – all of it.
If you don’t love it, well, why are you doing it?
—“Hans”, Steiner Class 9 teacher, Correa College

In Context

Travelling to “Correa College” via metropolitan train, I disembark in a “leafy” part of
the inner-city suburb, cross the busy road heading towards the city centre, and land on
the post-industrial, factory-riddled side of “Correa”, flanked by high-rise public
housing. This was the hub for manufacturing in Melbourne through the Industrial era;
traditionally working-class. With the escalation of immigration, particularly from post-
war Vietnam, it became one of the major centres for high-density public housing in the
1970s. Recently there has been a shift in the cultural makeup with increased numbers
of refugees from sub-Saharan Africa, the Middle-East, and more widely from Asia. But
simultaneously, the area has been ‘gentrifying by the day’, according to “Naheem”, a
grade 3/4 Reggio-Emilia teacher at Correa, with an accompanied “greenification” in
certain areas, in the leafy borough on the other side of the road, which borders the
“Birrarung” River.

In some ways Correa is consciously placed—aware of its dynamic diversity and
environmental contrasts, yet there is also a pervasive sense of placelessness or
universalism—as if Correa could be situated in almost any urban, multicultural, post-
industrial place. Perhaps because of this diverse mix and local/global flavour, Correa is
manifestly Melbourne: It is multicultural; it is multi-stream/philosophically pluralistic;
it has a “hippie-cum-hipster”, inner-urban culture; it is pivoted around food (through
the cooking-gardening scheme), and it has a strong Arts-music program.

Naheem again illuminates the complex diversity of Correa through the frame of
ecolearning and “Nature-Deficit-Disorder” (NDD), saying—

You see half the group, they have families that are right into making sure that
Nature-Deficit-Disorder is not a reality for their kids, above and beyond. And then
you have the other kids that are in these concrete slabs, you know, on the 30th floor
and the only contact they have is in—is when they come to school. So yeah, you see
[NDD], and it’s very much pronounced and acute with a certain demographic.
Which is, it’s sad to see the disconnect, but at the same time you take solace in the
fact that you're, you know, hopefully part of a team and a community that's giving them what they otherwise wouldn't have. (Naheem)

The vice-principal “Kenneth” was initially perplexed they were invited to participate in research about *sustainability in schools*, with the view they did very little specifically in “sustainability” as such. While this abundantly dynamic school—with *three* streams: Steiner P-11; Reggio P-5; middle school (in Steiner/mainstream) 6-8; and mainstream 9-12; home to the first school cooking-gardening program in Melbourne; and one of the most culturally diverse schools—has been the focus of many other research projects, sustainability was not explicitly “high on the list of priorities” according to Kenneth. When I explained the manifold understanding of *ecology* and sustainability with which this research was concerned, the notion seemed to become more pertinent to Kenneth, suggesting examples of classes to which this might apply. In addition to the thriving gardening and cooking programs, what emerged in fieldwork is the impression that Correa is *abundantly* rich in ecological *habits of mind* and emergent *becomings* through connecting the diverse aspects of the school community through strong relationships, as Naheem explains—

> The kids are very much products of their community. And the community is very much a mindful community, you know, it's Correa. Of all places in Victoria it's probably one of the most environmentally-friendly, sustainable communities. So, the students *get* that.

Entering the school, I was hit with a spectrum of sounds and colours. The luminously high-level artwork produced by students across the thirteen years of the school was displayed through the foyer, the various music practice (drums, recorders, strings) and soulful singing by students vibrated through the winding halls of this living organism. Correa students do not wear a uniform so the range of cultural and sub-cultural codes of dress is vast—from bright African fabrics, to “Emos” dressed in black, to the hand-knitted scarves, beanies and felted dresses distinctive of Steiner craft, as well as the usual array of current trends and branded garb. The pluralism of philosophies, cultures and languages makes for a school identity that is uniquely inner-Melbourne.
**Story—**

**The Art of Storytelling**

Fresh from a school visit to Class 2, Correa College has stirred my curiosity for investigating Steiner\(^{39}\) philosophy more intensively and looking at schooling through a public school Steiner-stream frame, with which I had little prior experience.

*Good morning to the sun up in the sky*
*Good morning to the birds as they fly on by*
*Good morning to the trees so straight and tall*
*Good morning to the nest where the birds do rest*
*Good morning everyone.*

—Steiner Class 2, Correa College

Rather than a formal morning start to the day with roll-call and straight into a literacy session, this Steiner class 2 started the day in *celebration* through song and in mutual recognition with the Morning Circle, which is a prominent feature in Steiner education and is also embraced by the Reggio and mainstream classes at Correa. In this Steiner classroom every morning begins with the Morning Circle on the floor, around a candle and flower centrepiece. A different student each day lights the candle and places one of five stones signifying the day of the week in the middle. The class then sings a collection of soft, spirited songs led by the teacher, “Beth”.

The morning ritual then flows outside where the class does a group skipping session—each child taking in turns of running through the spinning rope. It is very windy on this morning, the students seem a little distractible but tangibly excited and focussed on the activity. Beth very subtly indicates through song that the skipping is over then the students fluidly set off for a running lap of the junior school yard, around the mosaic sculpture-bordered oval, through the trees and along the vast edible garden. This has been an active and alert start to the day, one which is consciously situated in place and premised on connective flows.

Back inside the warm, softly-coloured classroom\(^{40}\), adorned with five different bunches of flowers from home gardens and the school garden, the students trickle in after

\(^{39}\) In Australia Steiner schools (and philosophy) are referred to as “Steiner”, as opposed to the North American and European tendency towards “Waldorf Education” named after the Waldorf Astoria (cigarette factory) building that first housed a Steiner school
morning play. Beth asks students to open their learning journals and start colouring a “golden arch” (a soft yellow border) around their page. The students are seated at individual wooden desks, much like the desks of early 20th Century classrooms, with lamb’s wool (“lambies”) covering their chairs and a hand-made calico satchel holding their many “natural” coloured pencils. Beth is continuing a story about “Francis and Clare”, through oral storytelling, recited from heart, and partly improvised. Beth beguilingly takes the class through the journey of Saint Francis and Saint Clare of Assisi (who was one of the first followers of Francis and the first woman to write a “monastic rule” entitled the Rule of Life), their pursuits of working with poor people, animals and "all beings”, and about the intimate relationship between Francis and Clare. The students sit silently listening to Beth, focussing on her every word—including the three students who I would later discover have “complex needs”.

Beth does not teach concertedly about “the environment” or sustainability, but she refers a great deal to “Nature” and teaches in an ecological way—through art, song, story and flowing rituals, by speaking softly and conducting herself gracefully, mindfully and compassionately, in a classroom environment rich with natural materials—flowers, colours and symbols. Steiner’s “three-fold” consciousness of head, hands, heart, is realised in Beth’s pedagogy, including through Steiner’s “Eurythmy” meditations—a mind-body-spirit practice of flowing moves and mantras in Steiner’s Anthroposophical tradition (Steiner, 1984), and it is this way of flowing through the learning journey, through the cycles, seasons and rhythms of the days and months typical of Steiner classes that, to this researcher, is a glaringly ecological practice. If ‘one of the most important roles that teachers can play is to encourage students to explore the natural world and its aesthetics and become aware of their own relationship with nature’ (Song, 2009, 11), Beth achieves this in spades.

The language Beth employs is reminiscent of an earlier time, with mythological allusions and an enchanting use of intonation, tenor and phrasing which is quite stirring (unbeknownst to anyone in the class, I was unexpectedly moved to tears)—

---

40 In Steiner philosophy (Anthroposophy, Steiner, 19?), different colours are used to signify different developmental stages in childhood. For example, in early years a soft pastel pink is used for drapes on windows and often walls are painted in pastel colours. In Class 2 pastel purple predominates with some soft yellow and pink.

41 Multiple higher needs, including “high-functioning Autism” and “oppositional defiance disorder”
both the story matter itself but also the way the story was told. Phillip Payne writes ‘story, storytelling, art, illustration, song and poetry provide animated means that, pedagogically, might re-place children within an ecocentric sense of self’ (Payne, 2010, 295) which seems to uncannily depict Beth’s class and provides an argument for learning through ecological—emergent, creative—modes of making meaning without necessarily focussing on the “conventional”, issues-based notions of EE by learning about and for ecology and sustainability (as we witnessed in the classrooms at Banksia).

While talk of meditations, mantras and rituals may seem abstruse, even an esoteric practice for mainstream, secular, public school teachers, in Class 2 at Correa (and other Steiner classes I observed) the way these phrases and practices are expressed is very real, grounded and modest, and while heart-felt and focussed, they are not fluffy, over-the-top or overtly mystical at all. Indeed, in conversation with Beth, she revealed—

I don’t think I’ve ever spoken about “spirit”. No. Anthroposophy was part of my Steiner training but that doesn’t come through in the class at all ... What is key are the flows and the storytelling, songs and craft learning. And Nature. Often our conversations and stories focus on Nature. And the very particular stage/age learning unique to Steiner that is more gentle and from my experience, just seems to work for most students.

The image impressed on me, in the first few hours of sitting with Class 2, was the incredible attention of all students and Beth’s quite awe-inspiring capacity to maintain cohesion and a quietly engaged class. Her calm style through a flowing, storytelling approach seemed to work for every student, with varying needs, as one of her students, “Grace”, offered—

Oh yes, I just love Beth. She is so beautiful. I always feel happy with her and everything in our class...I just love everything we learn and everything we do. It’s very wonderful.

Local researcher in oral traditions, Julie Faulkner writes, ‘Told well, stories immerse young listeners in rich social, cultural, historical and anthropological content, encouraging wonder’ (Faulkner, 2013, NP) for which Beth is accomplished. Telling our stories can help create our sense of a collective local identity, stories revitalise the cultural commons, and they are part of the process of creating a sense of place, as well
as increasing students’ affective learning through eliciting varied emotional responses. This *art of storytelling* has the capacity to reach the depths of our spirit, helping sustain connections and meaning beyond our cognitive and material experiences. Some stories “about” Nature may have little impact on students but when deftly communicated, the storytelling gets to the *in between*, intangible spaces of our beings. While these oral Arts may be neglected in mainstream schools, they are central to Steiner pedagogy at Correa, exemplified by Beth and evidently strengthen the learning experiences for students. The Steiner teachers I observed at Correa were expert raconteurs, enchanting the imaginations of their students.

*Harmony in Diversity*

*Bridging the Streams*

While the cultural diversity of students in the Steiner stream was less varied than the Reggio stream, Beth suggests it is a far more “dynamic array of students” than she experienced in her time in exclusively Steiner schools, making teaching “more challenging, more exciting and ultimately more fulfilling”. Speaking with Beth about how the Steiner and Reggio streams work alongside each other in the junior years (P-6) at Correa, she reflected—

> We really do work very harmoniously—they support each other. Almost all the time we’re on the same page in terms of values. What varies is just the *style* we teach in, but most of the ideas and values are on par... There’s always new ideas floating around.

Beth explained the story of Steiner in public schools was spearheaded by Steiner teachers who wanted more options and freedom in their teaching experience rather than singularly teaching in exclusively Steiner schools that, according to Beth, ‘can be set in their ways’. Rather than maintaining the syllabus precisely as it was prescribed by Rudolf in the early 20th Century (as is widely the case in many private Steiner schools), Beth says—

> ...part of the beauty of teaching Steiner in a public school, we are more free to flow in our own ways and be open to learning from the Reggio stream and other *ways of knowing*.

Also, public education is more inclusive—with people from lower SES backgrounds able to attend this distinctive pedagogy as well as attracting families who are sympathetic to Steiner philosophy but seek a more relaxed approach. Both the Reggio and Steiner
teachers at Correa are celebratory of the two symbiotic philosophies and of each other, planning together, maintaining harmonious work relationships and there is free-flowing ‘knowledge exchange’ (Ashley, 2009, 224) between the streams.

The image that emerged from students in the school yard over lunch, however, depicted quite a different story. While not openly antagonistic towards each other, there was a deep disjuncture between the Steiner students’ perceptions and that of the Reggio and mainstream students. In conversation with a group of Class 4 Steiner kids playing a game of “pixies” outside the commercial kitchen (where students participate in the cooking program) I asked the group how they “got along with” students from the Reggio stream. One of the girls “Lucy”, cheerily replied—

Yeah we get along really well. It’s just the same. It’s just that we are friends because we are in class together so we usually play together. And most students usually play with their classmates I think, so it’s not because we don’t like them. We do like them. They’re nice.

While Lucy’s classmate, “Rafi”, with whom she was playing, more doubtfully commented—

I don’t think so Lucy, I think they don’t like us very much. But we like them. But nobody is mean to us, they just don’t really talk to us.

Rafi’s concerns were at least partially confirmed after speaking with children from Naheem’s grade 3/4 Reggio, in a group interview. The group was made of four students this time—“Matas” (whose parents came from Lithuania), “Mbali” (born in South Africa with parents from Somalia), “James” (born in Hong Kong) and “Aileen” (born in Australia, with parents from Ireland). Matas, Mbali and Aileen were eager to participate because they were “into being environmentally friendly” (in the words of the gregarious Aileen), and James was asked to participate in the interview as he was identified by Naheem as “less keen” about nature and sustainability learning. Regarding the Steiner-Reggio relationship, the group offered mixed views that became quite impassioned, beginning with this candid interpretation by Matas —

Matas: Steiner kids are pretty weird. They’re just, different, you know. Not as cool as us.
Mbali: No they’re not! They’re just like us, it’s just that they do a few things differently. I don’t think there’s a big difference between Reggio and Steiner but they’re more artistic than us. There’s no reason why there should be a rivalry between us. We’re friends. Well I am friends with Steiner kids too.
Aileen: But the Steiner kids sit at desks and they don’t usually get to do as much stuff as
people in Reggio.

Me: Could you explain that a bit more Aileen? What do you mean by ‘as much stuff’?

Aileen: Well I guess it’s mostly computers. They’re not allowed to use “technology” (impersonating a “robot” voice) because they think it’s evil. Ha ha ha! But also we learn about EVERYTHING but they only learn about Steiner sort of stuff. It’s nice and quiet but not as much fun as we have I think.

These discussions unearthed the relevance of the social or human sustainability dimensions in ecopedagogy. In the context of Correa where such diverse groups of students co-exist, how do they co-exist—in harmony, contestation, a fertile combination beyond each of these poles? Further, can whole systems SE be achieved if the human community is in conflict? How is a productive relationship maintained (between the diverse approaches) and how does this indicate learning through feeling, learning relationally and thus learning ecologically?

In the senior years there is more of a clear divide between Steiner and mainstream classes from the students’ perspective, yet not at all openly hostile, with a range of friendship groups skirting both streams. While they do use less ICT in the senior Steiner classes, they are able to use computers from Class 7, but the philosophical approach to ICT seems quite cohesive across the school, with a whole-school approach that controverts the broad trend in schooling, such as the sweeping policies of 1:1 tablets/iPads or laptops for students presented as the panacea of supposedly innovative learning for the “21st Century”. At Correa, much like Banksia and Murrnong, the use of ICT is one mode of communicating and learning amongst many and computers are used as tools rather than the vehicle through which all learning happens. Each of the schools in this study provide reprieve from the overwhelming triviality and short-term thinking regarding ICT as the “be all and end all” of innovative learning systems, rife throughout the education system and broader society.

Through conversations in the staffroom, one senior science teacher, “Poppy” (who teaches across the streams), says she perceives much fertile harmony in the diverse pedagogical approaches—

As Correa goes on there are much more commonalities between Steiner and non-Steiner. We all really like to do everything in an experiential way so there’s really not many differences for Science teaching at Correa.
This whole school culture bodes well for the emergence of ecological identities through lived experience and dynamic relationships.

Despite the complex needs of this diverse community—from a vast range of cultural-linguistic background and the juxtaposition of children from disadvantaged backgrounds with little access to green spaces and children with bountiful access to green spaces and freedom—there is great hope for many Correa students and many small conquests are achieved daily. The Garden Teacher/Sustainability Coordinator, “Tom”, reflects on the little patch of Nature the garden provides, that becomes a therapeutic place for many students—

One boy came to the school who has a really full-on life background and detachment disorder. They’ve tried 700 different things but now he has time after school to just be in the garden and that is actually working. It’s the only thing that’s worked. He’s really calming down and coming around so it’s a really awesome example of sort of “nature therapy”.

Similarly, Naheem extends the notion of sustainability to include other implicit ingredients—

I think, at this school, we’re really working towards empowering the kids—building their skills of expression and insight and all that. So with that, with an empowered student comes, yeah I really feel like empowerment and sustainability are so closely linked… And I think the cooking-gardening program has totally manifested that.

The garden becomes synonymous with “Nature” for many of these Correa students. While some students have the chance to go camping regularly, or even climb trees in their backyard, the children who live in the adjacent high-density public housing, have little access to safe “green spaces”, so the school garden has become their “special place” and the only patch of “Nature” they know intimately. Mbali from Reggio 3/4 remarked that Aileen was “so lucky to get to go to Tassie and go bushwalking” and when later asked if she could think of a memorable time she had experienced in “Nature”, she said—

Going to the zoo was really good ‘cause I got to meet animals from Africa where I’m from and feed the kangaroos – that was really special to me. But also every day in the garden here at school, it’s really the most peaceful place. And once I went to
Africa to stay with my uncle and the rest of my family. He teaches history and nature and when I visit I learn all about everything. Living outside and taking care of everything.

At Correa there is great overlap between the ecological commons—air, water, biodiversity—and the cultural commons, as discussed widely by Chet Bowers (2006, 2009, 2012) amongst others. The common notion to each is one of harmony in diversity. The health of an ecosystem is based largely on the range of diverse plants and symbiotic systems, so too is the resilience of a human community, alive with multiple languages, cultural celebrations, values and ways of knowing—increasing the vitality of the whole organism through the diverse characteristics of its parts. There are over forty shades of green in an Australian temperate rainforest as well as the bursts of purple and yellow wildflowers, a rainbow spectrum of birds and snakes, spiders and frogs. Likewise the cultural and linguistic diversity is abundant at Correa, with many linguistic and cultural backgrounds represented, making for an aesthetically rich and vibrant community, as Naheem describes—

...in one class we have Somalian kids, Ethiopian, Chinese, Vietnamese, ah Turkish, Italian, so it's really really diverse and I think, without a doubt it's just the subtle undercurrent of love and appreciation and respect for diversity and tolerance and harmony... In the end you just realise, we're all equals—we're all part of this human family.

Food & Garden Commonground

The school is also united around the food garden and cooking programs—which, unlike at Banksia, run discretely. While the classes do not participate in the programs at the same time, everyone I spoke with at Correa celebrates the garden and cooking (together and discretely) as the heart of the school, as Naheem depicts—

The “cooking-gardening program” is such an integral part of the curriculum, that's an immediate asset to sustainability in education... it's just amazing 'cause it makes learning that's happening in the classroom very much rooted in that day-to-day reality of sustainability and nature and what goes on at home and in the kitchen... Just to see these kids go into the garden, then harvest, then bring the produce to the kitchen – cook with it, understand the different crops and the families and species and then in the end to sit around and break bread together...I mean that's not been one memorable experience, it's been an ongoing amazing thing. You
think, "Wow, this is, like, the Future". Really. If I had to build my dream school, that would be such an integral part of it.

