Practising Place and ‘Learning to Love the World’

An Exploration of Place, Knowledge and Practice in Environmental Education

A thesis submitted to Charles Sturt University for the fulfilment of the award Doctor of Philosophy.

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1 The phrase ‘Learning to Love the World’ can be attributed to Bill Green’s (2006) work on place, literacy and environment, and David Sobel’s (1996) concept of Ecophobia.
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I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which to a substantial extent has been accepted for the award of any other degree or diploma at Charles Sturt University or any other educational institution, except where due acknowledgment is made in the thesis. Any contribution made to the research by colleagues with whom I have worked at Charles Sturt University or elsewhere during my candidature is fully acknowledged. I agree that this thesis be accessible for the purpose of study and research in accordance with the normal conditions established by the Executive Director, Library Services or nominee, for the care, loan and reproduction of theses.

___________________________________________
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Ethics Approval

The empirical research in schools described and analysed in this dissertation has been undertaken with approval from the Charles Sturt University Ethics in Human Research Committee, the New South Wales Department of Education and Training Research and Evaluation Unit in Policy and Innovation Office, and the Victorian Department of Education and Early Childhood Development Office for Planning, Research and Innovation.
Abstract

Our experience of the world, of being, is mediated through our experience of place; “to be is to be in place” (Casey, 1993). In turn, the places that we dwell in and experience are shaped by the actions carried out in them – as place in turn shapes actions. Environmental education may take many forms, but central to its practice is the significance of actions taken in and on the world. Through this dissertation, I contribute to theorisation and philosophy in environmental education through looking to the intersection of place, knowledge and practice in primary school environmental education.

Central to the concepts explored is that of environment and the relationships to and actions of care and concern that are fundamental to living in this world, in place. It is through being conscious of and responsive to place that we experience and form relationships with place and the living and non-living entities that constitute them. This relationship between human, nature and place is considered within a framework of regeneration, where there is a refocusing on the relational, interconnected and reciprocal nature of the environment (Main, 2005, p. 245). The use of regeneration as an alternative to sustainability discourse is to acknowledge the alienation and loss that has occurred in place, while invoking new relationships to place and nurturing an ethos of connectivity and interrelatedness (Cameron, 2008; Greenwood, 2008). As such, an investigation of the role of nature and place with environmental education practices that develop experience, consciousness and meaning-making in place, is warranted.

Three primary schools, located in inland south-eastern Australia and practicing broadly defined place-based environmental education, each formed a case-study through which an investigation of environmental education practices utilised by school and community place were explored. The accounts of place-making and place-identity coming from the observations and interview discussions from the case-studies are accounts of action; of people performing and making meaning about the environment through the places they inhabit, and in ways that attempt to understand the world and our relationships in it. Although environmental education has come from a tradition of natural resource management, disciplinary science and biology, conservation and environmental activism, the experiences of
the participants in the case schools have formed the basis for exploring a valuing of knowledge constituted through experience and embodied being in place, alongside more discipline-based knowledge. The resulting parallels made to environmental education practice more generally work to show the relational and interconnected nature of understandings of place, knowledge and practice.

The philosophical-empirical inquiry of this research has looked to investigating questions of how we can understand place for environmental education learning, the ways in which place and environment constitute knowledge in primary schooling, and the practices and habits of environmental education being carried out through primary school places and practices.
Practising Place and ‘Learning to Love the World’: An Exploration of Place, Knowledge and Practice in Environmental Education
Chapter One: Introduction

It wasn’t picturesque in the conventional sense; there were no lush plains of grass or wildflowers sweeping over rolling hills, no gently flowing rivers winding their way through the countryside. Instead the sun beat down harshly on whoever dared brave it, dry irrigation channels cut direct lines through the country, and erosion and salinity scarred the surface of the land. The paddocks were roasted; the minimal cover of grass brown. Cows and sheep crowded into the sparse shaded areas provided by the few trees in the paddocks, tails swishing at flies that constantly buzzed around them. The land was flat – so flat – and dry; for as far as the eye could see, the distance sweltering in heat mirage. Dust clouds hanging still in the air alerting all to the rare car passing by. Who could love this place?

My experience growing up in that place saw thousands of sunsets, night skies flowing with stars, hours spent roaming through paddocks, climbing trees, floating down irrigation channels on hot summer days, yabbying in ‘The Dam’, riding down dirt roads, creating cubby huts in the chook yard, imagining ‘bush’ fairies and tree nymphs come out to play in the golden daylight just before the summertime dusk, collecting firewood, and nimbly climbing pine trees for pine cones with frozen fingers in the winter. Although unaware of it at the time, this place, with its interconnections between myself, my family, my history and my community, was a place that I loved.

As I have visited and lived in various other parts of Australia and the world, I have come to love other places. In turn, while my love for the place of my childhood remains, on returning to the physical space, with the familiar-yet-strange places I once knew so well, the love and attachment that I once felt has changed; my family no longer live there, my childhood friends have dispersed and someone else now lives in my old home. Where I once saw only the rugged beauty in the dry, golden landscape of my place, I now also see empty, treeless spaces.

(Personal reflection, April, 2006)
The focus of my work in this dissertation is to consider, discover and uncover some of the ways in which environment, knowledge and practice intersect through place, generally within the context of primary schooling and particularly within the different contexts of the three primary schools within which I undertook case-study research. The introductory quote, above, came from a task set by one of my supervisors early into my doctoral work, in an attempt to challenge a possibly naïve research higher degree student to see place as more than simply ‘place’, but something deeper and much more complex. The task, and the subsequent years spent growing up, and growing into, the discipline, the research, and motherhood, succeeded in challenging me to think deeply about the places that we use in schooling, the ways that those in schools use places for learning, and what possibilities there are for learning through place.