Students are demonstrably excited about participating in the gardening and the cooking program, and every student I spoke with named them as their favourite part of the school. Unlike at Banksia, the garden and cooking programs at Correa are entirely separate. As cooking does not start until Grade 3, the Early Years students are widely eager to cook, like “Grace” from Beth’s class—

I really can't wait to do cooking. I just love it. And every time we are in the garden and picking vegetables but it will be simply wonderful when we get to cook! I do love gardening — the gorgeous flowers but doing both will be the most terrific.

The cooking program is offered from grade 3 to 6, once per week (for a two-hour session), two terms each year (like Banksia, the resources are spread thinly and this program has much higher overheads), with an expert Cooking Teacher “Deirdre” and support from a swathe of volunteers from the local community. Deirdre remarked—

We have very little money but we do the best with what we have and always prioritise the best ingredients. The students need to sense this program is high-quality otherwise it just wouldn’t be as successful.

In this particular manifestation of school cooking programs the school has an initial grant from the sponsor organisation for the first year to get them established, most of which goes on building a commercial-grade kitchen (a requirement of the funding). After the first year the schools are responsible for funding the program themselves which brings into play the notion of economic sustainability and the wider sustainable systems across the whole school. An external evaluation of the program (Gibbs et al, 2009) found the ‘perceived challenges to program sustainability include ongoing funding of the program’ and that ‘the program is associated with substantial financial cost and even greater community investment in terms of the resources of time and materials used’ (Gibbs, et al., 2009, 2). This seems to be an increasing burden on the school with the added weight of expectation that they are a “lighthouse” school of the program for other schools and the broader community and thus responsible to sustain the program, alongside the internal pressure to continue the program as it is such a popular, integral and effective part of student learning, development and sense of community.
It does seem to have many other benefits, much like Banksia, in terms of healthy-eating and conscious consumption. One of the mothers volunteering with the Reggio 3/4 class, enthused—

> It is utterly incredible the types of food the kids will try – even the kids with Autism that usually only eat really specific things. Deirdre has a way of enticing them and including them so there’s hardly ever a kid that says no to a dish. It’s also so celebratory sitting down and sharing food together on a nice table, with flowers and just really peaceful for lots of kids I think. And even for me! It’s lovely. I wish I had this as a kid!

Alongside the health benefits, an outstanding aspect of the cooking program was the level of trust put in the children (as young as nine years old) using sharp knives (with close supervision and skilled instruction at the start of each term), cooking over hot stoves and ovens and with a range of spices. Naheem recalls—

> You have these kids cooking and at first you’re freaking out, you’re like “how is this 10 year-old kid going to be chopping away?!” you know. But you trust and they fulfil—every time.

Every student I observed in the kitchen lived-up to the responsibility placed in them, almost especially the students who otherwise behave irresponsibly in class, again echoing the evaluation which found ‘the program was considered particularly effective at engaging “non-academic learners” and children with challenging behaviours’ (Gibbs, et al., 2009, 2).

Tom offers gardening experiences for all students, from early years to the senior school. They plant, propagate, maintain, harvest and the senior school students have the wonderful opportunity to co-design the new roof-top garden. Tom described the history of Correa College, with rooftop garden beds built in the 1970s then abandoned shortly after due to lower numbers of students at the school, poor infrastructure and a lack of resources. He is now rejuvenating them and designing watering and systems for the sun and wind exposed area, with the senior classes across the streams. Tom explains—

> There are two micro climates at school (actually three)—but, our school garden is under the constant shade of the high-rise flats which is like Tassie, and the other side—the community garden over the other side of the yard, is always in the sun—
they get great yields all year. But, so now, we’re getting the rooftop which will give us more sun.

As well as the school garden that Tom uses for teaching gardening classes—in the “cold micro climate”, there is another lush productive garden fenced off from the students which is occupied by the organisation that sponsored the school’s cooking program, run by the local community and used for community workshops—the “warm micro climate”. While this seemed like a potentially contentious arrangement, Tom was not specifically critical, instead, he resourcefully “makes do” in a very productive, hard-working and pragmatic way, saying—

The way I teach sustainability in the garden program is sort of “how do we fix these problems that we’ve got with what we’ve got”.

The garden program is more pivoted around life-skills and the nature-therapy side of sustainability rather than explicitly teaching the principles, as Tom acknowledges—

Our garden classes are not assessable under VELS [the State curriculum framework at the time]. Understanding the science of it is secondary to enjoying it...when they leave school they keep doing it. The garden is all about getting the students to enjoy themselves.

This is an undoubtedly imperative part of developing a biophilic connection with living systems, recognising their place amongst the other-than-human community and gaining the skills that will aid students through their lives, which in the end, is sustainable. Yet this researcher asks: Will these students gain adequately clear notions of ecological connections and will their school experiences of doing gardening and cooking be enough to sustain their commitment?

Alongside the school-based garden experiences, classes go on camps, particularly the Steiner Class 9 and the Outdoor and Environmental Studies classes in the senior school. Class 9, goes on a Biodynamic Farming camp, which provides them with the rich opportunity to experience real food production through enhanced sustainable methods and learn the ecological connections. Rudolf Steiner also conceived of Biodynamic farming systems which are based on the lunar cycle, seasons, optimum soil health, and has many cross-overs with Permaculture (as described in the Banksia section). The relationship between Steiner’s pedagogy and his farming philosophy is strongly aligned through head, hands, hearts or Thinking/Feeling/Willing concept with the linking theme of love. Michael Ableman argues we could ‘start using the word
“love” more in talking about education and food production’ (Ableman, 2005) and this seems to be clear at Correa as we now turn our gaze to the process of feeling.

**Feeling—**

... *it is not half so important to know as to feel. If facts are the seeds that later produce knowledge and wisdom, then the emotions and the impressions of the senses are the fertile soil in which the seeds must grow.*


While *passion* within an eco-justice ethic was widespread amongst the students at Banksia and Murrnong, concertedly affective *ways of knowing*, engaging with learning and purposeful platforms for communicating feelings were not enunciated at Murrnong, and expressed only by Theo at Banksia. At Correa, by contrast, the role of feelings, emotional responses and affective learning is pronounced, mostly in Steiner classes but also expressed explicitly by Naheem, other mainstream staff and the emotional communication with students is a clear priority for the whole community. Through Morning Circle in the junior years in both streams, feelings are expressed regularly, with open conversations, candid insights and group discussions daily, the Circle sets the mood for the rest of the day, starting on such a human, warm and empathic note.

Yet just as “thinking about” and “acting for” ecology and sustainability are not in themselves adequate to augment whole-systems, long-term ecopedagogy, is “feeling in” ecological ways singularly sufficient? While deep feelings can lead to transformative experience, by themselves are they enough to continuously motivate and propel a conscious commitment to ecology and sustainability. This study generates that affective and contemplative ways of navigating through ecopedagogy must dance alongside cognitive, critical thinking, as well as corporeal/embodied and actively experiential processes in order to cultivate ecological identities and thus sustainable commitment, within students, teachers and through the whole school community. This does seem to be the picture emerging at Correa where they are not resting on the affective laurels, but instead *digging in*, discussing, reflecting as well as singing, painting, celebrating and dancing their way through the deep and connective learning
process. Yet without a concertedly ecological language or connective system in place, are Correa students becoming ecoliterate?

**Pivotal Pedagogues & Praxis**

*Passion, Love and Spirit in Teaching*

‘Steiner teaching is a whole life practice’

—“Beth”, Steiner Class 2, Correa College

The terms “passion”, “love” and “spirit” are seldom discussed in academic research, yet they have emerged through this study as imperative to sustained, whole-systems ecopedagogy, and when they are not present at schools, their absence is glaring. Orr (1994) condemns the long tradition of ignoring and undermining the role of love and emotion in research and education, saying, ‘the loudest objection to any such discussion will be made by the “more rigorous than thou”’ and that rather than being ‘antithetical’, love and passion are ‘complexly interdependent’ (Orr, 1994, 44) in education research. The mechanistic or managerial motivations of administratively-oriented teachers are not adequate for a transformative SE, but this is not relevant to Correa, where the insight from Hans at the beginning of this Correa study evokes that teaching is all about love, otherwise why would you do it?

For Marilyn Ferguson ‘Love is felt as a dynamic state of consciousness rather than as an emotion’ (1980/2009, 380) and this is partly the manifold way this study interprets the notion of love. Rather than love singularly inherent to affective learning—as an abstract emotional response to each other and the other-than-human Earth—in this study, love is also part of the spiritual, metaphysical ways of knowing as a ‘state of consciousness’—when we begin to grasp ourselves in the vast and intricately interwoven web of life. But love is also more than two-fold, as it also dances between and conjoins the somatic with the affective and intuitive ways of making meaning.

One of the first questions I asked teachers was ‘What role, if any, does love play in your class (concerning sustainable education)? For example, is the term used and is the idea of love in forming bonds with the Earth (Nature) an explicit part of your program?’ This was quite surprisingly met with generally speechless reactions by my co-interlocutor. Is it the word itself (the representation), or the meaning it conjures that invoked such
an unanticipated stir amongst these teachers? For Tom, at Correa it seemed to be the word, saying, ‘Um, I don’t know if we actually use the word love’, while Murrnong’s “Anthony” seemed taken aback by the concept, saying —

That’s a touchy-feely question! Um…[pause]…Well…I haven’t thought of it as love but it’s certainly an emotional connection.

Likewise, Anita from Murrnong was surprised by my question about where her passion for ecopedagogy came from, saying ‘Wow, that’s funny – most people don’t ask you that sort of question!’ Anthony and Anita’s colleague, Jane (Year 9 Outdoor Ed), was less taken aback by the question but did quietly ponder the enquiry, contemplatively responding —

I guess in many ways it is all about my love for the Earth and Nature and being a part of it all. Yeah, it does get to that spiritual level and emotional connection that’s really quite abstract. You don’t usually think about it that much, it’s just there, as an undercurrent of everything you do. If I didn’t have that strong connection on that level, I probably wouldn’t be driven to teach it and work for it.

Jane’s reflection is more in keeping with the general tone of the teachers at Correa, such as Hans—‘it’s always about love’, and Naheem—‘it’s just the subtle undercurrent of love’ which was so energizing to hear. While none of the classroom teachers at Banksia spoke about love or affective ways of knowing, though nor were they visibly taken aback by the questions, Molly had a visceral passion for her pedagogical practice and Theo spoke deeply about the intangible, affective and metaphysical elements at play in schools.

Theoretically the Steiner philosophy and educational approach is actively concerned with the “inner lives”—spirit or consciousness—of students through careful and rhythmic flows which provide an antidote to the overwhelming trend towards over-stimulation and overly busy work schedules for students. They focus slowly and with careful concentration on particular themes for a more sustained time than in conventional classrooms. The Reggio classes at Correa are alive in a similar spirit of creative chaos as at Banksia, yet with an even more concertedly student-directed, play-based learning style in keeping with the Reggio-Emilia Approach42. On the other

---

42 Reggio-Emilia is an early years approach to teaching (rather than a set philosophy like Steiner and Montessori) that emerged in post-World War II Italy, by Loris Malaguzzi, to nurture the “hundred languages of children” through self-discovery
hand, stepping into the Steiner rooms is like stepping into a sanctuary of quiet, focussed learning. Steiner pedagogy (in Beth’s hands particularly), was far more tight and controlled. But in its organisation there was abundant creativity and deep thinking, a level of “freedom” did seem to be obtained by students through the nurturing environment and closely examined sequencing and learning cycles—a freedom to concentrate, stay with something and freedom in security and rhythmic predictability; every student in this Steiner class knew explicitly what to expect through the days, weeks and seasons of their school journeys.

In many ways the Reggio stream is far more open, emergent and individually expressive than the Steiner classes. The Reggio-Emilia approach follows the student’s lines of flight and, while there are parameters, it is ostensibly far less structured than the Steiner stream. In the early Steiner classes, in particular, there is greater onus on the commons and nurturing a ‘communitarian and social rather than individualist ethos’ (Ashley, 2009, 217), in which all students did artwork in a similar vein, the learning program was far more teacher-directed with a singular vision and direction. Yet where Reggio classes had group desks and seemed to do a great deal of roaming around different “work stations” and places on the floor, sharing materials, conversing expansively and conducting mostly group-work, the Steiner students have their own space with individual desks and their own materials, working on their own “work”. These tendencies posed an obliquely inverse image—where Reggio classes seemed to value individual expression through student-directed group-work, Steiner classes seemed to champion a communitarian culture through teacher-directed individual work. Yet both streams—in their own ways, with these particular people, at this particular time, and in cross-fertilization with the other—seemed to flourish.

Steiner classes at Correa nurture the development of a child’s whole being through head, hands and heart or Thinking/Feeling/Willing (Steiner, 1924/1984). Steiner philosophy connects heads and hands through somatic, experiential learning (much like in the work of Dewey, 1910, 1934; Maslow, 1964; and Montessori, 1909, 1948), through arts and craft based learning and connecting mind-body-soul through Eurythmy—a movement/meditation practice that Steiner described as ‘visible speech’ (Steiner, 1924/1984). Yet while Steiner teachers seem to teach from their spirit, they do not teach spirituality. But as Gallegos Nava (2001) describes—
Spirituality cannot be taught academically or linearly, since it transcends the academic disciplines. In education, it is also a state of awareness, one of inner order that, as educators, we can only encourage by our own conduct and holistic dialogue. (Gallegos Nava, 2001, 39)

In order to cultivate this long-term, whole development of children, Steiner teachers at Correa follow a class through from Class 1 to Class 6 (or sometimes Class 8) which is a much longer commitment than most conventional teachers make to a single group of students and can be wholly consuming, as Beth indicates—

Yes, it isn't really a job. Though I don't think any teaching, if done properly, is just a job, but certainly in my experience, Steiner teaching is a whole-life practice. I prepare for many hours each night, I learn stories by heart, I practice songs and instrumental music and each year I dive into a new curriculum and a new level of thinking through, as I follow my class up.

While this makes the praxis of these pedagogues far more demanding than many mainstream teachers, every Steiner teacher at Correa seemed to embrace this level of commitment to their teaching practice and life praxis heartily. This process ensures that a slower, more considered and compassionate relationship grows between pedagogue and pupil, developing strong lines of communication and nurturing love. It means a more calm and patient time-frame for connective learning to develop is assured which is in direct contrast with short-term, isolated, high-pressure schooling which is a flow-on from short-sighted politics. It also means there is a culture of familiar faces at the school and longer relationships established with a steady group of teachers remaining longer than in many public schools.

In Marcus Bussey’s contribution to SE research (2008), authentic praxis is central to teaching but entails a level of openness that may expose a teacher’s fallibility or humanness but ‘it is in being vulnerable that teachers become real to students’ (Bussey, 2008, 140). Hans certainly exemplified this humanness and fallibility, while intermittently playing guitar and speaking with his Class 9 group in the morning about all the “real” and “messy” parts of being human, including opening a discussion about the “sticky” realities of being adolescent which liberated these teenagers from the otherwise austere detachment, or otherness of the student-teacher dynamic pervading formal schooling, ‘a barrier between the teacher and the child’ as Steiner described in 1924 (Steiner, 1924/1997, 2). While there was great respect for Hans from the students, there was also an openness and candour in the way they engaged with him,
as if chatting with a beloved Uncle. Later in the day, Hans opened up Shakespearean history, making clear and relevant connections to students’ lives today.

Class 9 is immersed in learning about language, history, geography, design and the arts through Shakespeare and the Elizabethan era, which posed an inverse picture to the decontextualized learning through pigeon-holed subjects in outcome-driven secondary schools. The vibrant transdisciplinary learning process in Correa’s Steiner classes immediately presented an antidote to disengagement in an example of wholly engaged students maintaining concentration on the details and nuances of information because they were richly contextualised in the broader theme—from whole to parts—situated in a place in time and based in a specific cultural tradition which they simultaneously explored through other skills, such as performance and design. For these students, learning was de-shackled from abstract boxes; it was opened up and made meaningful, as “Frederick”, a student in Class 9 who had transferred from mainstream last year, illuminated—

I would always think, like, “what does this have to do with anything? Like, what does it have to do with me?” I don’t really ever think that now. With Hans everything makes sense and it’s like, relevant to me, sorta. Even though I’m not that, like, into Shakespeare, it makes, like, sense now. And we don’t just read it, I get to do designs and stuff about it that’s way more interesting too.

Hans and Beth teach across broad subjects, but they are more than generalists; they each embrace the role of a polymathic pedagogue, possessing a deep, reflective and creatively emergent grasp of broad bodies of knowledge, rather than a veneer of generalised learning—each of them has a comprehensive understanding of their pedagogy and a palpably authentic praxis. Naheem also had a composite understanding of his pedagogical practice; having come from teaching in secondary schools, he had an interesting perspective on recognising primary school children as ‘equal’ and ‘learning much from them’ as well as expertly integrating many subjects through discovery units and establishing ‘throughlines’ in themes. He readily engaged with experiential learning and treated every student with love and respect, starting each day ‘in open conversation with the whole class, in a circle that depicts equality’ (Naheem).
While Beth and Hans did not speak about sustainability and “the environment”, they expressed fluid, whole and ecological pedagogical processes which illustrated the importance of a pivotal pedagogue in the context of whole systems ecopedagogy, as it is in the connections, relationships and the way the story is told, that impacts on the cyclical, rhythmic and implicitly ecological learning of their students, cultivating a space where their ecological identities may emerge, rather than just learning “about” it. Likewise, while their classes were infused with spirit and love, they did not specifically teach about spirituality or religion. Beth shared the story of Francis and Clare, yet it was in the context of humanistic morality and ethics, exploring the themes of compassion, naturalist values and an enchanting aesthetic, with spirit conveyed only intangibly. Steiner classes at Correa broadly, read from some religious texts, but they are used alongside other mythologies, including Eastern mythologies and increasingly Aboriginal Australian stories, through the medium of history and the oral tradition of storytelling as a cultural practice around the world.

Creativity & Imagination

...Creativity is now as important in education as literacy and we should treat it with the same status.

—Sir Ken Robinson (2006, NP)

While many public schools are turning away from the Arts, due to limited resources (Gibson and Anderson, 2008), Correa (like Banksia) is dedicated to preserving learning through these explicitly creative forms, valuing visual art, music (singing and instrumental lessons) and language/cultural development as seminal parts of a student’s school education. Correa has a strong culture of attracting expert Arts teachers rather than classroom teachers who transfer to these teaching areas out of necessity, as well as specialist Steiner craft teachers. In addition to singing regularly, Steiner classes learn the recorder with their classroom teacher, playing together daily, and from Class 3 they start at least one other instrument (customarily violin/viola or piano), with a specialist music teacher.

Creative, story-based learning in the Steiner stream at Correa, in conjunction with their proclivity to learn outside and through embodied processes with hands and hearts,
rather than in indoor, sedentary, heady pursuits of knowledge, evokes Phillip Payne’s criticism about conventional school literacy learning—

In schooling, the majority of literacies occur indoors, are primarily of the text and, therefore, mind, and mostly anthropocentric. Experiential and embodied “openings” and the lure of the “wild” of nature might not be accessible, or available, because texts and words reflect the tamed nature of the domesticated indoors. (Payne, 2010, 305).

At Correa ‘experiential and embodied “openings”’ are not only ‘available’ through both outdoor experiences and storytelling, they are abundant and the importance of creative processes for nurturing Nature learning is visceral. Students have the opportunity to explore the wilds, go camping in the bush, inhabit the school garden and submerge in the mythical worlds of fairies, pixies, gnomes and other “forest friends” in the many rich, enchanting texts and oral stories. It is a wondrous thing to witness the inhabitation of “imaginary” worlds by children to whom these worlds seem equally real and as important as our “adult” worlds of material and artificial realities, like “Trent” in Beth’s Class 2—

Beth’s stories make me feel like I’m in here [pointing to his forehead] but also like I’m sort of in the forest, in a bush with an animal or interesting creature and I’m their friend. I want to take care of them for always.

While according to some eco-critics (Bowers, 2009; Carolan, 2008) the more-than-representation experience for eco-learning are held in more critical regard (often held in binary opposition with embodied ways of knowing), for some Correa children, the way they get to know “Nature” and their place in the Earth, is through the conjuring of “imagined” worlds—fairy-tales involving anthropomorphic creatures in order to build a sense of “proximity” or relatedness with other-than-human beings and an intimacy with Earth. Literature, oral stories, the telling of stories can enchant students’ ecological imaginations which may translate into immediate engagement with ecolearning that may be otherwise impenetrable for some children. Payne argues—

...children’s literature can be a “voice” in, with, about and for the environment and against the ecological problematic and what that entails for the next generations. They will inherit what we currently can’t or don’t want to see, or reimagine. (Payne, 2010, 305)

Stories and imaginative worlds do not gloss over the omnipresent ecological crisis or urgency of our Earthly realities, but they do provide reprieve and a means through
which to make sense of it all. Engaging with myths, folklore, fairy-tales, fables and other enchanted stories may provide the space to open up their affinity with life, and increase children’s psycho-spiritual development as Orr depicts—

If by some fairly young age...nature has not been experienced as a friendly place of adventure and excitement, biophilia will not take hold as it might have. An opportunity will have passed, and thereafter the mind will lack some critical dimension of perception and imagination. (Orr, 1994, 143)

Storytelling is an inspired way for teachers to immediately engage students otherwise disengaged with “Nature” or “the Environment”, capturing their imagination, which may lead to a stronger development of consciously ecological identities than merely teaching them “about” the ideas. This combination of outdoor play and creative learning seem to propel each other at Correa, where students are clearly nurtured in their pursuit of imaginative ways of knowing and where creative expression is actively celebrated, thus feeling their way through eco-learning.

Art of Nature & Sense of Wonder

I feel arts-infused environmental education is our greatest hope for fostering care and concern for the natural world.
—Tiffany Bollhorn (2010, 93)

At Correa there is an overwhelmingly affective, creative approach to (eco)learning, as the earlier comment by Tom suggests, ‘the science of it is secondary to enjoying it’. The ecological experiences of Correa students are filled with visceral, creative and emergent opportunities to explore and navigate their learning landscapes and co-inhabit their imaginative mindscapes. There is more of a phenomenological approach to ecolearning at Correa, rather than a rigid inculcation of reductive principles. In this, the Arts and artistic expression becomes the vehicle through which Correa students emerge into understanding Nature, as, ‘art can be thought phenomenologically: It can uncover a phenomenon, rather than imposing a human conception of nature’ (Glazebrook, 2003, 32). While arts-based methodologies are an explicit part of the school values and pedagogy, in the context of eco-learning it seemed unintended, particularly in the junior years – without a clear concept of a nature/art directive.
However, arts practice at Correa is not just confined to the Art Room with the specialist Art Teacher (and Craft teacher for Steiner students) artistic expression is infused throughout the learning process, through all learning areas and around the school. The ‘palette’ at Correa is largely natural, with soft, “Earthy” hues particularly in the Steiner classes, and a gambit of materials used, such as seed pods and carved timber shapes for numeracy sessions and “developmental play” times, leaves and flowers used in focused learning; drawing, sketching and water-colour painting for presenting school work. In the senior years, however, the artwork produced in specialist Art classes (particularly by the mainstream students) becomes increasingly infused with a post-industrial aesthetic—fusing the school’s eco-sensibility with the industrialised place—using metals, black and street-art/graffiti styles—depicting a landscape of relevant, emergent post(post)modern identities, juxtaposing the soft pastel palette of early Steiner classes. Yet, in this Nature-thirsty place where there are diminutive “green spaces”, it seems particularly pertinent that ‘the arts can be an effective bridge to reunite us with the natural worlds’ (Kesson, 2004, 42), and the conscientious pedagogues of Correa College seem to grasp this.

The juxtapositions abound at Correa where green and industrial; organic and constructed; privilege and poverty, meet and meld, and though it appears to be in a generally connective spectrum of contrasts, rather than in violently binary opposition, there are tangible tensions. This brings to mind once more Margaret Somerville’s key aspects for place learning (2010a, 342, as discussed in detail in the Murrnong study), that ‘our relationship to place is constituted in stories and other representations’, which has already been established, but of particular pertinence in this case is Somerville’s third point that, ‘deep place learning occurs in a contact zone of contestation’, which is palpable at Correa. Correspondingly, David Orr describes places as ‘laboratories of diversity and complexity, mixing social functions and natural processes’ (Orr, 1992, 129). Arguably it is in this rubbing up against the nature-culture contrasts that deeper learning and connections seem to occur at Correa and further still, if these diverse infoldings were not so present, Correa may not be quite so creatively generative—

Specific local places offer a material and metaphysical in-between space for the intersection of multiple and contested stories. (Somerville et al, 2009, 9)
Science and art at Correa are much more closely connected than in most mainstream schools, where they are generally regarded as incompatible, particularly in high school where students are frequently typecast (or describe themselves) as either “arty” or “maths/science” (where “humanities” fits is up for debate). Hans made a vivid allusion to the early interpretation of science, art and spirit being one in the same flowing practice, describing—

Steiner noticed there are three major faculties – art, religion and science. One shuns the other and they don’t get it; it doesn’t work. If you look at the Pyramids it is an exercise in holism—it was a religious exercise, a scientific exercise, an artistic exercise. The great Cathedrals are the same. Leonardo. What an example. But since then we’ve separated, to our detriment.

But not to the detriment of Correa-Steiner students who are beneficiaries to the contemporary interpretation of this synthesis. Leonardo Da Vinci (as Hans alluded) personified this sense of wonder and awe in the Earth and the Cosmos through science, art and his spiritual curiosities equally. In the senior Steiner years these connections are made clear and are united in practice, but also across the streams, through embodied, experiential learning, science, art and many other ways of learning are brought together to “just make sense”, as we heard earlier from Frederick.

At Correa (again in the Steiner stream especially), students learn much through pattern, which is art, but is also science and also nature. This coming together of these ways of knowing through ecology is grasped by Capra —

The study of pattern...is central to ecology. For educators, this recognition should be important also because it opens the door for integrating the arts into the school curriculum. There is hardly anything more effective than the arts—whether it’s the visual arts, music, or the performing arts—for developing and refining the child’s natural ability to recognize and express patterns. Thus, the arts can be a powerful tool for teaching systems thinking, in addition to enhancing the emotional dimension that is increasingly being recognized as an essential component of the learning process.

(Capra, 1999, 5)

So whether intentional or not, according to Capra’s framework, Correa students learn ecology—they learn ecologically—through patterns in music, art and through affective dimensions.
The garden provides a nurturing space for empowerment through multi-sensory immersion in the outdoors and it also provides a space where creative connections and imaginative dimensions develop, which in turn supports ecological learning—

Art is a lens that can help to restore a relational view, to see the world in a way that we can connect to and have active participation in the visible beauty, peace and wisdom which surrounds us. I now understand that “recovery must begin with noticing what’s truly there, with looking into and between, with revealing what has been left unseen, and with an offering of wonder and imagination” (Sewall, 1999, 93). (Bollhorn, 2010, 95)

This coming together of the patterns of nature through art, or art expressed through the patterns that connect, is exemplified in the piece by eco-artist Aviva Read at the beginning of this thesis [see Image 1]. A clear aim of eco-arts is to ‘engender the proclivity for critical sensory interaction and an emotional awareness of the world in which we live’ (Martin, 1982, 254). Beyond this are the broader bounties of ecological education which proposes children develop a sense of ecological Self through the Arts and artistic expression through Nature, in Nature and with Nature, thus developing an interconnected kinship with all beings, and a deeper sense of their connection within the creative unfolding of the Cosmos. Thus, eco-arts offers students the tangible means to become passionate and patient observers of the patterns of Nature, conscious and peaceful inhabitants with other beings, and a way to engage with their sense of wonder in life.

Rachel Carson wrote poetically of her mindful and loving relationship with her nephew that blossomed amongst the wilds of Canada, expressing her phenomenological understanding of how important being “in the outside”, amongst it all, is to cultivate a sense of wonder—

A child’s world is fresh and new and beautiful, full of wonder and excitement...(I would ask for) each child in the world...a sense of wonder so indestructible that it would last throughout life, as an unfailing antidote against the boredom and disenchantment of later years...the sterile preoccupation with things that are artificial, the alienation from the sources of our strength... (Carson, 1998/1965, 54)

In this coming together of outside learning with creative methods for engaging students’ sense of wonder, Correa thrives, despite the lack of concerted Ecoliteracy and science-based understandings. The combined philosophies and whole school approach to diversity, creative expression, human empowerment and an implicit
ecological spirituality, infuse a great deal of love and humanity in a formal school environment, warming the hearts and enchanting the spirits of students and staff alike.

_Reverence & Celebration_

...playful and serious at the same time.
—John Dewey (1910/1997, 218)

Public schooling in Australia is dedicated to being _free, compulsory_ and _secular_ (Education Act, 1872) and while these three components are crucial, there is much missing from this list. In Australia we are far less inclined to speak of spirituality, metaphysical or intuitive realities in the schooling context focused on the pragmatic concerns of reading, writing, arithmetic, standards, testing, “getting on with it”, without much conversation about the deeper ways of knowing, being and becoming (outside of organised religions and religious schools 43). And yet perhaps because of this, it seems to be the most fertile ground for growth in pedagogy generally and _ecopedagogy_ especially.

Correa, however, seems to hold these paradoxes of a staunchly secular meta-school system with the existential learnings in schools today, and alongside Steiner philosophy, in compellingly harmonious and celebratory ways. It embraces affective learning along with implicitly spiritual contemplative practices—dancing through the complexities and layers of their multiform pathways. Hans has worked at Correa for over fifteen years and in schools generally for ‘much longer’, he passionately reflects on this peace—

_Correa has always been a really warm place. Even when the suburb was really tumultuous it has always been peaceful. Much more than other places that are supposed to be, you know, “harmonious” and unified. Even when we’re in a time of change it is spirited. This place is truly a place of celebration and love._

Hans reverentially values education and school life—pedagogy, teaching and learning, ‘all of it’. Both inside and outside the classroom his presence is charged with a

---

43 While religion has no place in public schools, long-term ecopedagogue Paul Dullard (Catholic Education Office) has created a more connective ecological understanding through the ‘Kinship with the Earth’ (Sandhurst Catholic Education, 2013) – Sustainability Education Framework for Christian schools, discussed further in the final chapter.
spellbinding energy—while he is warmly approachable, he is also one of those rare people who humbly commands attention. He seems to embody a capacity to educate almost through his *very being*. Hans communicated a vast wisdom and love for his work and the ‘spirit of schooling’ which was likewise embodied by Banksia Principal, Theo, each of them expressing insight about the affective, metaphysical, ontological bearings of schools. To have such pivotal pedagogues who engage with this profound practice of deep reflection and introspection seems so vital for the fibre, the culture and trajectory of a whole school community and its commitment to ecological emergence. This sentiment was poignantly expressed by Theo who recalled the moment he started to understand—

... that intangible spirit which one can sense in any school as you walk in the front door, stroll down the corridor, hang round a classroom or staffroom. I’m not even sure where spirit comes from... an amalgam of who the school families and kids are, the historical journey the school has been on, school leadership, the way the environment of the school intertwines with the life of the school.

For want of a better word, I was “wowed” by these experiences—they were/are awe-inspiring. It seemed that to Hans and Theo education and schools in particular are ‘the sphere of life that must lie closest to the human heart’ (Steiner, 1924/1997, 1).

The fertile coming together of Steiner philosophy with mainstream public school freedoms, seems to have opened up a significant, creative space in which to flow and emerge into new ways of being and becoming, driven by these inspired Steiner teachers eager to weave “the best of both worlds” in heads-hands-hearts infused interdisciplinary learning. While Correa students may be oblivious or complacent about the intangibly wondrous character of their school, charged with the dynamic combination of *placed*, material realities with metaphysical musicality, they do seem to understand this on a certain level with Aileen’s sentiments shared by many of the students interviewed—

*We have the best school. We have the best teachers. We do the best kinda stuff. Yes we are the luckiest school children anywhere EVER! I know we are!*

Correa College exudes a vibrant spirit, perpetually emerging towards more transformative ways of being, becoming and belonging in their diverse community, the local area, and Earth. It is this style of ecological learning through the creative and emergent life-world that is exuberantly abuzz daily at Correa and through which they
exemplify their core values of *diversity, creativity, innovation, relationships*, and lastly, *achievement* but in a much more fluid, connective and abundantly creative way. Teachers at Correa are open, expressive and warm—they are *human*, and the children are encouraged to be as fully human as possible. They sing, they draw, they garden, they cook, eat and celebrate, they learn outside regularly, they explore multiple realities and they *move*.

Correa seems to manifest the ingredients of a thriving community which is becoming a place where the paradoxes dance in celebration. While the base for whole systems ecopedagogy as adopted in this study suggests Correa College could engage more with the intellectual area of establishing clearer ecological principles though as Tom stipulated—*enjoyment is key* and *science is secondary*, so lived experience, wonder, imagination and fun, effectively monopolise the Correa ecopedagogy landscape.

Students at Correa in Reggio, mainstream and Steiner, experience learning through *lived experiences* rather than by segregated, decontextualized, abstract and secondary information. Food centrally forms part of the reverence and celebration Correa displays for life. In *Ecological Identity* Mitchell Thomashow (1996, 204) describes a Gary Snyder poem ‘The Practice of the Wild’ in which Snyder posits, ‘grace is the first and last practice of the wild’ (1990, 184) and Thomashow further argues the importance of “saying grace”—

> We must [once more] learn how to say grace; how to invent forms of grace for our own circumstances, how to add the saying of grace to our everyday lives. This is a tangible way to connect to the earth. (Thomashow, 1996, 205)

In the Steiner stream, they have learnt *how to say grace*. They sing grace before meals which forms part of the rhythmic ecological language in the Steiner classes. On my last visit to Correa this was sung harmoniously before lunch in Class 2—

*Blessings on the blossom*

*Blessings on the fruit*

*Blessings on the leaves and stems*

*Blessings on the roots.*

— Author unknown
Fieldwork Epilogue

The data generated in these school sites richly fulfills the first part of the question driving this research—*learning from three schools in Education for Sustainability (EfS)*. While the particular discourse of “EfS” was not that prevalent, there was much generated about how schools engage with sustainability, ecolearning, ecopedagogy, and outdoor learning. It was not the intention of this study (as discussed in the Methodology Chapter) to find in these schools, pinnacles of whole systems SE and nor could the evidence generated in this study claim any of the schools embodied the notion of a *wholly systemic approach to critical ecopedagogy on all levels*. However, they came much closer to the openings of rich ecolearning and schooling as ecological than initially anticipated.

Teacher participants across all sites expressed a want to deepen their approach to ecological teaching and extend their ecological *language*, sharing similar thoughts as those expressed by grade 1/2 Banksia teacher, Lucinda, ‘I really want the words to open up the connections and make their “eco” learning more wholesome’. Similarly to the ARIES (Australian Research Institute for Environment and Sustainability) report (2006), this study found ‘that the deeper the engagement by participants, the more likely the initiative was to bring about long term, sustainable and systemic change’ (Ferreira, Ryan and Tilbury, 2006, 60) in each of the schools. Also, many of the teachers, sustainability coordinators and principals expressed that participating in this research helped to announce their conviction of deepening their practice and commitment towards richer ecopedagogy and SE, providing an opening to the second part of the research question driving this study—*a case for reorienting whole school systems towards Sustainable Education*, which is woven together in the concluding chapter.

The whole school narratives - the School Story - became intertwined with the theme of ecological identities in each of the sites, in diverse ways. Was there evidence generated to indicate the student and teacher participants in this study—and each school as a whole organism—embody signs of an ecological identity? According to Mitchell Thomashow (1996, 205), in order to cultivate ecological identity, it must be ‘grounded’ in these four main questions:

- Where do things come from?
- What do I know about the place where I live?
- How am I connected to the Earth?
- What is my purpose and responsibility as a human being?

The evidence generated in this study suggests that many of the students and teachers that participated in this research, as well as each of the whole school communities, do fulfil the first three questions abundantly, then the final hook was evidenced in less tangible ways but each school seemed to reinterpret the existential "purposes" of schooling, of being human and being in Earth in nuanced ways. But each school also reached beyond these parameters, extending or deepening the notion of ecological identity (and concurrently sustainability), to inhabiting more thriving and enchanted narratives.