In the rest of this chapter, I set the context for the philosophical-empirical work of this thesis, situating it within an ontological framework developed from an understanding of the messy, every day-ness of living, which takes knowledge as situated and experienced through place. I then provide an overview of the structure of the dissertation and introduce the interrelation between the key concepts of environment, place, knowledge and practice that form the conceptual framework of this dissertation.

**Ontological framework**

*To wish for guarantees is to wish for what never was nor ever can be. Certainty is the offspring of training, not of education, while education, with all its messiness, is difficult and ends inevitably unpredictable* (Bullough, 2012, p. 281).

To claim that this dissertation exists within the structures of a single field or sub-field of education is to claim a certainty that does not exist. Instead, through this work I build on (and build with) the theoretical and philosophical traditions spanning education, geography, philosophy, environmentalism and ecology. My work builds on and contributes to theoretical and philosophical understandings in education, particularly environmental education, developed and expanded through a significant empirical element; hence referred to as philosophical-empirical in nature.

I came to this research with a desire to contribute to and develop an understanding of the field of environmental education. I was also motivated
initially by a willingness to attempt to move away from what I now understand to be a scientific-rationalist and modernist dominance within this field (see Alba, González-Gaudiano, Lankshear & Peters, 2000; Bowers, 2001; A. Gough, 1997; N. Gough, 1999; Gruenewald, 2004; McKenzie, Hart, Bai & Jickling, 2009). My own interest in the environment, and the ways that I have come to understand it as relational and interconnected, have developed through an intuitive, physical and embodied connection with special and important places. My childhood and adolescence was spent living on a farm in the plains of central Victoria, where the social and historical connections I had to that place were as central to my belonging there as the immersion I had in the soil, sun, and water. I was fortunate that my farming parents, and their parents before them, were pragmatically conservationist in their attitude toward working the land. While this involved them planting thousands of native trees and protecting natural low-lying wetland areas, especially important for me was the informal ‘education’ I received throughout this time in my life about valuing more-than-human life.

While my upbringing contributed to my belief in the intuitive value of the world around me, the past few years have further served to develop my understanding and knowledge of the intrinsic value of the places, and more specifically the natural places, in which we inhabit, visit and in which we dwell. As such, a central element of the conceptual and ontological framework in which I explore environmental education is the role that education has in the development of meaning-making and experiences that are conscious of and responsive to place and embodied through techniques and habitual dispositions formed through the early years of a child’s life and schooling. Although place-conscious environmental education is the subject of the empirical research, the end-point of this thesis is the non-linear inquiry into place, knowledge and practice in environmental education. At its core, my work through this dissertation is based on an understanding of life, and the things that happen through it, as every-day, messy and richly diverse. The accounts coming from the observations and interview discussions from the case-study research are accounts of action; of people performing and making-meaning about the environment through the places they inhabit and in ways that attempt to understand the world and our relationships in it – human and more-than-human.
Although labels sit uncomfortably with me, boiled down this work builds on that of scholars in the tradition of Wittgenstein and Heidegger. Much of my understanding has been informed through a quilting together of theories and ways of thinking through practice theories, curriculum inquiry, and place-conscious methodologies. Out of this, I attempt to bring with me various understandings: of theory as relational (Thrift, 2008); of practices and accounts of action as central to understandings of the social (Schatzki, 1996; Thrift, 1999); of knowledge as complex, embodied and contextual (Grundy, 1998); and of place as emergent, interconnected and always in the making (Agnew, 2005; Thrift, 1999; Watson, 2003). The subsequent section provides an initial discussion of the blend of theories in which I have framed this research and dissertation. The following provides a broad discussion of the epistemological and ontological understandings that have informed my inquiry into environmental education practice.

**Epistemological and ontological underpinnings**

Scott and Usher (1999) argue that research is a socially situated practice with ever-present political and power relations. Epistemology (theory of knowing, or how we come to understand how we know) and ontology (the theory of being or how we come to understand what exists) significantly influence the practice of research. As such, the process of research "cannot be properly understood without addressing epistemological and ontological questions" (Scott & Usher, 1999, p. 3).

Central to my discussion of environmental education, are the concepts of place, knowledge and practice, each forming a central organising theme, albeit interconnected and each implying the other, for the three core philosophical-empirical discussion chapters. The theoretical underpinning that practice theories offer in understanding these concepts enables an attempt to find alternatives to traditional and modernist theories that essentialise society, or are reductive in their understanding of the social, scientific and political. Through one such incarnation of a theory of practices, ‘non-representational theory’, Nigel Thrift (2004, p. 81) argues that the role of research needs to be changed "by questioning what counts as expertise and who has that expertise". This approach to theory, therefore, depends on:
… the direct significance of practices. Most importantly, this means that the world is a making … it is processual; it is in action; it is ‘all that is present and moving’. There is no last word, only infinite becoming and constant reactivation (Thrift, 2008, pp. 113-114).

Theories that understand practices as central to knowing the social, such as non-representational theory, move away “from a view of the world based on contemplative models of thought and action towards theories of practice which amplify the potential of the flow of events” (Thrift, 2000, p. 556). These theories, therefore, emphasise:

… the flow of practice in everyday life as … chiefly concerned with the on-going creation of effects through encounters and the kind of linguistic interplay that comes from this creation, rather than with consciously planned codings and symbols. Clearly, then, [such an] … outlook depends upon understanding and working with the everyday as a set of skills which are highly performative (Thrift & Dewsbury, 2000, p. 415).