What is perhaps lacking in the primary data is evidence of the ways schools engage with the metasystem of education and the supra systems of the politico-economic forces, in order to support a critical direction for ecopedagogy (briefly alluded to by Theo) within the school microcosm. In this blank spot, however, are signs indicating that regardless of what is happening on a policy level—or amongst the other “noise” surrounding schools—these three schools maintain a clear direction of their ecological (including socio-cultural) values driven by the school families and the 'intangible spirit’ (Theo) of the whole school organism; they each have a clear and creatively nuanced narrative and the conviction to sustain it. This was evidenced in the nature of their participation in the government-run ResourceSmart Australian Sustainable Schools Initiative (AuSSI Vic)44, with each of the three respective sustainability coordinators harshly critiquing the program, respectively critiquing—

> **Ticking the boxes is just too time-consuming sometimes... I feel like we're just in it for the awards!**
> — “Anthony”, Murrnong Secondary

> **The paper work is doing my head in. I just don't have the time for it at the moment.**
> — “Beck”, Banksia Primary

---

44 Eric Bottomley, a Melbourne-ecopedagogy pioneer, one of the creators of the original CERES Sustainable Schools Project on which the ResourceSmart AuSSI Vic is based, quips ‘Don’t blame us for the words! Governments choose the titles, but at least we are able to get on with the delivery’ (Bottomley, in James et al, 2012, 22)
I feel like it's a glorified resource management program. There's heaps of extra work and I think we're already doing way more – or different things, but in a better way, than the program offers anyway. I don't really know why we're doing it.
—  “Tom”, Correa College

There was also correlation amongst all the schools in the parallel affection students had for both learning outside in experiential, eco and gardening activities as well as learning in the Arts—art, music, (dance and performance), as both allow children the opportunity to express their knowledge, ideas and feelings in ways that do not (necessarily) involve words but provide the openings for children to communicate in ways that are potentially transformative (Eisner, 2002). Both arts-based learning and engaged place-based, ecological learning are more connected with body and heart and less confined to singularly heady notions of cognitive learning; and yet, in an apt cross-fertilisation of learning processes, cognition improves with greater arts/somatic and creative/affective learning (Ewing, 2010; Eisner, 2002). This provides the poetic paradox of this ecological paradigm—through learning more connectively there are more connections made, at every level, from the inner-worlds of children to the whole school organism and the local biosystem.

Beyond the core themes of place, food and story, “Nature” and “being outside” emerged as a resoundingly positive subterranean storyline in this study. In order to briefly honour the heart-felt responses that participants expressed at length about their connection with “Nature”, this study now presents a sweeping homage to Nature through the sentiments expressed by two student participants from each school—

Mbali, grade 3/4, Correa College—

...there's human nature and animal nature and some of human nature are taking away from the animal and plant nature world. So human nature is not as good as animal nature. It's more special... It's a bit like one part of the world is having a war on the other part of the world and it's really sad cause human nature is more powerful so they're destroying the animal nature...When we destroy nature we are only cutting off a bit of our life. When they cut down a tree they are taking away about two months of their life. The less trees the more carbon dioxide and then we'll all die.
Penny, grade 3/4, Banksia—

If we just tried to understand animals, we would realise they help us... People can be so dumb. Some people, LOTS of people I think actually, just don't understand anything about all of creatures and animals. Even some adults don't, some children are smarter but some also do dumb things like even if they know that it's not what they should do like littering because that goes into turtles tummies in the river. Why doesn't everyone know this?

Josie, year 10, Murrnong —

Inside I feel [pause] sort of closed over, like I can't breathe. I hate staring at computer screens. Being outside I feel like I'm a part of something. Nothing's ever the same. It's more interesting. It changes and you just, you never know what's going to happen.

Charlie, grade 5/6, Banksia—

When I'm learning outside it feels like there's open space and there's fresh air. It's not like you're boiling (like when we're inside) and you feel you're in Nature, growing food, it's like, if everyone does that we will all be together and we would feel connected. And less wrecking the Earth and more helping it.

Trent, Class 2, Correa—

Nature is trees and I imagine my mum, because like, Mother Nature. My mum is like Mother Nature is to everyone, and the WHOLE Earth.

Pei Ling, year 10, Murrnong—

Being in front of the trees and river when we learning is relaxing... Now we so busy with so much work we forget to stop and nature helps us stop and feel relaxing... I remember I did Tai Chi in the mountains [pause]. It was so special, so beautiful. When the clouds turn orange at the sun set, everything's so peaceful.

Sitting with the students as they inhabited the peaceful recesses of their memories while conjuring these accounts, was a highlight of fieldwork. It reminded me of the rhizomic beginnings of this research and brought to mind Thomas Berry's reflections which provided my first academic explorations in connecting the intellectual understanding of somatic-affective-metaphysical experiences in Earth—

Dawn and sunset are mystical moments...when the numinous dimension of the universe reveals itself with special intimacy.

—Thomas Berry (1999, 18)
CHAPTER FIVE: The Dance of Possibilities

We can’t control systems or figure them out. But we can dance with them.

—Donella Meadows (2001, 59)

Together, the rich primary narratives generated in three Melbourne schools interwoven with the poignant and profound bodies of literature in this research form a contribution in the confluence of reorienting school systems towards SE. The notions of Environmental Education (EE), Education for Sustainability (EfS) and Sustainable Education (SE), have been established through the study yet through the process of generating research, the central discourse shifted steadily from sustainable to ecological and a swelling enchantment with the conceptual framework of ecopedagogy (in lieu of sustainability education) blossomed, which has a greater connective capacity for regeneration. This project provides evidence that ecopedagogy, praxis and whole school approaches are thirsting to be deepened and re-enchanted.

The act of sustaining the diversity and health of the living Earth is the imperative of our times and hence, so too is engaging with sustainable education. Yet sustaining life—survival—as the final goal of education does not delve deeply enough, stretch widely enough nor soar highly enough to engage schools through a whole systems commitment over time. The parameters of SE have been greatly strengthened by the accompaniment of Marcus Bussey’s interpretation of SE (2008) as ‘an embodied and relational engagement with life’ (Bussey, 2008, 139). According to this research, these insights fulfil many of the needs of whole systems ecolearning in schools, yet “sustainable” itself is inadequate and the term we needed all along was sitting right there, in front of us; all around is; in us—it is ecological education.

Reimagining Ecological Education

In this reconceptualised Ecological Education framework, the overarching purposes of learning become ecoliterate, ecojust (which includes sustainable), and enchanted. The meta discussion then becomes one not of the "purposes" of learning but the stories of learning, and thus the re-storying of schooling surfaces as the underlying leitmotif of the freshly enchanted Ecological Education framework generated in this study. In the
infolding—the place where the empirical evidence from the schools meets and dances with the insights from the literature—this study cultivated possibilities for an emerging conceptual framework for Ecological Education:

- Enchantment — the Wow
- Ecoliteracy — the How
- Ecojustice — the Now

This Wow-How-Now45 3E Ecological Education framework [see Table 3], also includes the threads of the feeling, thinking, doing processes within each pathway, but as discussed, there are many overlaps and interweavings. The personal, local, global-universal “spheres of influence” flow through each pathway and other adjunct theories are also “borrowed” and blended, such as Permaculture Principles (Holmgren, 2002, 2012) [see Appendix B VIII for further details].

This framework provides some possibilities for Ecological Education futures; it is not intended as one-size-fits-all prescription for implementation in schools. But if it is embraced conceptually, the flow is important, with an emphasis on the work of enchantment coming first and being present throughout the other learning pathways. There is also a strong persuasion towards age-appropriate times, situations and methods for the Ecojustice work, particularly in early primary; i.e. this study asserts learning about endangered animals, Climate Change or ecosystems in distant places in is not important, productive or empowering for younger children (P-2). The Ecoliteracy work can begin where and when appropriate and embedded in regular opportunities to be outside, to love, nurture and be nurtured by Earth. For students (especially in early primary but even secondary), getting outside, learning to know and love their biome, having regular multisensory opportunities to explore Earth, play and be creative in their place and with space, is critical. Sue Elliott and Julie Davis invite educators ‘to make mud pies and daisy chains with children for a sustainable future’ (2004, 5). It may be as simple and difficult as that—a psychological, cognitive and physical shift for some pedagogues but thirsted for by students and whole school communities. So, in a sense, this framework turns "traditional" EE on its head.

45 The 'Wow', 'How', 'Now' articulation emerged in conversation with my dear friend and colleague Tiffany Bollhorn.
Eco-Education Criticism and the Problem of Education

There is expansive and compelling literature on the paradigm shift in education from a mechanistic, market-driven cog in the neo-conservative politico-economic supra system towards a system becoming synonymous with ecological education (Orr, 1992; Bowers, 1995, 2012; Capra, 1996; Sterling, 2001; Jucker, 2002; amongst many others). While this research is strongly aligned with that discourse, the main emphasis here is on how to establish a locally specific and enchanted approach to ecolearning for students in schools; how to extend teacher ecopedagogy and praxis, and address the broader unsustainable systems in the hidden curriculum within schools. Hence, this study advocates for foraging deeper into the expanses of possibilities by dancing beyond utilitarian sustainability education, into the kaleidoscope of curves and spirals in this Ecojust, Ecoliterate and Enchanted Ecological Education. There are indications that the tide is turning and “tick-the-box” initiatives (as we heard from Theo and Lucinda at Banksia and Tom at Correa) no longer satiate the existential thirst of school communities eager to generate the opportunities, the language and the processes for enchanted ecological education.

The three whole-school communities studied provide evidence that schools are moving towards whole systems approaches. But this research also asserts that there is still much work to do, through fertilising critical ecopedagogy—ecoliteracy principles and ecojustice discourse—with literature, research and examples of inspired praxis that reinvigorates and re-places schools in their bioregions, in Earth. There is also a parallel imperative to offer learning experiences in schools that generate spaces for children to express and nurture their sense of wonder with living systems—the biota and the biome—and to not disenchant them through overly heady, indoor learning or laden them with issues-driven ecojustice.

This study calls for contextualising all learning systems in our local ecosystems; re-embodying place and celebrating the ecological and cultural commons through art, food, participatory inquiry, love, mindfulness and storytelling. This process is rooted in a commitment to learning from the first Australians—the longest sustained civilization in the world—by listening and engaging with the re-placing and re-enchanting ancient-emergent Story of Country.
<table>
<thead>
<tr>
<th>APPROPRIATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENCHANTMENT Feeling: Relating, Being &amp; Becoming</td>
</tr>
<tr>
<td>WOW</td>
</tr>
<tr>
<td>ECOLITERACY Thinking</td>
</tr>
<tr>
<td>HOW</td>
</tr>
<tr>
<td>ECOJUSTICE Doing</td>
</tr>
<tr>
<td>NOW</td>
</tr>
</tbody>
</table>

| ENCHANTMENT | - Spirit—Critical/pragmatic spirituality, neohumanism;  
- Biophilia—Love of life, kinship, empathy for all members, whole-community spirit, sense of wonder, awe;  
- Creativity and imagination—Arts-based ecological learning, eco-art, bush-craft, aesthetics and beauty;  
- Story—Mythology, storytelling, song, poetry; re-langaging;  
- Slow and Soft—Meditation, yoga & other mind-body practices, process-based and embodied learning;  
- Permaculture Pathways—‘beyond sustainability’;  
- Celebration—Music-making, sharing food, seasonal rituals;  
- Love—Peace, empathy, cooperation, passion;  
- Place-making—Sense of place, celebration of place |
| ECOLITERACY Thinking | - Foundational ecological principles, practices and philosophies;  
- Earth-wisdom—Sustainable living principles, biomimicry;  
- Traditional Ecological Knowledge (TEK)—Indigenous Australian cosmology, Dreaming, Law and Country;  
- Whole systems thinking—Ecosystem ecology, new ecology;  
- Permaculture Principles;  
- Health—Ecopsychology, resilience, whole-body health, nutrition;  
- Future-proofing—Visioning, strategic planning, “extended present”;  
- Place pedagogies—Place-specific learning, bioregionalism, community inclusion, learning about local places/bioregion |
| HOW | |
- Blessed Unrest—Activism, ethical/values systems;  
- Experiential—Embodied, engaged pedagogies, authentic learning, life-skills, outdoor learning;  
- Permaculture Practices—Sustainable food gardening/farming, relocalisation, conscious consumption, organic/local food preparation;  
- Greening schools—Increasing biodiversity, indigenous regeneration;  
- Voluntary Simplicity—Reducing waste; reconceptualising resources;  
- Sustainable Building design—Passive, closed loops, renewable;  
- Place-based—Contextualising/localising, learning embedded in place/bioregion |

Table 3: Conceptual Framework of 3E/Wow-How-Now Ecological Education
Like Sauvé (1996), this study recognises the importance of a proliferation of interpretations—

Should this diversity be perceived as a problem? Should it be ignored in the search for standardized definitions? On the contrary, as suggested by Jickling (1995), Hart (1990), Robottom (1990) and others, this diversity needs to be acknowledged and considered as “fuel” for critical reflection, discussion, contestation, and evolution. It should be taken into account in a clarification process aimed at helping educators develop their own relevant EE theory. Research shows that despite formal theory, in the end, it is the educator's personal theory, self constructed, whether explicit or not, that influences his or her daily pedagogical choices. (Sauvé, 1996, 28)

If this is the case, the strength of pedagogical praxis becomes paramount to ecological education. The emphasis here is not just on epistemology—the thinking about education, but the methodology—the how to do education, and perhaps most importantly the ontological question—how to reorient, be and become ethically and spiritually in the Earth, in schools in order to co-create authentic, rich, enchanted and sustained learning opportunities for students.

This study has unfolded in a time and place in which the mechanist-marketised systems superimposed on education do not provide an adequate story for schools, but this study dances within a messy though fertile stage of post-poststructuralism (Somerville, 2008), which represents a process of breaking down in order to co-generate in more enchanted ways. Rather than situated in modernism's rigidity or strictly in postmodernism's relativity, this study stretches its limbs into the celebratory symphony of ecological renewal, as captured by Gregory Bateson—

Our machines, our value systems, our educational systems will all have to be informed by [the] switch, from the machine age when we tried to design schools to be like factories, to an ecological age, when we want to design schools, families and social institutions in terms of maintaining the quality of life, not just for our species, but for the whole planet. (Bateson, 1979, 84).

And Thomas Berry further illuminates—

The difficulty cannot be resolved simply by establishing a course or a program in ecology, for ecology is not a course or a program. Rather it is the foundation of all courses, all programs, and all professions because ecology is a functional cosmology. (Berry, 1999, 84)
While the Steiner stream at Correa College, as we heard from Beth and Kenneth, is not explicitly pivoted around sustainability or ecology [see Chapter Four], Martin Ashley (2009) describes research which presents a firm argument that—

…the whole structure of the Steiner/Waldorf curriculum is profoundly ecological and preceded present-day concerns for sustainable development through ecological awareness by several decades. Teaching methods always work from the whole to the parts...Conversely, a reductionist, analytical approach that attempts to synthesize meaning from fragments of knowledge without first presenting a bigger picture that is coherent to the child is avoided. (Ashley, 2009, 213)

This perspective is compatible with the dance of whole systems, ecological education in this research, at once Big Picture yet also contextualized in place and nuanced. It is the fragmentary, compartmentalised learning widespread in mainstream schooling which is part of the unsustainability of schooling that Steiner pedagogy resists, and this study asserts schools could be actively listening to and learning from such examples more concertedly.

The problems of education and likewise the malaise of unsustainability are driving motivators for this research and while there is little scope to explore the deeper paradigm shift required of education, Jucker captures the core issues saying—

...It is very clear that the current educational system is not enabling people to nurture wisdom, to further sustainability. It positively obstructs the production of the necessary imagination...Euro-American-style education cannot serve as a model for the world. It is saturated with values, ideological concepts and institutional structures which are incompatible with a sustainable society (Jucker, 2002, 238).

Further, ‘our tendency to parse complex nature into pairings of “us versus them” should not only be judged as false in our universe of shadings and continua, but also (and often) harmful’ (Gould, 2007, 59) and within an education context Orr likewise counsels, ‘the crisis [of ‘unsustainability’] cannot be solved by the same kind of education that helped create the problems’ (Orr, 1992, 15). John Fein echoes this sentiment urging—
When the wide scope of the task of reorienting education towards sustainability is considered, it is difficult not to conclude that much of the education needs to be largely fashioned anew. (Fein, 2001, 15)

This study argues for a repositioning of school culture and the meta-school system towards a spirit of love, cooperation, conviviality and enchantment through active and embodied processes of learning. Love and cooperation provide an alternative narrative to the competitive marketization of schools (Maturana and Bunnell, 1999). Our love of Earth has been ‘interfered with’ due to our diminishing connection with it and sense of wonder, and we are thus becoming ‘ill’—severing ourselves from Earth, inhabiting increasingly indoor, sedentary lifestyles. The resilience and empowerment of students in schools pivots on this situation; resilient students flourish through connection with Earth. Thus, in schools we need to engage with the joint goals of falling back in love with Earth materially-somatically-affectively and reshaping the loving language which expresses this bond representationally.

While Sterling intricately outlines the work required for reorienting towards an ‘ecological worldview and sustainable living’ (Sterling, 2003, 10), this emergence is happening organically within the three schools in this study (albeit slowly) and in some ways could be strengthened by a looser engagement with the ideas in the context of schools in Australia. Like Bussey (2008b), this study is ‘endeavouring to engage...the loose, multiple and thoroughly intimate face of an embodied approach to sustainable education’ (Bussey, 2008b, 139). And this deeper, creative and fluid pathway is further opened up by Frank Fisher, who reveals—

What we are looking for is empowerment of a particularly deep kind: The enablement of being—or, even better, of becoming. For we humans are nothing if not human becomings, always in the process of change. (Fisher, 1995, 63)

Hence this framework is one of becoming ecological and dancing towards more enchanted ways of learning, teaching and being in schools. For critical, ontologically-reflective pedagogues to nurture, empower and strengthen these shifts without imposing them on schools from the “top”. Ecoliteracy and Ecojustice have dominated EE/ecopedagogy literature, and while there is still much critical and creative work emerging from these
fields, this thesis will conclude by focusing on *enchantment* in schools. In order to address the pulls towards more imaginative, loving, connective and enchanted futures, there is much to learn from the diverse streams of literature discussed in this thesis and further represented in the Appendix [Appendix A-B].

While the enchantment discourse is trickling into the field of education and ecopedagogy specifically, it is also present more widely through *arts-based approaches*, *imagination* and the *narrative arts*, and critical spirituality (Chawla, 1990; Somerville, 2007a, 2008; Payne, 2010; Payne, Reid and Cutter-McKenzie, 2010; Dyer and Hodgson, 2003; Dyer, 2007; Bussey, 2002, 1006, 2008, et al 2012). It is the role of these important areas—often considered decorative rather than central to eco-education—along with *new cosmology* and Aboriginal Australian songlines, Country and storytelling, that forms the focus of discussion here, in order to engage with the “inner-worlds” of students and teachers in schools as well as whole school communities, within a phenomenological-intersubjective, nature-culture context that recognises the *lived*, material-somatic, embodied experience as both ‘a metaphysics of logics and a metaphysics of poetics’ (Somerville et al, 2009, 5).

**Enchantment**

*Those who contemplate the beauty of the earth find reserves of strength that will endure as long as life lasts.*


There are many entry points into an enchanted ecopedagogy and an enchantedly sustained whole school commitment to ecological education: Eco-art, stories and storytelling, mythical treasure hunts, meditations, gardening, building willams/cubbies, observation, place-making, music-making outside, indigenous rituals such as ‘smoking ceremonies’[^46], amongst others in a world of possibilities. For this researcher, being perpetually enchanted by the musicality of our living planet and specific place provides sustenance for my commitment to an ecological praxis in teaching, and engaging students in ecological education is strengthened abundantly via music.

[^46]: Conducted by an Elder in Country or an indigenous educator at the school
Finding the Rhythm in the Dance: Story, Song & Ecological Musicality—

Give me the sounds God made so —
I love them all
Whether loud or low,
From the small, thin
Note of the bee’s violin
To the rough sea’s uproar
In wild tumult tumbling upon the shore.
—Oodgeroo Noonuccal, ‘Sounds Assail Me’ (1970)

The music of the Earth provides the soundscape of ecopedagogy—listening to the leaves rustle in the soft westerly breeze of springtime, the cacophony of local and exotic birds singing in the trees overhead, the heart-stopping thump of a humid, mid-summer thunderstorm, the dynamic punctuations in the chorus of chattering children, and even the drone of distant trucks. Likewise, the generated music of students through song, clapping, stomping and co-opting an array of mocked-up instruments made from sticks and seed pods, found treasures waiting unwittingly to be played, plucked and percussed, provides the musical repertoire to (especially outdoor) ecolearning. Song and music was central to the enchanted learning at Correa College and could be more widely engaged with in schools as a way of becoming enchanted ecologically.47

The musicality of the unfolding of the Universe can itself provide wondrous nourishment for captivating the ecological imagination of students and schools. Margaret Somerville and Tony Perkins worked for ten years to transcribe the stories of the Gumbaynggirr people of the North-Central NSW East Coast (around Coffs Harbour), producing the wonderful Singing the Coast: Place and Identity in Australia (2010). The cosmological stories are brought to life through song—

In Aboriginal creation rituals, places are sung into being. To “sing” one’s country is to nurture it, to revitalise it and to assert your ‘knowing’ of that place in every sense—physically, emotionally and spiritually. In making connections between people and places, songlines are made across the landscape. (Somerville and Perkins/AIATSIS, 2011, 5).

47 At my son’s school, local Wurundjeri cultural learning and celebration is lead by a Woiwurrung Elder-Educator which is woven together with a Steiner stream (not “Correa College”) to generate a vibrant community and enchanted cultural commons alive in celebration expressed through song.
Hearing the song in the story of the Earth’s unfolding, is perhaps the most enchanted work ahead and retelling it with music is the work of the enchanted ecopedagogue. In Brian Swimme’s fascinating story *The Universe is a Green Dragon* (1985), he describes a conversation with eco-theologian, Thomas Berry, at which time the idea for his book was conceived, as he describes—

Thomas Berry suddenly said: ‘You scientists have this stupendous story of the universe. It breaks outside all previous cosmologies. But so long as you persist in understanding it solely from a quantitative mode you fail to appreciate its significance. You fail to hear its music. That’s what the spiritual traditions can provide. Tell the story, but tell it with a feel for its music’. (Swimme, 1985, NP)

In fulfilment of this high order, Swimme created a musical, mythical conversation of our cosmological story with the wise elder “Thomas” and “Youth” (representing humans). “Thomas” evokes the centrality of love, enchantment and creativity in the process of becoming ecological, proclaiming that ‘Our task is to explore, to celebrate and delight in the depths of the universe’ (Swimme, 1985, NP)—

> Love ignites being. We awake to fascination and we strive to fascinate. We work to enchant others. We work to ignite life, to evoke presence, to enhance the unfolding of being. All of this is the actuality of love. We strive to fascinate so that we can bring forth what might otherwise disappear. But this is exactly what love does: Love is the activity of evoking being, of enhancing life. (Swimme, 1985, NP)

Swimme prefaces this discussion by describing the processes needed to engage with this work—

If we can remain resilient, if we can continue our questioning...our hoping, if we can live in awe and in the depths of wonder, we will continue moving into the only process that now matters – our authentic maturation as a species. It is in this way and only this way that we will enable the Earth to bloom once again. (Swimme, 1985, NP)

It is in the process of becoming enchanted—becoming once again childlike—that we will paradoxically fully mature and understand our place as self-reflexive weavers, wonderers and music-makers, amongst the more-than-human, the beauty of Earth, and the creative unfolding of the Universe. In terms of schools, students require the space to explore this
process and teachers require the mindfulness and commitment to *embrace* it, dancing through the musicality of our enchanted ecological learning.

Poetry (and “spoken word”) is a cultural literacy (celebrating a resurgence in Melbourne and elsewhere) that grasps Earth’s rhythms and paints immediately more profound and layered pictures than possible in prose or otherwise. Poetry is a marvellous medium to explore with students outside, both in the pragmatics of ease and accessibility and in the generative capacity of its openness. According to Bussey (2013)—

> Poets are the archaeologists of culture. They plumb its depth for the new that lies at the heart of the old and they give this re-enchanted thing back to us in forms that move us beyond our present fixations to new possibilities. (Bussey, 2013, 3)

David Suzuki (2002) similarly describes the place of poetry in this ‘dance’ of ecological meaning-making—

> Poetry...is the tool of synthesis, or narrative. It struggles with boundaries in an effort to mean more, include more, to find the universal in the particular. It is the dance of words, creating more-than-meaning, reattaching the name, the thing, to everything around it.  
> (Suzuki, 1999, 201-202)

Poetry is a meeting place for myth, contemplation, art, music and profound expression; a poetics of relational communications that dances between song and story and elicits the **feeling** of these ecologically emergent times—

*I belong to the Earth now*  
*Standing for what I stand on now*  
*No nation, no race, no religion, no gender*  
*No guru, no teacher, no method.*  
*Emptying of identity, I am full and I have no cause to render.*  
*Except the majesty of the Trees,*  
*The honesty of good Water,*  
*The glory of the Thunder,*  
*The sacredness of the Soil,*  
*And the Children of 2045*

—Louis Alemayehu, ‘PachaMama’ Got the Blues’ [abridged](in Jordan et al, 2009, 174)

---

48 Pachamama is an Indigenous Peruvian name for Mother Earth
Storytelling & Imagination—

In Phillip Payne’s, ‘Experiential Education of the Ecological Imagination’ (2010), his program for school children and pre-service teachers through “Gnome-tracking”, is based on Australian author-illustrator Robert Ingpen’s *The Voyage of the Poppykettle* (1980). This provides a distinctly more inspired immersion in outdoor, experiential, place pedagogy than many teachers would expect. Payne retraces the story orally which he describes as a ‘reanimated version of ecoliteracy’ (Payne, 2010, 297), more closely aligned with performance than “reading a book” (much like the practice in Steiner education as we discovered at Correa College). Storytelling is thus an embodied act of praxis as well as an example of passionate pedagogy, as ‘stories are something we tell...through our words and actions’ (Bussey, 2008a, 92).

Payne’s storytelling is embedded in a simultaneously embodied-imagined learning experience which includes, ‘rockpooling, shoreline art, water floating, beach strolling...and preparing “slow food” (Payne, 2010, 303). If all teachers experienced this kind of enchanted ecopedagogy, how different “classroom” learning might be with school children benefitting from the flow-on effects of re-ecologised, re-energised, re-enchanted teachers. Payne’s remarkable program offers a rare opportunity for students and teachers—

...to sense, perceive and (re)imagine their (un)tamed ecological otherness and their intimate connections with more-than-human natures... the embodied dance of visual illustration and oral storytelling experienced in natural settings provides a playful means for listeners to explore, discover and relate to their inner, social and more-than-human natures and places. (Payne, 2010, 295)

Describing the current cultural malaise in schooling, Payne suggests it is entirely consumed with written text aside from ‘some remnant indigenous cultures whose endangered oral traditions sustain some memory of an animated relationship with nature and place’ (Payne, 2010, 297). But it is these so-called ‘remnants’ that could be reclaimed for a renewed recognition of story and storytelling’s central place in the collective Australian (eco)imagination. There is pluralised importance in opening the ecological imaginations of students to Indigenous Australian stories, folklore and philosophy—they re-place us here in our bioregion; they diminish the otherness of indigenous peoples,
cultures and languages; they provide a more tangible grasp of the ‘extended-present’ (Beare and Slaughter, 1993, 294) and they emancipate “endangered” indigenous songlines, to be sung once more in our connective human-human-more-than-human-Earth futures in celebratory kinship.

We witnessed, particularly at Banksia and Correa, a wondrous commitment to the space of imagination and creativity being honoured in diverse ways, from imaginative play to the arts to enchanted storytelling. But it is reportedly missing from many schools (Ewing, 2010; Bussey, 2008b; Robinson, 2006) concerned primarily with “fulfilling curriculum requirements”. This study demands we refocus attention on this most central aspect of schooling, to nurture children’s propensity for imagination and for re-enchanting whole schools.

**Artfully Ecological**

The aesthetic beauty of visual art at once carries us away into the inner-worlds of our imaginations, but also re-Earths us; places us in Country. Yet engaging with the Arts and art-based ecological education is not pivoted on “doing art” more in schools (though that is also welcome); it is more about learning artistically, learning affectively or learning as ecologically artful, as witnessed with Correa College in Chapter Four, particularly the Steiner stream. It is an ontological repositioning, not just—

...expanding environmental education to embrace affective learning through the Arts; this study is a call for all of us to learn to see again...imagine what implications this would hold for environmental education and the possibility of a new world if we begin to regard the world anew and take that second look with the eye of the heart. (Bollhorn, 2010, 95)

When explored and experienced outside with rich Earth-based materials, visual art (alongside other artforms), becomes the infolding/interface of the intellectual-somatic-spiritual experiences of learning, being and becoming in Earth, in place and in time as eco-art educator Meri-Helga Mantere (1995) expresses—

Around me in the physical and social, spiritual and material reality and at the same time in myself there are ample possibilities...But how can I see the essential and necessary ingredients clearly when they are inside me and outside me at the same time, and when most of them can only be perceived by one’s heart and the faintest motion of thought?
Anyhow, everything is in continuous motion, changing slowly or quickly and connected by various networks. (Mantere, 1995, 3)

Mantere captures the raw sensuality of Eco-art and it is this exposing humanness/Earthliness that is feared by many mainstream pedagogues and meta-school systems that undervalue the incredible possibility of learning as art which is at once ecological and sustainable. The flip-side is the current state of unsustainable schooling which—

...is a result of the same misguided understanding of human nature and knowledge and machinery that enables the destruction of our environment and the mechanisation and withering of our inner selves. (Mantere, 1995, 9)

Ecological-art-educators ‘support and facilitate the conversation with the environment’ (Mantere, 1995, 6), but this human-other-Earth ‘conversation’ can only be participated in and guided actively through an embodied, authentic praxis, lest students unmask pedagogues as ecological charlatans.

**Becomings: Towards Enchanted Ecopedagogues—**

*Praxis on the Edge*

_**How can we as educators help make our students whole if we are not committed to becoming whole ourselves?**_

— Aostre N Johnson (1999, 108)

It is the coming together in the ecological-cultural Commons of the outer-inner, natures/cultures, sensual embodiment, pragmatic participation, intellectual inquiry and metaphysical becomings that is required for teacher praxis in this becomingness of (re)enchanted Ecological Education. And while praxis requires a ‘grounded and pragmatic approach to all teaching contexts’ (Bussey, 2008a, 76; Lather, 1986), the deep, inner demands of teachers for ecological praxis sit in a s/place on the *edge*—

In order to teach sustainably a teacher needs to be engaged in some form of transformative reflective practice that creates the inner space to honour their interconnectedness and debug their conditioned partialistic responses to relationship. (Bussey, 2008b, 144)
Similarly, John Miller (1999) demands ‘teachers must also nurture their own deeper selves...activities like gardening and meditation allow us to make the transition from a calculating to a listening mind’ (Miller, 1999, 48). It is this art of *listening* that it is imperative to the work of re-ecologising pedagogic praxis—*slowing, listening, embodying* and *becoming*. Some of the most powerful pedagogues for teachers are (to paraphrase Malaguzzi) the countless “languages of children” and the munificent voices of Earth—

...to shut ourselves off from these other voices, to continue by our lifestyles to condemn these other sensibilities to the oblivion of extinction, is to rob our own senses of their integrity, and to rob our minds of their coherence. We are human only in contact, and conviviality, with what is not human. (Abram, 1996, 22).

In order to navigate this journey, it is the work of the revered Elders figuratively chaperoning this study, Margaret Somerville, Phillip Payne and Marcus Bussey, that takes us to the edges of possibilities for an enchanted, placed, critical-reflexive, ecological praxis. Each of them embraces this ‘chaotic place of unknowing’ (Somerville, 2008) implicit in the dance of edgy praxis, in the unfolding of ‘postmodern emergence’ (Somerville, 2008). They each teach and research within the shifting spaces of Antipodean (now)here-ness and the coming into being pedagogically through the ongoing embodied process of ‘ontological uncertainty’ (Somerville, 2013, 23). This is captured by Payne and Wattchow (2009) where the “edge” is—

...that in-between and often unknown or othered zone of human experience in nature...edge can act in a wild, untamed, and reconstructively other way... to geographically and culturally embody the historical Anglo-Australian tension between the romanticized wild outback/inland/bush and, on the other hand, a recreational/colonizing use of the threatening seas and oceans, the coastal fringe/edge/margins of which the majority of Australians live on or near...as a form of phenomenological deconstruction at the personal, social, cultural, and ecological layers of experience. (Payne and Wattchow, 2009, 17-18)

For Somerville, ontological edginess is experienced through place, story and writing—

Place is known through the senses, through the body, and the subtle pedagogies of layered storying which every place contains. Writing about place is an ontological act, producing the self at the same time as writing the words. It is predicated on unwinding the
spiral of “material form and interpretive understandings or experiences” to enable new possibilities to come into being...it is like being on the edge of the cliff, always shaping new words to make a bridge into that space. (Somerville, 2013, 19)

Bussey takes us to the depths where ‘mystery breaks through the surface and magic really does happen’ (Bussey, 2008b, 145) with his pragmatic/critical spirituality, embodied sustainable praxis and neohumanist education, and thus beckons the work of pedagogic praxis to the edge. Bussey (2008b) captures the process of teaching ecologically through ‘sustainable praxis’ which is an embodied act of living as sustainable, not teaching about sustainability—

...sustainable education is not something I do, it is something I am, not as an isolated individual but as a fully contextualised social being sharing this hazardous moment in history. (Bussey, 2008b, 145)

But spirit in Bussey’s terms is always immanently placed through a critical frame and re-earthed in the pragmatics of lived experience, but which in turn re-spirits the rational—

Critical spirituality redefines rationality and empiricism by including within their framework both the somatic and the meditative as valid and necessary components of any research [and pedagogic] activity. (Bussey, 2002a, 303)

By including spiritual and emotional sustainability in his remarkable taxonomy of embodied SE (2002, 2008b) Bussey layers SE through, Physical, Intellectual, Emotional, Ethical and Spiritual Sustainability (Bussey, 2008b, 140)[see Appendix B8 for further details]. Weaving each of these through the other, within a critically embodied praxis, Bussey frames his embodied SE paradigm as a—

...personal engagement with sustainability in considerations that involve all five layers; thus I am what I eat; I am what I think; I am how I feel; I am how I act; and I am spirit... (Bussey, 2008b, 140)

This approach transforms the embodiment of teaching ‘from a craft to an art, or as Johnson (1999) reminds us, into a sacrament’ (Bussey, 2008b, 142), a far cry from a “job” as construed in these economic-centric times. Mantere likewise describes teaching as an artform—
The colour and quality of the teacher’s speech, the choice of words, body movements and body language in general...affect what and how we learn. Form is a message, not merely on a visual, superficial level, but in a much deeper sense. Form bears meanings, which we consciously and unconsciously interpret. (Mantere, 1995, 3)

Here Mantere reveals the hidden curriculum implicit in teacher praxis—that which is not tangible but is felt and becomes a way of knowing for students—is the focus for teachers’ work in intentional ecological pedagogy and praxis. A teacher’s embodied energy may be even more important to ecological education than the embodied energy involved in the construction of the school building—the authenticity of teacher’s ongoing commitment to ecological and sustainable praxis is digging into the most sensitive—edgiest—area of this research but it hence presents fertile ground for future work.

It is this exposing sensitivity of pedagogic praxis that is central to Bussey’s deepened SE. In reference to Judith Butler’s argument (2004, 19), Bussey describes the vulnerability that this sustainable praxis entails, (as witnessed with Theo and Hans in Chapter Four)—

...vulnerability is a core aspect of our humanity; it breaks down the barriers of difference and allows for a space to emerge in which we can, in shared vulnerability, identify with the other... it is in being vulnerable that teachers become real to students. (Bussey, 2008b, 140)

Bussey evokes the imperative for pedagogues to commit to ‘practise the sustainable as it is the key to a profound social and ecological shift’ (Bussey, 2008b, 140)[emphasis not in original], albeit at times tenuous and exposing.

To feed this very process itself, requires love and a giving of ourselves entirely, but a loving praxis in turn re-energizes us to renew the commitment in becoming transformed Enchanters and Wonderers—

When we can find this depth meaning floods us. Everything becomes alive and we have a relationship, a kinship with everything, and furthermore we come to know and understand this relational world through a new kind of rationality based on love. Love is integrative because it breaks down the ego and allows us to be part of life rather than above it...It is anchored in the spiritual. This is a spirituality that is lived, not romanticised and must be communicated through its embodiment in the classroom. (Bussey, 2008b, 145)
**Love, Spirit and Enchantment**

According to Maturana and Bunnell, we learn the ‘nature of love as a relational behaviour...as children—we don’t need philosophy or science or anything’ (Maturana and Bunnell, 1999, 95), we know love and are enchanted *through* it in relationships (unless traumatically severed). Teachers and all adult members of schools can re-learn this behaviour of love from children. Ecological praxis demands we disarm our ego, give over the space to children and commit to the vulnerability of re-learning love and enchantment *from children* in earnest.

Part of this journey into the uncharted waters of enchanted ecological pedagogy and praxis, is re-learning the art of *play*—

> The play element in education is now universally regarded as centrally important to a child’s development and builds a social context into which facts, knowledge and understanding have a fertile space to grow (Dyer, 2007, 395).

Play *is* enchanted learning: It is fun, laughter, adventure, abandon, enjoyment, curiosity, discovery, wonder, beauty, imagination, inspiration, magic, *hope*, but it also inspires resourcefulness and problem solving, it is open-ended, process-learning, bodily-kinaesthetic-somatic-movement, risk-taking, and multi-sensory stimulation. *Children* don’t need re-enchantment—children need space and time and a medium in which to explore their sense of wonder and for their intuitive senses in the Earth to be validated by adults in school (as expressed by Jinora at Murrnong and Penny at Banksia); *we*—adults/teachers need to become re-enchanted (much like Lucinda at Banksia and Jane at Murrnong reflected)—in our inner selves, in our pedagogical practice, in our ongoing commitment to authentic praxis, and together in relationship and celebrative community—

> One thing we can do when seeking to reclaim teaching and embody it within the artificial environment of the classroom is to reinstitute joy – give people permission to play, experiment, get things wrong and laugh and ponder on this. (Bussey, 2008b, 142)

Love, enchantment, spirit are not optional extras and there is no easy tick-box system to implement them, but they are the subterranean rhizome from which ecological education may surface, be sustained and soar, and they offer ‘some grounds for artful pedagogues to nurture the still elusive reconciliation of human, social and more-than-human natures’ (Payne, 2010, 295).
Students in schools will learn ecologically at the edge, where real knowledge is co-cultivated, when teacher’s work from the edge, ‘live according to their wisdom’ (Maturana, in Maturana and Bunnell, 1999, 66)[see Appendix B X], and let their students be, but also be prepared to hold their students’ hands in the embodied, edgy, enchanted dance of ecology, place, patterns, art, systems, story, song and spirit, in kinship, in Earth. It is in these spaces/places at the edge, where our “New Story” is coming into being. Can you feel it?