In this sense, non-representational theories look to the external, to actions and practices in the world, rather than the internal and symbolic representations of the world. The everyday becomes a “manifold of actions and interactions” (Thrift, 1996, p. 6) and practices form the background of ongoing activity through which we act upon the world. The world is understood through an ontology that sees it as “made up of billions of happy and unhappy encounters, encounters which describe a ‘mindful connected physicalism’ consisting of multitudinous paths which intersect” (Thrift, 1999, p.302). As Brennan (1993, p.86, in Thrift, 1999, p. 302) suggests, this is an ontology “which works through things rather than imposes itself upon them from outside or above”. This, importantly, includes:

… appreciating a place for the unknowable as well as the knowable, and of so-called ‘non-human’ forces, in both our experiences as humans and our various attempts to make sense of them through ‘theory’ and practice (Knopp, 2004, p. 124).

The happening-ness of practice and place

Stephen Kemmis (2010, p. 5) refers to actions and practices as being part of a “wider (in space), deeper (in time) ‘happening-ness’ that is constituted by the world and history even as it constitutes the changing world and unfolding history”. While Thrift (2008, p. 114) suggests that the world we
live in is a “world of radical possibility”, Kemmis (2010) upholds the surprisingness and unpredictability to our actions and practices.

This ‘happening-ness’ then sees us learning from our experiences and history, seeking knowledge through literature and science, prompting us “to want to learn how to achieve desired effects and avoid untoward consequences” (Kemmis, 2010, p. 6). Likewise, Reckwitz (2002, p. 254) argues for the intention and routine of practice, saying that “every practice implies a particular routinized mode of intentionality, i.e. of wanting or desiring certain things and avoiding others”. This may, rightly, be applied to the many and varied practices of practitioners in the field of environmental education, where the focus is often on producing certain desired effects, such as knowledge of natural systems and ways of caring for and conserving them. Ultimately, it could be argued that the production of such desired effects should be aimed at educating, not just for the good of humankind but, for the good of the world – and all that is part of it.

Both Thrift (2008) and Kemmis (2010) argue, however, that because there are radical possibilities and an unpredictability to events, action can escape the control of the desired effects of our practices, and unexpected (and ‘untoward’) consequences are often unavoidable. However, these untoward consequences may, unforeshadowed and unpredicted, bring about significant changes to practices and routines, with possibilities both positive and negative to the desired effects of practice (see Postill, 2010; Reckwitz, 2002).

Furthermore, encounters and experience cannot occur out of place, and knowledge that is constructed through these encounters and experiences is contextualised through place and time. Thrift (2004, p. 84) suggests that such an approach to theory is purposely ‘immature’, “in that it attempts to throw off some of the weight of ‘adult’ expectations, by privileging renewal and challenging limits”, while simultaneously requiring:

... the re-imagination of practices of ‘good’ encounter and interaction which we can often only just sense. It requires practices and ethics of listening, talking, metaphorising and contemplating which can produce a feeling of being in a situation together (Thrift, 2004, p. 84).
Such understandings of practice, knowledge and place as relational, embodied and every day, have been generated through a rejection of representationalist views of the world and body. A representationalist world view encourages neo-Cartesian conceptions of the separation of mind and body, and is based on a ‘spectator view’ where knowledge “precedes and predetermines action” (B. Green, 2009b, p. 11; Thrift, 2008). Here, a representationalist view sees knowledge as separate from and privileged over action and practice, and has as a “primary reference-point … the authorial subject of rationality and realism” (B. Green, 2009b, p. 11).

B. Green (2009b, pp. 10-11) argues instead that a theory of practice should give a sense of tension about views of how “knowledge links up with various other notions, specifically those of representation and theory, and perhaps also experience”. Although agreeing that a view of representation as reduced to mentalism and a merely cognitive exercise is problematic, B. Green (2009b) stresses that a reformulated view of representation is still of value in theorising practice. Suggesting that a relationship where representation is not privileged over practice and taken as ‘truth’, and that is both dialogical and dialectical, enables representation to be viewed as “part of practice, within it, implicated in it, rather than being set against it” (B. Green, 2009b, p. 12).

Also arguing against a spectator-like, representationalist, view of the world, Thrift (2008) suggests that instead the world should be understood not in terms of what it is, but of how it is becoming. Through an emphasis on performative philosophy, distributive theories of practices, and a biological philosophy, Thrift and Dewsbury emphasise the notion of ‘becoming’ rather than ‘being’:

Becoming necessarily entails deformation, reformation, performation, and transformation, which involves gaps and gasps, stutters and cuts, misfires and stoppages, unprecedented transferences, and jagged changes (Thrift & Dewsbury, 2000, p. 418).

Taking from Deleuze the notion of movement and performance, they argue for the importance of performance and action in expanding “our knowledge of how we know what we know about the world” especially through emphasising what can and cannot be done by people “through the expressive qualities of the body (including language, gesture, and so on),
through the appropriate spacings of things, and through the way in which things themselves become part of expression” (Thrift & Dewsbury, 2000, p. 420).

**Knowledge, practice, place**

Understanding knowledge as situated within place leads to a *post-Cartesian* perspective, which argues that body, mind and environment are irrevocably interlinked (B. Green, 2009). In turn, this ontology parallels an epistemology which:

... recognizes very strong limits on what can be known and how we can know it because of the way human subjects are embodied as beings in time-space, because of their interconnected position in multiple social relations, and because there are numerous perspectives on, and metaphors of, what counts as knowledge, or, more precisely, knowledges (Thrift, 1996, p. 303).