The “New Story” is the Oldest Story

We do not live in an unstoried land—the people have stories, and the land has stories and these stories are inextricable, human and ecological, mutually embedded. We have much to learn.

—Jan Morgan (2013, 14)

In 1978, Thomas Berry evoked that our ecological crisis is a “crisis of consciousness”—

It’s all a question of story. We are in trouble just now because we do not have a good story. We are in between stories. The Old Story—the account of how the world came to be and how we fit into it—is not functioning properly, and we have not learned the New Story. (Berry, 1978, 1)

Over the course of his life Berry described the enchanted re-storying process through a loving, relational recognition of our common cosmological story and placed the story in Earth (1988). Through these works, Thomas Berry is teaching us the new story, unearthing what Theodore Roszak (1992) calls the ‘ecological unconscious’ and though it has recurringly fallen on deaf hearts, we are beginning to open to it more viscerally and broadly (Thomashow, 1996; Hawken, 2007; Macy, 2012; Abram, 1997).

This “new” story of a connected living Earth made up of all members and systems (Meadows, 1982; Lovelock, 1986; Berry, 1988; Roszak, 1992; Berry and Swimme, 1992; Abram, 1996; Rose, 2004) is the oldest story. It is the story of this place, Australia, embodied in the ancient-emergent culture of the First Australians, still surviving after (circa) 60,000 years, despite all odds.
It is the work of all educators to become actively aware and immerse themselves in their local indigenous cultures for our collective schooling futures\(^{49}\), but it is duly acknowledged as a road fraught with issues of appropriation, colonial guilt and anxiety. Local educator-scholar Jan Morgan explains—

Indigenous stories profoundly challenge our Western perception of the world. We have inherited a view of the world as inert, as non-communicative, non-subject, a view diametrically opposed to a world in which humans are not the only speaking subjects, a world that communicates, that calls into dialogue. (Morgan, J, 2013, 14)

But subsuming an ancient practice for the final realisations, is diabolically wrought with (re)colonising in a more subtle yet potentially insidious way, so I echo Donna Haraway’s cautioning of the ‘serious danger of romanticising and/or appropriating the visions of the less powerful while claiming to see from their positions’ (Haraway, 1991, 191) and Noel Gough who likewise counsels, ‘to “see” from marginalised or subjugated locations is neither easily learned nor unproblematic’ (Gough, 2008, 73).

For too long indigenous ways of knowing have been either denigrated or ignored, to the detriment of all. Within the notion of Country and Kanyini (from the Aṉangu people of Uluru)[see Appendix C VII] are lessons for a communitarian way of becoming, learning and teaching that is profoundly sustainable, celebratory and locally contextualized. By engaging with local indigenous communities, respectfully, authentically and in the spirit of listening and learning from the oldest teachers in the world, we could learn again and for the first time that ‘Country is home, and peace; nourishment for the body, mind and spirit; heart’s ease’ (Rose, 2004, 183). Country is an ever-emerging past-present-futures story which brings an intimacy into the work of thriving communitarian futures as it teaches relationships, enchantment and reverence; it re-spirits sustainability and ecologises our common work.

\(^{49}\) Margaret Somerville’s extensive, celebratory work with many indigenous communities and Aboriginal researchers provides an inspiring pathway into our ecological education futures [see Somerville 2010, 2013a, b and c].
This is the work for all of us but especially in schools where children learn for the first time this ancient Story and rather than it being a story of the past (history) may it be a story alive with possibility. Sally Morgan captures this fertile though fraught work—

If we, as human beings, continue to cut ourselves away from the web of life, then we embrace a story that like the bitter lie of terra nullius can have only one ending – death. Far better then to embrace a story that not only honours life, but returns it a thousand-fold to all those who come after us. We are the mothers and fathers of the future....What will we birth here, in this ancient southern land? The land which my grandmother once told me she saw in a dream as a place where everything lived and nothing died. A place far older than she or anyone knew. A place where too many people were still walking around blind. A place of much power and many secrets, if only you had the eyes to see the awe and wonder of it all.

—Sally Morgan (2008, 287)

This place, the place of all possibilities—alive, connected, wondrous—this place—our place; enchanted, if only we listened. When visiting schools I regularly finish by reading the remarkable book Nyuntu Ninti (Randall and Hogan, 2008) based on the life of Aṉangu Elder, Uncle Bob Randall—

Living in the bush we are communicating with everything — the wind, the trees, the flowers, the grass. Every action is an action of beauty. We are aware of everything that is around us. It’s that connection to the land that makes you feel so good. (Randall and Hogan, 2008, NP)

This final passage always leaves children misty-eyed, mesmerised, eagerly engaged and feeling ‘good’.

In some ways it seems like all this philosophising and conjuring “new paradigms” is redundant when much of the knowledge we need to transition to sustainable futures has already been accomplished, a long time ago, by Aboriginal Australians in Country. This process must be engaged with critically, closely, by listening patiently, with love and in a spirit of slow emergence into becoming more connected and thus generative of thriving futures—

Once we no longer feel like tourists in the natural world, more and more of the intense vitality and intricate interrelatedness of the sacred whole is revealed to us. Its wonders...evoke celebration... We are here—inextricably linked at the molecular level to
every other manifestation of the great unfolding. We are descendants of the fireball. We are pilgrims on the Earth, glimpsing the oneness of the sacred whole. (Spretnak, 1991, 112-113)

_Human animals – 
Slowly are we becoming 
Bodies rooted in soil, heads in stars 
Hearts radiating kinship for “all our relations”

**Story as Context**—

*Without context we are nothing: just solitary individuals leading meaningless existences, devoid of understanding or meaning or wisdom...We are in limbo.*

—John Marsden (2013, NP)

In schools, we have the responsibility to contextualise our story in place, in Country but also, according to Berry and Swimme, stretch it to our collective cosmological story, placing ourselves back in a connected, creative and emergent Universe—

Education might well be defined as knowing the story of the universe, of the planet Earth, of life systems, and of consciousness, all as a single story, and recognizing the human role in the story. The primary purpose of education should be to enable individual humans to fulfil their proper role in this larger pattern of meaning. (Berry & Swimme, 1992, 256)

Somerville, Payne and Bussey guide us on this path of re-storying both the ecolearning within schools and also the meta-responsibility of re-storying educational systems within the profound context of Country-Cosmos. Payne asserts that ‘in education, we are too often confronted with the teaching and telling of a particular state-sanctioned curriculum story, or document’ (2010, 306) and while this is broadly true, Correa, Banksia and Murrnong largely buck this trend, listening to their community and leading through a strong commitment to their locally relevant and richly contextualised values and vision. Payne asserts the incredible possibilities in this process of re-enchantment in education—

...in “experiencing”, “living”, _being_ the story and _becoming_ other than what we currently are. Their confluence might well be the remarkable. (Payne, 2010, 306)

Bussey contemporaneously evokes—

...we _story_ ourselves into the world. The story is both about us but also _it is us...definitional of our relationship with Being...it is also embodied, a visceral and somatic experience of a Being-Becoming relationship with the world...This reciprocal position places our
humanness in the world as a pragmatic expression of spirit. It opens us to relational being and all the ethical and spiritual implications such a consciousness evokes. (Bussey, 2013, 3)

Integrating the stories of the Earth—the Biosphere’s Biography—into our interconnected human stories and weaving them into rich and tangible, living learning in schools, is part of the work in ecological Enchantment. It is this confluence of re-storying and storying afresh, spiritual pragmatics, and place-making through the parallel processes of postmodern emergence and Country (Somerville, 2010, 2013a) that offer the poignant possibilities for visioning the living enchantment necessary for reorienting ecopedagogy and all school systems, towards enchanted sustainable futures.

This emergent and co-creative journey is ecological education. In the school context, ecopedagogues (that is, eventually all teachers) have the profound responsibility of co-facilitating the opportunities for this transformative learning/becoming to emerge, but through an engaged, embodied and re-enchanted praxis, pedagogues will have the response-ability to enable this unfolding.

*Everything you wanted is opening up;*
*Listen up. Listen up. Listen up.*
*All that you believe in is falling apart;*
*Let it fall. Let it fall. Let it fall.*
*Hear the sound then change your heart,*
*Light the way, don’t fall apart.*

—‘Transition’, Major Chord (2013)

**Final Act: Enchanted Ecological Education beyond Sustainability**

*Dance the dance as it comes into being at this particular moment at this particular place.*

—Maxine Sheets-Johnstone (1981, 399)

Often ecologically-engaged students, anxious about negative anthropogenic impacts on Earth, wonder aloud “Why are *humans* here? We need the Earth but the Earth doesn’t need us”. Many environmentalists might have, at some stage in their lives, shared this concern. Perhaps a more inspiring possibility might be—

>We are the self-reflexion of the universe. The universe is aware of itself through self-reflexive mind, which unfurls in the human. We allow the universe to know and feel itself.
The creative work of the supernovas existed for billions of years without self-reflexive awareness. That star could not, by itself, become aware of its own beauty or sacrifice. But the star can, through us, reflect back on itself. In a sense, you are the star. (Swimme, 1985, NP)

Ecologically enchanted, students-teachers-schools will shine more brightly thus reflecting back again, perpetually energising and re-enchanting anew the learning pathways into our school futures.


provide the tools to enable adults, be they parents or teachers, to take on the role of guardian elders—or Enchanters...for our aim is to re-enchant our land in the imagination of children: to give young adventurers the opportunity to enter the magical and perilous worlds of Nature, Landscape and Myth, and to become transformed by the experience. (Dyer, 2007, 400).

But in the process of ecological education generated in this study, teachers become both the Enchanters and the (re)enchanted as this research argues that both children and Earth are perhaps the most powerful Enchanters of all educational agents, and teachers potentially as ‘transformed’ by these experiences as students.

Brian Swimme poignantly grasps that ‘anything less than a fundamental transformation of our situation is hardly worth talking about. And yet, given this demand, my own suggestion is that we tell stories’ (Swimme, 1998, 26). For students as well as teachers in schools who are learning the literacies of ecology and likewise discovering the critical and urgent issues of the ecological crisis alongside the psycho-social-spiritual crises that demand addressing through the work of ecojustice, it is the enchantment work that will sustain and re-spirit commitment. Much ecopedagogy criticism deals singularly with the immediacy of ecojustice with scant recognition for the need to simultaneously sustain our spirits. In the paradoxical path of the tortoise we may “get there” fastest by slowing down; telling stories; growing roots.
Joanna Macy’s Work That Reconnects (2014)[see Appendix C IX], prepares us for this dynamic journey by recognising our fear, despair and unknowingness while working towards new ways of seeing and being in gratitude and active hope—

It involves a combining of the mystical with the pragmatic, transcending separateness, alienation and fragmentation...generating a sense of profound interconnectedness with all life...it becomes clear that unless you have some roots in a spiritual practice that holds life sacred and encourages joyful communion with all your fellow beings, facing the enormous challenges ahead becomes nearly impossible. (Macy, 2007, 150)

This process is particularly important for teachers to engage with and then to guide their students, with increasing necessity for this healing work.

*The Journey of the Universe* (Swimme and Tucker, 2011) is a mesmerising little book that sits by my bed at night and participates in cosmological discussions with students, providing both an antidote to the mundane, mechanical and mediocre, and the language to re-enchant and sustain the very vital fabric in which knowledge, action and spirit in ecological education is woven—

We live not in any mechanical time, but in this enveloping cosmological time. We live in that time when Earth itself begins its adventure of conscious self-awareness (Swimme & Tucker, 2011, 209).

In the spirit of conscious self-awareness, this research was inspired itself by the sagacity of Thomas Berry who reminds us—

As Earth is, in a sense, a magic planet in the exquisite presence of its diverse members to each other, so this movement into the future must in some manner be brought about in ways ineffable to the human mind. We might think of a viable future for the planet less as the result of some scientific insight or as dependent on some socio-economic arrangement than as participation in a symphony or as renewed presence to the vast cosmic liturgy. (Berry, T, 1999, 17)

This study has been a layered, pluralistic scope through the literature of ecopedagogy (recognised rhetorically as Environmental Education, Education for Sustainability, and other variations on the theme) combined with the primary evidence generated in three Melbourne schools—including students, parents, the wider community and the ecological
place (providing the metacontext). Thus this project has been both an empirical study and a theoretical analysis, which has many openings but it has only just scraped the sides of the possibilities; much more work is needed and is emerging. While there will always be a role for the pragmatics of resource-management in schools, it has for too long hampered the possibilities for a profound ecopedagogy to emerge. When “resource” programs are not ecologically oriented, they are not ecological education and thus should not be recognised as such. Enchantment has been lacking and hence enchantment has had pride of place in this conclusion, yet it is alongside the strengthening fibre and pragmatics of Ecoliteracy and Ecojustice that Enchanted ecological education will become more powerful in rekindling our educational futures.

This research calls for a profusion of approaches according to context-specific needs and for an active ‘poetics of the critical’ (Bussey, 2008) by dancing with the systems (Meadows, 2001) and breathing life back into the deconstructed hollows of postmodern “theory”. This study also calls for a deeper praxis by all teachers and whole school communities to identify eco-learning as of central importance to all school systems, from the curriculum to the canteen; the garden to the transport; from student’s and teacher’s mental health to the school buildings, thus addressing the unsustainability widespread in the hidden curriculum of schools. This study calls for schools to look beyond the stasis implied with sustainability to co-creating thriving futures, on all levels for all members of the school and local community. And lastly this study asserts that a good place to start, is outside—rain, hail or shine—today.

*Another world is not only possible, she is on her way. On a quiet day, I can hear her breathing.*
— Arundhati Roy (2003, NP)
Bibliographic References


Berry, T (1988) The Dream of the Earth, Sierra Club Books, San Francisco


Berry, T (1991) ‘The Ecozoic Era’, Schumacher Lecture, Massachusetts, USA


Berry, T and Swimme, B (1992) The Universe Story: From the Primordial Flaring Forth to the Ecozoic Era, Sierra Club Books


Bowers, CA (2001b) *Educating for Eco-justice and Community*, University of Georgia Press, USA


Bowers, CA (2012a) ‘Gregory Bateson’s Contribution to Understanding the Linguistic Roots of the Ecological Crisis’ The Trumpeter, 28: 1, 42

Bowers, CA (2012b) *The Way Forward: Educational Reforms that Focus on the Cultural Commons and the Linguistic Roots of the Ecological/Cultural Crises*, Eco-Justice Press, LLC, USA


Bussey, M (2008a) *Where Next for Pedagogy? Critical agency in educational futures*, Doctoral thesis, Faculty of Arts and Social Sciences, University of the Sunshine Coast


Bussey, M (2013)[forthcoming] *Towards a Spiritual Pragmatics: Reflections from the Graveyards of Culture*

Callicott, J (1994) *Earth’s Insights*, University of California Press Berkeley, CA


Capra, F (2013) *Learning from Leonardo: Decoding the Notebooks of a Genius*, Berrett-Koehler
Subject

Capra, F and Centre for Ecoliteracy (2014) ‘Rethinking School Lunch’, sourced—

www.ecoliteracy.org/essays/new-facts-life


Diabetes Australia Vic (2014) ‘Aboriginal and/or Torres Strait Islander Program: Diabetes and Aboriginal Australians’, sourced February 2014—


Dr Seuss (1971) *The Lorax*, Random House, USA


http://www.aare.edu.au/02pap/dys02138.htm


Gibson, R, Ewing, R (2011) Transforming the Curriculum through the Arts, Palgrave Macmillan, Melbourne, Australia


Harwell, K and Reynolds, J (2006) *Exploring a Sense of Place: How to create your own local program for reconnecting with Nature*, Conexions, California


http://www.edu.plymouth.ac.uk/resined/Case_study/casest.htm


www.permacultureprinciples.com

Huckle, J (2011) ‘Bringing Sustainability into Sharper Focus’, *Teaching Geography*


Ingpen, R (1980) *The Voyage of the Poppykettle*, Rigby, Adelaide (Australia)

Iramoo (2011) ‘Volcano Dreaming’, Iramoo Sustainable Community Centre, artists Peter Haffenden and Kerrie Poliness of Inherit Earth, Victoria University


Laszlo, E, Combs, A, and Berry, T (2011) *Thomas Berry, Dreamer of The Earth: The Spiritual Ecology of the Father of Environmentalism*, edited by Ervin Laszlo and Allan Combs, Inner Traditions,


Leopold, A (1949) *A Sand County Almanac*, Oxford University Press


Macy, J, and Johnstone, C (2012) *Active Hope: How to Face the Mess We’re in Without Going Crazy*, New World Library, California


Marsden, J (2013) Candlebark School homepage, sourced July 2013—
http://www.candlebark.info/curriculum/sose


Meadows, D, Meadows D and Randers, J (1992) Beyond the Limits: Global Collapse or a Sustainable Future, Earthscan, London


Meine, C (2010) *Aldo Leopold: His Life and Work*, University of Wisconsin Press, USA


Montessori, M (1973) *From Childhood to Adolescence*, Schocken Books, New York


Palmer, P, (1993) *To Know As We Are Known: Education as a Spiritual Journey*, Harper, San Francisco


Schumacher, E F (1973) Small is Beautiful: A study Of Economics As If People Mattered, Blond and Briggs, London

Seamon, D (1979) A Geography of the Lifeworld, St Martin’s, New York


Slaughter, R (Ed) (2004) ‘Futures in Education: Principles, practice and potential’, *AFI Monograph Series*, 5, Australian Foresight Institute, Swinburne University, Melbourne


Sobel, D (1996) *Beyond Ecophobia: Reclaiming the Heart in Nature Education*, The Orion Society and The Myrin Institute, Great Barrington, MA (USA)


Sobel, D (2004) *Place-Based Education: Connecting Classrooms and Communities*, The Orion Society and The Myrin Institute, Great Barrington, MA


Somerville, M (2013c), 'Singing the Coast: Writing Place and Identity in Australia', *A Deeper Sense of Place: Stories and Journeys of Indigenous-Academic Collaboration*, Oregon State University Press


Sterling, S (2009) ‘Ecological Intelligence: viewing the world relationally’, Schumacher Reader in Education for Sustainability, Centre for Sustainable Futures, University of Plymouth, sourced—
http://arts.brighton.ac.uk/__data/assets/pdf_file/0018/5922/Ecological-Intelligence2.pdf


Swimme, B T (1985) *The Universe is a Green Dragon: Reading the Meaning in the Cosmic Story*, Beare and Co, Santa Fe, USA, excerpt sourced from Context Institute, June 2013—
http://www.context.org/iclib/ic12/swimme/


TeachWild (2014) ‘Become a Scientist for a Day’, *Earthwatch Australia*, sourced —
http://teachwild.org.au/schools


UNESCO (2014) The Four Pillars of Learning, sourced —


Van Matre, S (1990) Earth Education: A New Beginning, The Institute for Earth Education, Greenville, WV, USA

Van Matre, S (1979) Sunship Earth, American Camping Association, Martinsville, USA

Van Matre, S (1980) Earthwalks, Acclimatization Experiences Institute, Warrenville, USA

Van Matre, S (1994) Sunship 3, Acclimatization Experiences Institute, Warrenville, USA

Van Matre, S (2011) ‘Last Child in the Woods…or Last Woods in the Child?’, Talking Leaves, Autumn/Spring, the Institute for Earth Education


Wright, Judith (2001) *Collected Poems*, Angus&Robertson, Australia

Appendix A: Sustainability/EcoEducation Themes

1. The Center for Ecoliteracy, Core Competencies for Ecoliteracy—
   www.ecoliteracy.org/discover/competencies
   - The head (learning to know)
   - The heart (learning to be)
   - The hands (learning to do)
   - The spirit (learning to live together)

   Head (Cognitive)
   • Approach issues and situations from a systems perspective
   • Understand fundamental ecological principles
   • Think critically, solve problems creatively, and apply knowledge to new situations
   • Assess the impacts and ethical effects of human technologies and actions
   • Envision the long-term consequences of decisions

   Heart (Emotional)
   • Feel concern, empathy, and respect for other people and living things
   • See from and appreciate multiple perspectives; work with and value others with different backgrounds, motivations, and intentions
   • Commit to equity, justice, inclusivity, and respect for all people

   Hands (Active)
   • Create and use tools, objects, and procedures required by sustainable communities
   • Turn convictions into practical and effective action, and apply ecological knowledge to the practice of ecological design
   • Assess and adjust uses of energy and resources

   Spirit (Connectional)
   • Experience wonder and awe toward nature
   • Revere the Earth and all living things
   • Feel a strong bond with and deep appreciation of place
   • Feel kinship with the natural world and invoke that feeling in others

2. Ecoliteracy Principles, Capra—
   www.ecoliteracy.org

   1. Principles of Living Systems
   2. Design Inspired by Nature
   3. Systems Thinking
   4. Ecological Paradigm and the Transition to Sustainability
   5. Collaboration, Community Building and Citizenship
Whole-systems thinking:

i. From parts to the whole
ii. From objects to relationships
iii. From objective knowledge to contextual knowledge
iv. From quantity to quality
v. From structure to process
vi. From contents to patterns

3. ‘One Image’ of Sustainable Education, Stephen Sterling (2001, 84)

Extended...
- **Appreciative** – aware of the uniqueness ad potential of each individual and group, of the qualities of any locality and environment, and sees personal and local knowledge as foundational to learning.
- **Ethical** – extends the boundaries of care and concern from the personal and the present, to the social, environmental, non-human, and future dimensions.
- **Innovative** – draws inspiration from new thinking and practice in a variety of fields, relating to education, learning and aspects of sustainable development.
- **Holistic** – relates to the learning needs of the ‘whole person’ (including spiritual and emotional), of differentiated individuals and groups, and to the range of human intelligence.
- **Epistemic** – aware of its own worldview and value bases, which are critically examined and reviewed. Second, and even third, order learning is facilitated.
- **Future oriented** – concerned with creating a better future, from now on.
- **Purposeful** – critically nurtures sustainability values with the intention to assist healthy change.

Connective...
- **Contextual** – in touch with the real world, particularly sustainability issues, and grounded in the locality.
- **Re-focused** – particularly on social development, human and natural ecology, equity, futures, and practical skills for sustainable living.
- **Critical** – ideologically aware, deconstructive and constructive.
- **Systemic** – pays attention to systemic awareness of relationships, flows, feedbacks, and pattern in the world.
- **Relational** – connects patterns of change: local-global, past-present-future, personal-social, environmental-economic, human-natural, micro-macro etc.
- **Pluralistic** – values different ways of knowing, and multiple perspectives.
- **Multi and transdisciplinary** – regards disciplinary borders as fuzzy and puts greater emphasis on new ways of seeing complex issues.
Integrative...

- **Process oriented** – constructs meaning through an engaged and participative learning process, reflecting different learning styles. Everyone is a learner, including the teacher/leaders.
- **Balancing** – embraces cognitive and affective, objective and subjective, material and spiritual, personal and collective, min and body etc.
- **Inclusive** – for all persons, in all areas of life and extending throughout their lifetimes.
- **Synergetic** – deeply aware of emergence, and designs curriculum, organisation and management, culture to be mutually enhancing. Energy, material, and money flows are organised on sustainability principles and are reflected in the whole curriculum.
- **Open and inquiring** – encourages curiosity, imagination, enthusiasm, innovation, creativity, community, spirit, to arise. At ease with ambiguity, and uncertainty.
- **Diverse** – allows for variety, innovation and difference of provision and ways of knowing within a coherent framework.
- **A learning community** – the institution promote learnings through itself engaging in reflexive learning (a learning organisation).
- **Self-organising** – balancing autonomy and integration through different system levels and practising subsidiarity and democracy.
- Such an education and learning situation would be intrinsically transformational, of itself and of its community members, and would have systemic coherence.

4. **Sustainability Frontiers**—
   www.sustainabilityfrontiers.org

Theme 1: Climate Change Education

Theme 2: Emergency Education & Disaster Risk Reduction Education

Theme 3: The Education for Sustainability/Education for All Interface

Theme 4: Widening the Scope of Sustainability Education—to include peace, social justice, health, multicultural and international, faith and inter-faith and anti-discriminatory education

Theme 5: Bio-centric Education

Theme 6: Bio-regional Education

Theme 7: Multidimensional Epistemology for Sustainability Education

Principles =
- Future-proofness
- Complexity
- Diversity
- Acceptance of limits
- Slowness
- Impact and prudence

Dimensions =
- Ecology
- Empowerment
- Equity
- Economy
- Equipment

6. UNESCO’s Four Pillars of Learning —


- **Learning to know**: to provide the cognitive tools required to better comprehend the world and its complexities, and to provide an appropriate and adequate foundation for future learning.
- **Learning to do**: to provide the skills that would enable individuals to effectively participate in the global economy and society.
- **Learning to be**: to provide self-analytical and social skills to enable individuals to develop to their fullest potential psycho-socially, affectively as well as physically, for an all-round ‘complete’ person.
- **Learning to live together**: to expose individuals to the values implicit within human rights, democratic principles, intercultural understanding and respect and peace at all levels of society and human relationships to enable individuals and societies to live in peace and harmony.
7. **Marcus Bussey, Embodied Sustainable Education** (2008, 140)

- **Physical Sustainability**: Sustainable educational activities focus on deepening our individual and collective consciousness of the interconnectedness of all things and the physical practices needed to foster this awareness. This sphere often tends to be the area of focus for policy and curriculum with the result that students can become overwhelmed and apathetic as they view a litany of problems with solutions that seem beyond their reach.

- **Intellectual Sustainability**: This focuses on the ideologies that underpin action and the language that defines all that falls within human experience. Educationally it is about developing the psychic ‘software’ to help us construct the critical sensibility that leads to effectively sustainable action on the physical level. It builds on enlightenment rationality and incorporates forms of post-material spiritual rationality such as meditation and myth.

- **Ethical Sustainability**: This layer has its roots in the spiritual rationality that emerges from intellectually sustainable activity. Paradox will never be removed from life, indeed it is a necessary and creative element of our existence, but ethical discrimination can bring coherence and vision to both the intellectual and physical spheres of educational activity. In this way it will protect the heart from the stresses such paradoxes necessarily create. Ethical sustainability is the coherent application of intellectually sustainable rationality based on benevolence born of an appreciation of our relationship, both in time and across time, with the world both at an individual and collective level of action.

- **Emotional Sustainability**: Sustainable educational practice has as a central tenet the evoking of inspiration and hope so as to create emotionally sustainable learning cultures which privilege relationships and purposeful engagement with learning over simplistic outcomes based teaching. Emotional sustainability is directly related to the long term life chances of our youth. To tackle this issue squarely is to really begin to engage with education as a purposeful building of human beings with emotional strength and maturity.

- **Spiritual Sustainability**: This is foundational to the concept of sustainability as it supplies a sense of meaning and purpose to all human activity. By embracing mystery and offering a deep sense of interconnection through meditative and reflective practices spiritual sustainability creates the emotional reserves at both an individual and collective level to sustain human activity and struggle through the most difficult of times. From this purpose comes the value base to give form and force to the ethical sustainability that shapes and directs human intellectual enquiry and ultimately directs human activity in physically sustainable ways.
Appendix B: Adjunct Ecological/Sustainability Concepts

I) Nature’s Patterns & Processes, Frijof Capra and Centre for Ecoliteracy—
http://www.ecoliteracy.org/essays/ecological-principles

The Fundamental Facts of Life

• Matter cycles continually through the ecosystem
• The energy driving the ecological cycles flows from the sun
• Diversity assures resilience
• One species’ waste is another species’ food
• Life did not take over the planet by combat but by networking

Networks
All living things in an ecosystem are interconnected through networks of relationship. They depend on this web of life to survive. For example: In a garden, a network of pollinators promotes genetic diversity; plants, in turn, provide nectar and pollen to the pollinators.

Nested Systems
Nature is made up of systems that are nested within systems. Each individual system is an integrated whole and—at the same time—part of larger systems. Changes within a system can affect the sustainability of the systems that are nested within it as well as the larger systems in which it exists. For example: Cells are nested within organs within organisms within ecosystems.

Cycles
Members of an ecological community depend on the exchange of resources in continual cycles. Cycles within an ecosystem intersect with larger regional and global cycles. For example: Water cycles through a garden and is also part of the global water cycle.
Flows
Each organism needs a continual flow of energy to stay alive. The constant flow of energy from the sun to Earth sustains life and drives most ecological cycles. For example: Energy flows through a food web when a plant converts the sun's energy through photosynthesis, a mouse eats the plant, a snake eats the mouse, and a hawk eats the snake. In each transfer, some energy is lost as heat, requiring an ongoing energy flow into the system.

Development
All life — from individual organisms to species to ecosystems — changes over time. Individuals develop and learn, species adapt and evolve, and organisms in ecosystems coevolve. For example: Hummingbirds and honeysuckle flowers have developed in ways that benefit each other; the hummingbird's color vision and slender bill coincide with the colors and shapes of the flowers.

Dynamic Balance
Ecological communities act as feedback loops, so that the community maintains a relatively steady state that also has continual fluctuations. This dynamic balance provides resiliency in the face of ecosystem change. For example: Ladybugs in a garden eat aphids. When the aphid population falls, some ladybugs die off, which permits the aphid population to rise again, which supports more ladybugs. The populations of the individual species rise and fall, but balance within the system allows them to thrive together.
http://www.davidsuzuki.org/about/declaration/

This we know

We are the earth, through the plants and animals that nourish us.
We are the rains and the oceans that flow through our veins.
We are the breath of the forests of the land, and the plants of the sea.
We are human animals, related to all other life as descendants of the firstborn cell.
We share with these kin a common history, written in our genes.
We share a common present, filled with uncertainty.
And we share a common future, as yet untold.
We humans are but one of thirty million species weaving the thin layer of life enveloping the world.
The stability of communities of living things depends upon this diversity.
Linked in that web, we are interconnected — using, cleansing, sharing and replenishing the fundamental elements of life.
Our home, planet Earth, is finite; all life shares its resources and the energy from the sun, and therefore has limits to growth.
For the first time, we have touched those limits.
When we compromise the air, the water, the soil and the variety of life, we steal from the endless future to serve the fleeting present.

This we believe

Humans have become so numerous and our tools so powerful that we have driven fellow creatures to extinction, dammed the great rivers, torn down ancient forests, poisoned the earth, rain and wind, and ripped holes in the sky.
Our science has brought pain as well as joy; our comfort is paid for by the suffering of millions.
We are learning from our mistakes, we are mourning our vanished kin, and we now build a new politics of hope.
We respect and uphold the absolute need for clean air, water and soil.
We see that economic activities that benefit the few while shrinking the inheritance of many are wrong.
And since environmental degradation erodes biological capital forever, full ecological and social cost must enter all equations of development.
We are one brief generation in the long march of time; the future is not ours to erase.
So where knowledge is limited, we will remember all those who will walk after us, and err on the side of caution.

This we resolve

All this that we know and believe must now become the foundation of the way we live.
At this turning point in our relationship with Earth, we work for an evolution: from dominance to partnership; from fragmentation to connection; from insecurity, to interdependence.
Principles for Sustainability

1. **Social construction.** Recognise that humans see everything through agreements they make with each other about how to see things and how to act on them and with them. Once we accept that the way we live and work arises from such agreements, life and work become more thoughtful, caring and respectful. These agreements between individuals and their communities are mostly “below the radar” or unrecognised. Nevertheless, they are the frameworks within which we practise life and work. The sustainability task is to identify them and make them more considerate of ecological realities. To build upon point 1:

2. **Science.** Recognise and respect science as the most reliable knowledge we have. Science is the democratically collected knowledge we have about the world. It is also the ways (methods) by which we know or assess the perceived world. These methods are used to investigate the questions about the world that inquisitive people continuously ask (and are willing to pay for!).

3. **System.** Recognise and respect systems thinking. General system theory is an organised, careful and scientifically acceptable way to engage with complex reality. It involves recognising boundaries around things that are working in the world, feedback processes between them and between their components and the ways in which they develop and manage to retain their integrity (hang together!).

4. **Ecosystem.** Recognise and respect the organisation of living things on the planet as *ecosystemic*. Ecosystems focus on how organisms interact; especially the energy and material exchanges with each other and with the planet. Political economy has taken on the term and, wrongly, applies it to human doings such as “industrial” or “urban ecologies”. It is largely forgotten that these human “ecosystems” are dependent for their existence on natural ecosystems.

5. **Ontology.** Recognise and respect that we are all individual and personal identities, with individual and personal aspirations and expectations. Ontology is the study of how we arrive at and sustain these personal expectations and how the over-arching expectations within which we do this develop and *may be altered*, while still maintaining and enhancing the integrity of the individual.

6. **Community, Society and Culture.** Recognise and respect the wide range of human practises that constitute the groupings within which we put ourselves together as persons and communities.

7. **Political Economy.** Recognise and respect the formal organisations of large and small-scale communities. Political economies are the organisations of power in human institutions by which decisions are made. They arise in many interacting levels from international to familial and can all be explained in terms of the above.

8. **Change.** Recognise and respect the changeability of all of the above and that the processes by which change arises are themselves open to change through the processes of open democratic society. Democratic processes themselves need constant monitoring and adjustment to defend
themselves in the face of threats to their openness. The higher the proportion of considerate and engaged citizens there are in any society, the more robust and responsive it will be [c.f. e.g. the work of Amnesty International, Transparency International, Royal Society of the Arts, ...].

9. Constitutions of Society. Recognise and respect the formal means by which social groupings are put together and use them (see 10 however).

10. Being the Informed Citizen [the personal role]. Recognise and respect that you the reader of these “principles” are critical to their long-term viability and in particular to the viability of our engagement with the planet itself. So, be aware of the role and structures governing civil disobedience, i.e. the overarching frameworks that lie beyond the formal frameworks that govern civil society (see e.g. Henry D. Thoreau, 1849, Resistance to Civil Government www.thoreau.eserver.org/civil.html).

---

IV) Dancing with Systems, Donella Meadows (2001)

Abridged, see link for full details—
http://www.donellameadows.org/archives/dancing-with-systems/

The Dance

1. Get the beat.
2. Listen to the wisdom of the system.
3. Expose your mental models to the open air.
5. Honor and protect information.
6. Locate responsibility in the system.
7. Make feedback policies for feedback systems.
8. Pay attention to what is important, not just what is quantifiable.
9. Go for the good of the whole.
10. Expand time horizons.
11. Expand thought horizons.
12. Expand the boundary of caring.
14. Hold fast to the goal of goodness.
V) The Earth Charter
Abridged, for the full version see link below –
www.earthcharterinaction.org/content/pages/Read-the-Charter.html

Earth, Our Home

Humanity is part of a vast evolving universe. Earth, our home, is alive with a unique community of
life. The forces of nature make existence a demanding and uncertain adventure, but Earth has
provided the conditions essential to life’s evolution. The resilience of the community of life and
the well-being of humanity depend upon preserving a healthy biosphere with all its ecological
systems, a rich variety of plants and animals, fertile soils, pure waters, and clean air. The global
environment with its finite resources is a common concern of all peoples. The protection of Earth's
vitality, diversity, and beauty is a sacred trust.

The Global Situation

The dominant patterns of production and consumption are causing environmental devastation,
the depletion of resources, and a massive extinction of species. Communities are being
undermined. The benefits of development are not shared equitably and the gap between rich and
poor is widening. Injustice, poverty, ignorance, and violent conflict are widespread and the cause
of great suffering. An unprecedented rise in human population has overburdened ecological and
social systems. The foundations of global security are threatened. These trends are perilous—but
not inevitable.

The Challenges Ahead

The choice is ours: form a global partnership to care for Earth and one another or risk the
destruction of ourselves and the diversity of life. Fundamental changes are needed in our values,
institutions, and ways of living. We must realize that when basic needs have been met, human
development is primarily about being more, not having more. We have the knowledge and
technology to provide for all and to reduce our impacts on the environment. The emergence of a
global civil society is creating new opportunities to build a democratic and humane world. Our
environmental, economic, political, social, and spiritual challenges are interconnected, and
together we can forge inclusive solutions.

Universal Responsibility

To realize these aspirations, we must decide to live with a sense of universal responsibility,
identifying ourselves with the whole Earth community as well as our local communities. We are at
once citizens of different nations and of one world in which the local and global are linked.
Everyone shares responsibility for the present and future well-being of the human family and the
larger living world. The spirit of human solidarity and kinship with all life is strengthened when we
live with reverence for the mystery of being, gratitude for the gift of life, and humility regarding
the human place in nature. We urgently need a shared vision of basic values to provide an ethical
foundation for the emerging world community. Therefore, together in hope we affirm the
following interdependent principles for a sustainable way of life as a common standard by which
the conduct of all individuals, organizations, businesses, governments, and transnational institutions is to be guided and assessed.

Principles

I. RESPECT AND CARE FOR THE COMMUNITY OF LIFE
II. ECOLOGICAL INTEGRITY
III. SOCIAL AND ECONOMIC JUSTICE
IV. DEMOCRACY, NONVIOLENCE, AND PEACE

The Way Forward

Let ours be a time remembered for the awakening of a new reverence for life, the firm resolve to achieve sustainability, the quickening of the struggle for justice and peace, and the joyful celebration of life.