I have taken a view of knowledge as situated and contextualised through both time and place, where “knowledge is historically specific … [and] knowledge is geographically specific” (Thrift, 1996, p. 96). Although this does not preclude knowledges from being understood over time and in other places, it does allow for knowledge being understood differently through re-formation and trans-formation. Further, the places we live in, interact with, and spend time in, and the way in which we do this, effect what we know and how we come to know it. It is also to question how knowledge is created through place, and what knowledges places teach. Thrift likewise argues for a way of “think[ing] differently” about the world, taking that there are a multiplicity of truths and worlds:

It is not that there is more than one solution. It is that there are many solutions. It is possible to create a lot of ‘differents’, a manyness. To follow William James, we live in a multi-verse, not a universe, in which intersection, transfer, emergence and paradox are central to life (Thrift 2004, p. 83).

As such, it is important to recognise that we live in a world of the moment – decisions are made in the moment because neither time nor actions are closed, and they cannot be foreshadowed. It means that the world is a “world of radical possibility” in which “possibilities exceed actualities” and there is a surprisingness and unpredictability to events (Thrift, 2008, p. 114). That is not to say, however, that events are not constrained by the
networks of power within which they are constructed. Rather, that our understanding of what counts as knowledge “must take on a radically different sense”, and, as Thrift (2008, p. 121) argues “become … something tentative, something which no longer exhibits an epistemological bias but is a practice and is a part of practice”.

In a move away from the spectator-like approach of much social science research, Thrift outlines four key elements of an epistemology grounded in situated knowledge: (a) concepts have to be seen as indefinite; (b) knowledge is always and everywhere contextual, especially as it is rooted in embodiment; (c) an important component of research and theory is reflexivity of an intra-reflexive kind; and (d) understanding theory “becomes a practical means of going on rather than something concerned with enabling us to see, contemplatively, the supposedly true nature of what something is” (Thrift, 1999, p. 304).

Although our knowledge and understandings are grounded in and come from the places we dwell in – “places shape people … and people shape places” (Gruenewald, 2006, p. 5) – Game and Metcalfe describe the interplay between the materiality of reality and our understanding of how we come to know the world. Their contention is that:

... reality cannot really be seen, because we cannot see the world from the outside. Our knowledges are ours, mediated through and projecting us into the world. We cannot fix or imitate the world as it really is, but we can create our own simulations of it (Game & Metcalfe, 1996 p.50-51 in Thrift, 1999, p. 305).

Knowledge, therefore, is understood to be the means in which an organism is able to comprehend and explain its environment. As such, all knowledge is considered tentative, as changes in the environment, let alone re-conceptualisations of environments, cause changes in ways of understanding and knowing. In turn, practice theories challenge the assumptions that knowledge and action are separate, arguing instead that they are inextricably linked – through action/practice we come to know, and through knowing we are able to act (practise) – and that this is an integral element of learning, as Garrison and Neiman (2003) claim. For them, “learning, believing, and knowing are an intimate part of doing and feeling. Educators ignore these intimate relationships at their peril” (Garrison & Neiman, 2003, p. 22). It then follows that knowledge and theorising are a
vital component of practice, indeed, that theory and practice are not separate, but rather that theories are an abstraction of direct experience and therefore inform practices (Eldridge, 1998).

Arguing against “the insistence of science and modernism that everything ... must be knowable”, Thrift (2008, p. 121) considers that not only are many of the protocols of social science mistaken, but that they are also oppressive. A non-representational style of work rejects grand narratives, such as modernism and the building perspective on place and time, and argues for thinking more modestly about our ‘worlds’ than modern Western philosophies have been inclined to (Thrift, 1996, 1999, 2008). Instead it advocates so called ‘weak’ ontologies that “celebrate the richness, diversity, partiality, and incompleteness of human experience, rather than focusing on accessing ‘truth’” (Knopp, 2004, p. 124). Thrift and Dewsbury (2000, p. 416) argue that operating “by generating difference, divergence, and creation” is the difference between representation and practice: “in the one we know the outcome, in the other, we can only, to insert a Wittgensteinian moment, guess”.

Thrift emphasises the nature of knowledge as “always and everywhere contextual, most especially because it is rooted in embodiment”, arguing that theory then becomes “a practical means of going on rather than something concerned with enabling us to see, contemplatively, the supposedly true nature of what something is” (Thrift, 1999, p. 304 italics from original). In discussing our understanding of the world, Agnew (2005, p. 92) contends that “we always look at ‘the world’ from somewhere, from a place. So knowledge is always geographically contextual and reflexive”. Moreover, Thrift (1999, p.304) stresses that the role of theory is therefore to seek a “relational rather than representational understanding”.

Following on from this is the importance of understanding theory as relational rather than representational, “embodied in a network of possible connections and relations with the surroundings” (Thrift, 1999, p.304). As Shotter (1999, p. 14 in Thrift, 1999) argues, theory that is relational is “not seeking … to discover what something is, but different possible ways in which we might relate ourselves to our surroundings”. Within the context of the particular and lived experiences of the participating teachers, students and community members from the three primary schools that participated in
the empirical research, the focus of this dissertation is to explore the concepts of place, knowledge and practice in primary school environmental education, and consider also what practice theories can contribute to understandings of how environmental education is practised, situated, and knowledge is constituted.

Throughout this section I have provided a framework for the epistemological and ontological underpinnings of this research study. The understandings expressed emphasise the importance of place in constructing and creating ways of knowing about the world. Similarly, I consider that coming to know the world occurs through the places that we live in and spend time in, and therefore that learning needs to be understood and embraced as situated within the context of time and place. Finally, the underlying emphasis of the epistemological and ontological understandings that I bring with me to this research, is a belief in the interconnectedness of all things, human and more-than-human and the embodied-ness of all that occurs in place (see also Rose, 2004; Hay, 2002; McKenzie, 2005; Russell, 2005).