VI) What Every Schoolboy (sic) Knows, Gregory Bateson

See Ryan (2001, 22-23)

- Science never proves anything.
- The map is not the territory and the name is not the thing named.
- There is no objective experience.
- The processes of image formation are unconscious.
- Divergent sequences are unpredictable.
- Convergent sequences are predictable.
- Nothing will come of nothing.
- Number is different than quantity.
VII) *Kanyini, Uncle Bob Randall, Aṉuŋgu Elder* —  

**Kanyini Principles:**

*The teachings about unconditional Love; information passed down from the Aborigines elders.*

Two energy lines they believe exist through the universe.
Energetic consciousness of life.
A combination of spiritual and physical.

Two snakes going in opposite directions and as they connect they become energized and help each other up to the next level.

The principle encompasses four areas of responsibility:

From the bottom and up—

**Ngura:** A sense of belonging to place—Home and Country

**Waltyja:** Family and kinship—Connecting with life

**Kurunpa:** Love, spirit, soul and psyche

**Tjukurrpa:** Philosophy, law and religion—Belief about creation and the way to live
Abridged, see link for further details — http://permacultureprinciples.com/

Ethics
1. Earth care
2. People care
3. Fair share

- The ethics earth care, people care and fair share form the foundation for permaculture design and are also found in most traditional societies.
- Permaculture ethics are distilled from research into community ethics, learning from cultures that have existed in relative balance with their environment for much longer than more recent civilisations. This does not mean that we should ignore the great teachings of modern times, but in the transition to a sustainable future, we need to consider values and concepts outside the current social norm.

Principles
1. Observe and interact
2. Catch and store energy
3. Obtain a yield
4. Apply self-regulation and accept feedback
5. Use and value renewable resources and services
6. Produce no waste
7. Design from patterns to details
8. Integrate rather than segregate
9. Use small and slow solutions
10. Use and value diversity
11. Use edges and value the marginal
12. Creatively use and respond to change

Domains
1. Health & Spiritual Well-being
2. Finance & Economics
3. Land Tenure & Community Governance
4. Land & Nature Stewardship
5. Building
6. Tools & Technology
7. Education & Culture

- The permaculture journey begins with the ethics and design principles. We apply this thinking to the seven different domains required to create a sustainable culture.
- The evolutionary spiral connects these domains, through pathways, initially at a personal and local level, and then proceeds to the collective and global level
IX) The Work That Reconnects, Joanna Macy—

http://www.joannamacy.net/theworkthatreconnects/the-wtr-spiral.html

The infolding of Macy’s Work That Reconnects (WTR) with the 3E’s Ecological Education (3E EE) framework generated in this research—

<table>
<thead>
<tr>
<th>WTR</th>
<th>3E EE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gratitude</td>
<td>Enchantment—the Wow</td>
</tr>
<tr>
<td>Seeing with new eyes</td>
<td>Ecoliteracy—the How</td>
</tr>
<tr>
<td>Honouring our pain</td>
<td>Ecojustice—the Now</td>
</tr>
<tr>
<td>Going Forth</td>
<td>Wow-How-Now Dancing Together</td>
</tr>
</tbody>
</table>

*Image by Dori Midnight*
X) The Student’s Prayer, Humberto Maturana (1994)


Don’t impose on me what you know.
I want to explore the unknown
And be the source of my own discoveries.
Let the known be my liberation, not my slavery.

The world of your truth can be my limitation;
Your wisdom, my negation.
Don’t instruct me; let’s learn together.
Let my richness begin where yours ends.

Show me so that I can stand
On your shoulders.
Reveal yourself so that I can be
Something different.

You believe that every human being
Can love and create.
I understand, then, your fear
When I ask you to live according to your wisdom.

You will not know who I am
By listening to yourself.
Don’t instruct me; let me be.
Your failure is that I be identical to you.
Appendix C: Ethics Documents & Interview Questions

i) Plain Language Statement, Students

ii) Consent Form, Students

iii) Plain Language Statement, Teachers/Adults

iv) Consent Form, Teachers/Adults

v) Interview Questions, Sustainability Coordinator/Principal

vi) Interview Questions, Teachers

vii) Interview Questions, Students

viii) Fieldwork Participant Pseudonyms
Hello! My name is Alicia Flynn. I am a student at the University of Melbourne. I am doing a project to find out how children learn sustainability at school and how schools do sustainability. When I finish my project it will be part of my degree, called a Masters. My teacher, Jeana, helps me with my project. She is called my supervisor.

Your school principal and your teacher have given me permission to send you this letter to tell you a bit about my project. Once you have read the letter you can decide if you would like to take part. You should talk to your parents about the project too.

If you want to be part of the project, I would ask you to chat with me for a short time and answer some questions. Questions like ‘how do you learn about sustainability?’ ‘do you enjoy learning outside?’ and ‘do you think it’s important to learn about the place where you live?’ If you want to stop talking to me or answering the questions, you can stop any time you like. If you don’t know an answer, or you don’t want to answer a question, that’s fine too.

Only my supervisor and I will see your answers. The project will have nothing to do with your school report or your grade for SOSE. I won’t write your real name anywhere so no-one will know what you have said.

After the project is over, I will lock everything I write down about our chat away safely in the Faculty of Education (at my school) for 5 years. I have to do this because it is a University rule. After that my supervisor will destroy them.

Remember, you don’t have to take part unless you want to. If you have any questions you should talk to your teacher or a parent. If they don’t know the answer to your question, they can contact me – m: [redacted], email: [redacted] or my supervisor, Ms Jeana Kriewaldt email: [redacted], w: [redacted], or the Research Ethics Office at the The University of Melbourne, ph: [redacted], fax [redacted], for you.

If you want to be part of my project, and your parent/s agree, please sign your name on the next page where it says "student", and get your parent or guardian to sign as well.

Yours sincerely,

Alicia Flynn

Researcher
Consent form for persons participating in research projects.

Project Title:
Learning from three schools in Education for Sustainability (EfS): A case for reorienting whole-school systems towards Sustainable Education (SE)

Name of participant: ______________________________________________________

Name of investigators:
Alicia Flynn, Jeana Kriewaldt

I consent to participate in the project named above, the particulars of which have been explained to me. A written copy has been given to me to keep.

I authorize the researcher to use the interview and any email correspondence that I send to the researcher specifically for the research project.

I acknowledge that:
The implications of involvement in the individual interview have been explained to my satisfaction.

I have been informed that I am free to withdraw from the project at any time without explanation or prejudice and to withdraw any unprocessed information previously supplied.

The project is for the purpose of research.

I have been informed that the confidentiality of the information I provide will be safeguarded subject to any legal requirements.

I understand (a) that the individual interviews will be audio-taped (b) that all recordings are for analyses only.

I am aware that because the sample size is small, this may have implications for anonymity. In light of this, I am assured that all care will be taken to protect my privacy (a) that any identifying context will be removed and (b) that I will be referred to by pseudonym in all publications arising from this research.

This form will be retained by the researcher.

STUDENT
Signature: __________________________
Date: __________________________

PARENT/GUARDIAN
Signature: __________________________
Date: __________________________
Master of Education Research Project:  **Learning from three schools in Education for Sustainability (EfS): A case for reorienting whole-school systems towards Sustainable Education (SE)**

I am a Master student at the Melbourne Graduate School of Education at the University of Melbourne. I am conducting research for my thesis entitled: *Learning from three schools in Education for Sustainability (EfS): A case for reorienting whole-school systems towards Sustainable Education (SE)*

I am writing to invite you to participate in this project. The purpose of this study is to investigate:

1. How schools teach *for, about* and *through* sustainability
2. How children learn *for, about* and *through* sustainability
3. What role *place, story, experience* and *spirit* play in sustainable education in schooling
4. How are meta-physical and creative aspects of sustainability incorporated in schooling, i.e. through cosmology and the ‘universe story’; through arts-based methodology? And how does this relate to the school’s conception of sustainability?

There will be 39 participants in this project: 9 teachers; 3 Sustainability Coordinators or Principals; and 27 students (9 from each school) from early, middle and secondary levels. The research procedure will involve a semi-structured interview with each of the participants. The interview will be no longer than one hour for adults and half an hour for children, and will be audio taped. The expected time commitment for each participant is less than one hour.

I will also observe the class groups to which the focus students and teachers belong as well as conduct whole-school observations during recess/lunch.

The data collected as part of the research project will be used as the basis for my Master’s thesis and research articles. No participants will be identified. Participants will be referred to by pseudonyms in all publications. Confidentiality of all information will be safeguarded subject to any legal requirements. As the sample size is small, this may have implications for protecting the identity of the participants but all care will be taken to protect participants’ privacy.

If you consent to participate in the project you may withdraw at any time. You may also request that any unprocessed data collected from you be destroyed. Data will be kept at a secure location at the University of Melbourne for a minimum of five years after which time it will be destroyed.

If you have any queries or wish to discuss this project further I would be pleased to hear from you. My contact details – m: [contact number], email: [email address], or my supervisor, Ms Jeana Kriewaldt email: [email address], w: [website], or the Research Ethics Office at the The University of Melbourne, ph: [phone number]; fax [fax number], for you.

Finally, if you have any concerns during the conduct of the research project that we are not able to address to your satisfaction, you may contact the Executive Officer, Human Research Ethics, The University of Melbourne, [contact details]. This project has received clearance by the HREC.

Yours sincerely,

Alicia Flynn
Researcher
Melbourne Graduate School of Education at the University of Melbourne

Consent form for persons participating in research projects

Project Title: Learning from three schools in Education for Sustainability (EfS): A case for reorienting whole-school systems towards Sustainable Education (SE)

Name of participant: _______________________________________________________

Name of investigators:
Ms Alicia Flynn, Ms Jeana Kriewaldt

I consent to participate in the project named above, the particulars of which, including details of individual interviews have been explained to me. A written copy has been given to me to keep.

I authorize the researcher to use the interview and any email correspondence that I send to the researcher specifically for the research project.

I acknowledge that:
The implications of involvement in the individual interview have been explained to my satisfaction.

I have been informed that I am free to withdraw from the project at any time without explanation or prejudice and to withdraw any unprocessed information previously supplied.

The project is for the purpose of research.

I have been informed that the confidentiality of the information I provide will be safeguarded subject to any legal requirements.

I understand (a) that the individual interviews will be audio-taped
(b) that all recordings are for analyses only.

I am aware that because the sample size is small, this may have implications for anonymity. In light of this, I am assured that all care will be taken to protect my privacy (a) that any identifying context will be removed and (b) that I will be referred to by pseudonym in all publications arising from this research.

This form will be retained by the researcher.

Signature: __________________________
Date: __________________________
Interview Questions

**Sustainability Coordinator/Principal**

Guiding questions:

i. How do schools teach for, about and in Earth/sustainability?
ii. How do children learn for, about and in Earth/sustainability?
iii. What role do place, story, experience, love (Biophilia) and spirit (sense of wonder) play in sustainable education in schooling?
iv. How are meta-physical, embodied, participatory and creative aspects of sustainability incorporated in schooling, i.e. through cosmology and the ‘universe story’; through arts-based methodology? Through food gardens? And how does this relate to the school’s conception of sustainability?

1. Tell me about a memorable time you’ve had learning in, about or for the Earth/”nature”/sustainability yourself...

2. How did you get into coordinating sustainability at the school?

* SJ Gould said – ‘We cannot win this battle to save species and environments without forging an emotional bond between ourselves and nature as well – for we will not fight to save what we do not love’

3. What role, if any, does love play in your school and in your school’s vision of sustainable education? For example, is the term used and is the idea of love and forming bonds with nature an explicit part of your school?

* Scholar David W Orr wrote – ‘...buildings have their own hidden curriculum that teaches as effectively as any course taught in them’, (1994, 113)

4. Do you recognise Orr’s idea of the hidden curriculum and ‘architecture as pedagogy’? How have you designed the built environment of your school and what role/s do you see it playing?

* Again, Orr writes – ‘...it is evident that personal motives matter, and different motives lead to very different kinds of knowledge and very different ecological results’, (1994, 46)

5. Tell me about the motives behind creating the sustainability approach at this school.

6. What are your thoughts on the national scheme – ResourceSmart/AuSSI? And how does your school’s approach to SE relate to this initiative?

* Richard Louv introduces the notion of ‘nature-deficit disorder’ in his book Last Child in the Woods. He cites research that supports the idea of children benefitting in every way – physically, mentally, emotionally, spiritually – from contact with (or developing a relationship with) “Nature”. On the flip-side he argues that our lack of an intimate bond with nature may lead to ‘nature-deficit disorder’.
7. Does Louv’s theory apply at your school? Do you recognise students who “suffer” from this ‘biophobia’?

8. If so, in what ways does your approach aim to provide ‘eco-literacy’ to counter ‘nature-deficit disorder’, as well as cater for developing the “whole-child” (the psycho-social, motional/spiritual needs)?

*Margaret Somerville writes ‘place can offer an important framework for an integrated educational curriculum’ (2010, 331).*

9. How does the place – the school’s geographical position, ecosystem/bioregion (“natural” surrounds) and socio-cultural community – support or connect to your approach to EfS and the way students respond to EfS? How do you feel it could/does provide you with a way of integrating curriculum at your school?

10. What do you think the real implications for Sustainability as a ‘cross-curriculum priority’ in the AusVELS will be? And how, if at all, will this affect your approach to EfS?

*UK scholar Stephen Sterling argues (2001, 60-61) ‘Sustainability does not simply require an ‘add-on’ to existing structures and curricula, but implies a change of fundamental epistemology in our culture and hence also in our educational thinking and practice. Seen in this light, sustainability is not just another issue to be added to an overcrowded curriculum, but a gateway to a different view of curriculum, of pedagogy, of organisational change, of policy and particularly of ethos’ (Sterling, 2004, 50)*

11. Do you see your school fitting into this ‘whole systems’ model of SE? If so, how?

12. Or, what are the limitations/hurdles of the school’s approach?

13. Tell me about a memorable experience you’ve had at this school teaching/facilitating sustainability/place-based/outdoors ...

Thanks so much for your thoughts and time today.
Interview Questions

Teacher

Guiding questions:

1. How do schools teach for, about and in sustainability?
2. How do children learn for, about and in sustainability?
3. What role do place, story, experience, love and spirit play in sustainable education in schooling?
4. How are meta-physical and creative aspects of sustainability incorporated in schooling, i.e. through cosmology and the ‘universe story’; through arts-based methodology? And how does this relate to the school’s conception of sustainability?

1. How do you feel about the school’s approach to sustainability education?

S J Gould said, ‘we cannot win this battle to save species and environments without forging an emotional bond between ourselves and nature as well – for we will not fight to save what we do not love’.

2. What role, if any, does love play in your class concerning sustainable education? For example, is the term used and is the idea of love and forming bonds with nature an explicit part of your class?

Richard Louv introduces the notion of ‘nature-deficit disorder’ in his book Last Child in the Woods. He cites research that supports the idea of children benefitting in every way – physically, mentally, emotionally, spiritually – from contact with (or developing a relationship with) “Nature”. On the flip-side he argues that our lack of an intimate bond with nature may lead to ‘nature-deficit disorder’.

3. Do you recognise Louv’s theory? If so, in what ways does your approach aim to provide ‘eco-literacy’ to counter ‘nature-deficit disorder’?

4. Do you feel that SE assists in developing the whole-child? If so, how?

5. How does the place – the school’s geographical position and ‘natural’ surrounds – support or connect to the way you teach SE and the way students respond?


7. Are a range of perspectives about sustainability and issues, such as Climate Change, explored? In what ways?

8. To what extent do you teach about, for or through sustainability? i.e. about – the issues and principles; for – the human-centred feelings of ‘stewardship’; through – by being outside/being ‘in’ nature and through behaviours, such as the 3 R’s, waste free lunches, turning lights off etc

9. Tell me about a memorable time when you were involved in sustainability education in this school. What happened? Why was it memorable?

Thank you so much for your time and thoughts today.
Interview Questions

Students

Guiding questions:

5. How do schools teach for, about and in sustainability?
6. How do children learn for, about and in sustainability?
7. What role do place, story, experience, love and spirit play in sustainable education in schooling?
8. How are meta-physical and creative aspects of sustainability incorporated in schooling, i.e. through cosmology and the ‘universe story’; through arts-based methodology? And how does this relate to the school’s conception of sustainability?

1. Describe this school to me – paint me a picture with your words.
2. What do you think of this place – your school and the school grounds?
3. Is this the only school you have been to? If not, how would you compare this place to other schools?
4. What is your favourite part about this school? Why? (If no-one mentions sustainability or nature learning, ask them what they think about it/if they enjoy it)
5. What do you think of when you hear the word ‘nature’?
6. Have you heard the word ‘sustainability’? If so, what do you understand the word ‘sustainability’ to mean?
7. Tell me how you feel about nature. (How strong are these feelings?)
8. Do you learn about the environment, nature, plants and animals at school? In what ways? In different subjects?
9. Do you learn/experience these things at home? In what ways?
10. Why do you think you learn about nature, the Earth and sustainability?
11. How do you feel when you are learning inside your classroom?
12. How do you feel when you are learning outside?
13. What kinds of things do you learn outside?
14. Would you like to do more activities outside? What sorts of things? How often?
15. Tell me about a special time you’ve had outside, in Nature, in the garden or learning about gardening and sustainability...

❖ Is there anything you would like to add?

Thanks for chatting with me today and sharing your thoughts!
FIELDWORK: Participant Pseudonyms –

Banksia Primary

- Principal = Theo Wright
- Sustainability Coordinator = Molly
- Music teacher = Louis
- Teachers & Classes
  1. Lucinda, 1/2 Students:  
     i) Frances  
     ii) Lilya  
     iii) Jake
  2. Amy, 3/4 Students:  
     i) Penny  
     ii) Wasid  
     iii) Henry
  3. Belinda, 5/6 Students:  
     i) Charlie  
     ii) Philomena  
     iii) Sandy

Murrnong Secondary

- Sustainability Coordinator = Anthony
- Teachers & Classes
  1. Jane/Ms Hills Students:  
     i) 1 Lily  
     ii) 2 Hannah  
     iii) 3 Greta
  2. Anita/Ms Richardson Students:  
     i) 1 Pei Ling  
     ii) 2 Josie  
     iii) 3 Jinora
  3. Anthony/Mr Knight Students:  
     i) 1 Sara  
     ii) 2 Belinda  
     iii) 3 Tatiana

Correa College

- Sustainability Coordinator = Tom
- Teachers & Classes
  1. Beth, Steiner Class Students:  
     i) Trent  
     ii) Grace  
     iii) Polly
  2. Naheem, Reggio-3/4 Students:  
     i) Matas  
     ii) Mbali  
     iii) Jonathon
  3. Hans, Steiner Class Students:  
     i) Frederick  
     ii) Fleur  
     iii) Tobias  
     iv) Aileen