**Structure of the dissertation**

This introduction has provided a brief overview of the key ontological and epistemological concepts that have informed the empirical-philosophical work of this thesis. The following two chapters provide a review of key literature across a range of fields, with Chapter Two situating the work in this dissertation within the wider philosophical and sociological fields of place, eco-justice, Indigeneity and sustainability. Here, I cover key philosophical concepts and debates about nature and environment, the environment in crisis, place, and sustainability. I focus on philosophies of the environment that incorporate perspectives of the materiality of the earth, living and non-living, as interconnected and relational. I also position place as central to addressing issues of interconnection and interrelation. Place is considered as a core concept, and so the interrelation between place, space and time-space, as well as conceptions of place from geographical, sociological and philosophical perspectives are discussed. I conclude by taking into consideration the argument that there is a lack of voice or attention given to the agential nature of the more-than-human world in much social theory, leading into a discussion of eco-justice.
In Chapter Three, I position my research within the field of place-based environmental education, providing an overview of the development and background of environmental education, education for sustainability and place-based education, in light of the philosophies discussed in chapter two. This culminates in a review of place-consciousness in education and the eco-justice framework of pedagogies of responsibility in environmental education. In concluding, I highlight the interrelationship between place, knowledge and practice in environmental education in primary schooling as the central conceptual understanding that informs the empirical research.

Chapter Four positions this philosophical-empirical research within an interconnected and interrelated conceptual framework of place, knowledge and practice. I then build on this in a discussion of the methodological implication of using case-study as an account of practice that contributes to understandings of practice in the empirical research undertaken. Following this I discuss the methods and processes taken in generating, analysing and reporting data to create an ethical and effective representation of the practices of the participants in the case-study schools.

A discussion providing a context for each of the case-studies, Flatlands Public School, Riverside Public School and Mountain Top Primary School is carried out in Chapter Five. Here I provide a description and overview of the three case-studies, their place and the practices of environmental education that engaged with place there. The purpose of this chapter is to provide a context for the philosophical-empirical discussion of place, knowledge and practice in the following chapters, in addition to describing key elements of the data collection within each of the case-studies, and an overview of the similarities and differences of each of them.

Chapters Six, Seven and Eight form a core discussion of the concepts of place, knowledge and practice in environmental education, as theorised around the three case-study schools. These three chapters, while linear for the purpose of printed text, can be understood in terms of the privileging of each particular concept for that chapter, within a framework of interrelation to each of the other concepts. Within each chapter I have contextualised the discussion through providing a theorisation of the concept, looking to the background contexts, theories and relevant literature. I discuss these conceptualisations further through applying and relating to findings from the
case-study research. Each of these chapters, while addressing distinct concepts to connect theory and practice in significant ways, also provides an understanding of the interconnectedness of these concepts. As such, the discussion of place implies the situated nature of knowledge and practice, the discussion of knowledge implies the role of place in meaning-making and the practice of curriculum, and the discussion of practice implies the role that place plays in habituated and embodied knowledge and meaning-making.

In Chapter Six I discuss the concept of place in the context of the case-studies. Here I look particularly at the lived experiences of the students and teachers in the case-studies, exploring concepts of place as relational, experienced and practised. In this discussion, while focusing on conceptualisations of place observable through the case-studies, I make links to place as the situation within which practice and knowledge occur, and the reciprocal nature in which place is formed, re-formed and transformed through environmental education knowledge and practice, and in turn plays a role in forming, reforming and transforming them.

In Chapter Seven I further engage with the forming, re-forming and transforming of meaning-making in environmental education. Through discussing the interrelations between knowledge, experience and the selection and privileging of knowledge in curriculum practices grounded in place, I highlight that particular forms of knowing dominate the selection of knowledge for teaching and learning in environmental education. In turn I make a case for valuing knowledges that come from experiences and embodiment in place, alongside more discipline-based knowledge. This chapter concludes with an argument for an eclectic approach to understanding curriculum practices in environmental education that takes into account a diversity of ways to create knowledge and make meaning in environmental education, necessary for mobilising understanding into action for an education that is responsive to place and environment.

The focus of Chapter Eight is a discussion of environmental education that is conscious of, and responsive to, place, particularly in the context of the case-studies, addressed through the lens of practice theories. I discuss the bodily doings and sayings forming actions and practices of environmental education within the context of the case-studies. Further to this, I build on
ideas of routine, habit and *habitus* as well as the practice of being in place and the constitution of environmental subjectivities through a routinisation and habituation embodied through place.

In concluding the dissertation, in Chapter Nine, I discuss how the intersection of place, knowledge and practice has provided a way to reconceptualise the *doing* of environmental education within the three case-study schools – and what this might mean for thinking about environmental education as arrays of activity that mobilise understanding into action for the good of the world.
Chapter Two: Conceptual Background for Thinking Nature, Place, and Sustainability

One of the strangest things about our culture is our ability to describe the destruction of the world in exquisite, even beautiful detail. The whole science of ecology, for instance, describes exactly what we’re doing wrong and what the global effects are. The odd twist is that we become so enamored of our language and its ability to describe the world that we create a false and irresponsible separation. We use language as a device for distancing. Somebody who is genuinely living in their ecosystem wouldn’t have a word for it. They’d just call it the world.

(LeGuin, 1994, cited in Dunlop, 2009, p. 14)

Central to the concepts explored through this research is that of environment and the relationships to and actions of care and concern that are fundamental to living in this world. More specifically, it is through being conscious of and responsive to place, that we experience and form relationships with environments, living and non-living things. In order to provide a background to the discussion and philosophical understandings of environmental education, I discuss here key aspects of the concepts of environment, place, and sustainability, and conclude with a discussion of eco-justice as framing socio-ecological responsibility and relation. I turn first to a discussion of environment and nature.

Environment and nature

As for many commonly used terms, there is often an assumed understanding of the concept of environment and nature, through its everydayness and commonplace-ness. While there is, naturally, much written about the environment in the field of environmental education, often ‘environment’ is given little definition beyond the assumed understandings of it.

Hung’s (2008) Merleau-Pontian inspired discussion of ‘environment’ and ‘nature’ provides a useful way of thinking beyond definitions that generate a dualism between nature and culture, where the term nature: “underlies humankind’s self-knowledge and conception of non-human beings” (Hung, 2008, p. 356). Through orienting the way that we think about humankind as being apart from nature to being a part of nature, as well as building this
orientation into our attitudes toward the world around us, we are able to
contest and move beyond such dualities.

There are multiple ways in which to understand nature. Hung (2008)
provides three common interpretations of nature: as ‘environment’; as
‘world’; and, as ‘wilderness’. Here, environment refers to surroundings or
habitats in the natural world – the land, sea, air, plants and animals. In turn,
world is commonly understood as the geographical or cultural Earth, with
an accompanying focus on countries and their peoples, including societies,
the state, institutions and the world as the scene of human existence.
Conversely, wilderness then, is the "area where plants and animals grow in
an uncontrolled manner ... free from human cultivation or intervention"
(Hung, 2008, p. 358).

In a contrast to Hung’s (2008) discussion of wilderness as uncontrolled and
unknown to human intervention, Deborah Bird Rose (2004) discusses a
conversation with Aboriginal Elder, Daly Pulkara, who described wild
country as the (white)man-made wilderness through degradation and
invasion, where the life of the country had been damaged or destroyed. He
contrasted this with the quiet country “in which all the care of generations of
people is evident to those who knew how to see it” (Rose, 2004, p. 4).
These conceptualizations of wild and wilderness, demonstrate the value
that divergent cultural concepts and world views can bring to our
understanding of the world.

In addition to Hung’s (2008) environment, world and wilderness, a fourth
term I want to highlight is biosphere, the term given to that part of the
earth’s spheres that sustains life. Biosphere is understood as containing all
things that are living as well as the totality of ecosystems that make up the
earth – the living and non-living things that together make up the systems
that support life (Kochetkova, 2005). Out of understandings of the
biosphere also come conceptualisations, such as the Gaian Hypotheses,
that see the interconnectedness and interrelatedness of all living things and
systems of life (Lovelock, 2006; Lovelock & Margulis, 1974).

In a move from objective descriptions of the world as systems, living and
non-living – that which should be studied, classified and explained – terms
such as biophilia attempt to show the affective and emotional relationship to
nature, as something to be loved, respected and awed. Here, biophilia represents:

... the love and appreciation for Nature or biosphere and all the beings it contains. When we look at the world through a biophilic view, trees, animals, streams, mountains and all that exists in nature elicits [sic] in us deep feelings of love, gratitude, compassion, care, and respect. We appreciate their aliveness, and are emotionally affected by their presence. We are enlivened and enriched by their flourishing presence. Or we are moved to pity and compassion for their suffering and diminishment. We are even moved to indignation and rage toward those who abuse and harm them ... All earth beings, including humans, are fellow sentient and phenomenal beings (Bai, 2009, p. 138).

An understanding of the social and ecological – nature, environment, biosphere, world and wilderness – as interwoven and interconnected in a reciprocal relationship can assist us to move beyond dualistic understandings of nature and culture. This is to shift away from either a human-centred or an eco-centred stance, and rather to “one that focuses on reciprocity and a balanced perspective on the interrelationships between humans, nature and society” (Birkeland, 2008, p. 284). Central to this understanding is both David Gruenewald’s (2003a; 2004a, also known as Greenwood) and Chet Bowers (2002, 2004b) articulation of the inseparability of the social and the ecological, with the underlying position that environmental problems are social problems and social problems are environmental problems. This understanding of the relationship between human, nature and environment as reciprocal and interrelated should be a central element to any discussion of environmental education.

Recent understandings of the reciprocity and interrelatedness of human, natural and environmental agents has been developed in postmodernist and post-structural environmental thought and philosophy. They have come at a time when increasingly globalised human societies are beginning to realise the negative impact that human activity is having on the natural world, and of ‘the environment’ as in a state of crisis.
The environment in crisis

Human activities over the past two centuries are attributed to an increasingly significant, but negative impact on the natural environment\(^2\). Preceding the 1960s, interest in the natural world, or the ecological impulse, as Hay (2002) labels it, could be seen in the work of the nature romantics (Wordsworth, Emerson, Thoreau) and conservationists (Leopold) of the 19\(^{th}\) and early 20\(^{th}\) centuries, and fields such as natural history, biology, botany and nature studies. During the 1960’s concern about the growth in world population, contamination of air, water and land, and the depletion of natural resources at that time, prompted scientists to argue that there was a growing environmental crisis which needed more than science and technology in order to find solutions (A. Gough, 2006). Around the same time the influential book, Silent Spring, by Rachel Carson (1962), was published, along with publications such as Garrett Hardin’s (1968) The Tragedy of the Commons, and The Ecologist’s (1972) A Blueprint for Survival, giving further rise to environmental concerns and sparking extensive debate over environmental issues.

Now in the early decades of the 21\(^{st}\) century, reports released by the United Nations International Panel on Climate Change (IPCC) (2007a, 2007b, 2007c) have shown the rate of global warming over recent centuries is increasing. Scientific consensus attributes a significant proportion of the change is caused by human activities resulting in the release of carbon dioxide. The resultant environmental and ecological damages from such activities are anticipated to cause mean oceanic and atmospheric temperature rises of between two to five degrees Celsius. These changes will result in more extreme weather events such as flooding, drought, cyclones and hurricanes, and in turn cause more extreme bushfires, the destruction of food sources and arable land, amongst others (IPCC, 2007a, 2007b, 2007c). Less extreme temperature changes have already led to significant change and, in some cases, irreparable damage to fragile ecosystems, and species loss, endangerment and extinction (International Panel on Climate Change, 2007a).

\(^2\)Documentation of the impact of human activities on the natural world can be seen in fields as diverse as the sciences, environmental sciences, business and economics, education, politics, health sciences, sociology, Indigenous studies, philosophy – and so on (see: Hardin, 1968; International Panel on Climate Change, 2007a, 2007c; Merchant, 1989; Suzuki, Mason, & McConnell, 2007) – alongside debates in the public arena and by those named ‘climate deniers’ (Lomborg, 2001).
As environmental issues, particularly those around climate change, have become more topical and central to debates in mainstream media and politics, there has also been a growth in public awareness and consciousness about ‘sustainable living’ and being ‘green’. Since the early 2000s, documentaries such as Al Gore’s *An Inconvenient Truth* (Guggenheim [director], 2006), books such as Tim Flannery’s (2005) *The Weather Makers*, and movies, such as *Avatar* (Cameron [director], 2009) and *Dr Seuss’ The Lorax* (Renaud [director], 2012) that are suggestive of an ecological sense and critical of the consumerist and destructive nature of humanity, have played a role, amongst many others, in drawing mainstream attention to environmental issues. There is growing concern in numerous subsets of human society that the natural environment is being irreversibly damaged and degraded, and that this, alongside the current climate of economic and financial uncertainty, is due to modernist, Western and consumerist lifestyles (Martusewicz & Edmundson, 2005)

Willis (2011) articulates the fantasy of simplistic belief in a solution to the environmental crisis through scientific and political processes:

> Once upon a time, people believed that by acquiring and analysing data about the ecology, biology, geology, physics and chemistry of environmental problems and then passing relevant findings on to policy-makers, these issues would get resolved (Willis, 2011, p. 91).

The often naive belief that science and policy processes will be able to ‘fix’ the environment does not account for the complexity of the nature of the environmental crisis, of which, Willis (2011) argues, cultural and psychological causes have contributed to and must be addressed in any attempted solution.

Alongside the growing concern about the impacts that human society has on the ‘natural’ world, there are numerous advocates for living in the world in ways that accept and are responsible for a consciousness and sustainability of the environment and more-than-human world – animal, plant and object – and for recognising the interconnectedness and interrelatedness of nature. Peter Hay (2002, pp. 35-36) in his book *Main Currents in Western Environmental Thought* provides a taxonomy describing some of the dominant forms of environmental thought over the past century, encompassing: animal rights; deep-green theory; Gaian hypothesis; land ethics; Christian ecology; deep ecology; bioregionalism;
ecofeminism; eco Marxism; social ecology; ‘new science’-based ethics; place-based ethics; postmodern ethics; spiritualist ethics; and, sustainability ethics. Hay (2002, p. 341) refers to the developments in environmentalism over the past 50 years as a necessarily ongoing dynamism that shows a burgeoning diversification of environmental thought. He suggests that following the decline of socialism, environmentalism has now become “the major vantage point of opposition to business-as-usual”: the space of critique for unsustainable ways of living in the world.

One voice amongst those opposing ‘business-as-usual’ is Chet Bowers (1997) who argues that schools and universities have been complicit in the reinforcement and reproduction of a modernist Western ‘culture of denial’. Such a culture fails to accept that the beliefs and practices of Western culture are causing irreversible changes to the life-sustaining ability of many ecological systems in the biosphere. Similarly, knowledges that were once important for sustaining living for families, groups and communities are being lost in a market-driven economy that promotes consumption and the individual (Bowers, 1997).

Contending that there is now a need for a shift and re-imagining of the ways that we live on this earth, Marcia McKenzie, Paul Hart, Heesoon Bai and Bob Jickling (2009, p. 1) have suggested that it is the:

... cultural understandings that value the individual over the collective, humans over other species, concept over experience, progress as globalizing growth and change, print-based literacies as universally desirable, and other affiliated assumptions and values, are examples of the sorts of imaginaries that can be traced in the ecological and cultural losses we are currently experiencing and participating in around the world.

Although the social sciences have increasingly taken account of the environmental in recent times, there has still been a failure “to make clear and intelligible how interrelationships to nature are lived in particular, concrete contexts” (Birkeland, 2008, p. 284). A critical awareness of the places that we live in, share and co-create, and the interconnections and interrelations of nature and culture through place, is essential in this process of re-storying and re-imagining. In particular, David Gruenewald has suggested that through blending critical pedagogies and place-based education – a critical pedagogy of place – the privileging of ecological and spatial aspects of social experience can occur in schools. Through a critical
pedagogy of place, schools play a role in *decolonization* and *reinhabitation* (Gruenewald, 2003a). *Decolonization* involves an understanding of the patterns of domination and discrimination that have benefited some while exploiting others. It looks at how the places of human and nature have been “diminished or thwarted” by such domination and discrimination (Gruenewald & Smith, 2008, p. 346). *Reinhabitation*, on the other hand, involves the “restoration of relationships to other people and the land characterised by affiliation and responsibility” (Gruenewald & Smith, 2008, p. 347; see also Gruenewald, 2003a). Here, Gruenewald suggests, a critical pedagogy of place aims to:

... (a) Identify, recover, and create material spaces and places that teach us how to live well in our total environments (*reinhabitation*); and (b) identify and change ways of thinking that injure and exploit other people and places (*decolonization*) (Gruenewald, 2003a, p. 9).

Place, therefore, plays an important role in the conceptual framework of the empirical-philosophical work at the centre of this thesis. It is to a discussion of various conceptualisations of place that I now turn.

**Place**

Place is a complex concept, that encompasses lived experience, attachment to place, and situated-ness within the world. Gruenewald (2006, p. 4) claims that “to know anything about the world is to know its places”, yet place is “one of the most multilayered and multipurpose keywords in our language” (Harvey, 1993, p. 208). Cresswell (2005, p. 1) suggests that although there is “general enthusiasm for the study of places, there is very little considered understanding of what the word ‘place’ means … place is a word that seems to speak for itself” (see also Harvey, 1996; Massey, 1999).

Concepts of space, place and time are inextricably related. It is through these concepts that we seek to understand and locate ourselves in the world. Place and space have traditionally been seen as polarised; where *space* is the objective, the abstract, something that is studied by one who is outside of and looking down upon the places that form it, and in opposition to this *place* is conceived as the particular, the subjective, “the lived or experienced” (Agnew, 2005, p. 81). In turn, space is often associated with “objectivist theories, as in spatial analysis and Marxist political economy,
and place with subjectivist theories, as in phenomenology and postmodernism” (Agnew, 2005, p. 81). In much geographical use, Agnew (2005) argues, space and place are either viewed as synonymous, or one is excluded with the other term given preferential treatment. However each concept is dependent on and theoretically related to the other (Agnew, 2005; Massey, 2005; Relph, 2007; Thrift, 1999).

Place and space are often defined in terms of geographical scale, with space as global and place as localised or parochial, problematic though such a definition is (Agnew, 2005; Harvey, 1996; Massey, 1999). The result is that place is often associated with the local, traditional, and as politically and socially regressive, while space is associated with the global, progressive and modern, the present and the future (Agnew, 2005). As such, in recent times rethinking of place and space, particularly in human and cultural geography, has attempted to see beyond the dualism of local/global and place/space. Cresswell, for instance, has attempted to reconcile this difference by suggesting that place and space are dependent on each other as seen when envisaging that what makes something a place rather than “simply a room, a garden, a town, a city” is that these are “spaces which people have made meaningful” (Cresswell, 2005, p. 7).

Suggesting that there are three necessary features of place, Gieryn (2000) categorises these as being geographically located, having a physicality and materiality, and being afforded with meaning. This is consistent with attempts to reject the either/or dialectic characteristic in much thinking about space and place (Agnew, 2005; Massey, 2005; Relph, 2007; Thrift, 2008; Anderson & Harrison, 2010).

**Place and space**

Cresswell (2005) discusses place as space made meaningful, suggesting that while a bare room is simply a space, once one has ‘moved into’ this space, adding possessions, furniture, books and posters, not to mention experiences, that space then becomes meaningful ‘place’ to that person. Agnew (2005, p. 82) has also referred to place as space made meaningful through its occupation, suggesting that, in its simplest sense, “… space refers to a location somewhere and place to the occupation of that location. Space is about having an address and place is about living at that address”.
The human relationship with a place – experience of place and experiences in place — is what makes place stand apart from sites in space that can be charted in a mathematical sense. Moreover, one person’s experience of a place might be very different from another’s, thus producing a “significantly different place” (Gruenewald, 2003a, p. 622).

Place is often conceived of as being a site of meaningful identity and immediate agency (Oakes, 1997). Regions and nations may “command a sense of identity”, yet these often remain abstractions for individuals, while place, as a site of meaningful action, “becomes the geographical expression of the interactions between individual action and abstract historical process” (Oakes, 1997, p. 510). The mantra ‘think global, act local’ is often closely related to place, with researchers such as Lai and Ball (2002, p. 47) suggesting that “as humans become increasingly sensitised to the developments and pressures of globalisation and environmental change, the fate of the particular places people live – our homes – is a growing concern”. However, Casey (1997) maintains that it may be the familiarity of places which causes us to ignore and neglect them, and Plumwood (1999, p. 161) contends that, through a colonial rationalism and philosophy, for many in the West “both place and the more-than-human sphere are disempowered as major constituents of identity and meaning”.

Arguing that space is not simply a passive location for social relations, Soja (1999; see also Lefebvre, 1991; Massey, 1999; Soja, 1996) discusses spatiality as a trialectic made up of perceived space, conceived space and lived space.

Perceived space, Soja (1999, p. 265) explains, is the “directly experienced world of empirically measurable and mappable phenomena”. The empirical measuring and mapping of places, as Gruenewald (2003a, p. 624) contends, has subsequently become the space for the disconnection “of the human body from the natural world”. Berry (cited in Gruenewald, 2003a, p. 624) uses the term ‘autistic’ to describe how humans “have forgotten how to hear, communicate and participate in meaning making with our places on the living earth”. The perceptual dimension of place is often privileged by many in geography as objective or real space, a position that excludes new and alternative ways of thinking about space and place that take into
account relational perspectives (Soja, 1999, p. 265). Furthermore, the dislocation of schools from the places and communities in which they dwell has been attributed to the privileging of measurable and abstract representation of the spatial:

… through regulating our geographical experience, schools potentially stunt human development as they help construct our lack of awareness of, our lack of connectedness to, and our lack of appreciation for places (Gruenewald, 2003a, p. 625).

Critical geography recognises, in what Soja (1999) refers to as conceived space, that “spaces and places are expressive of ideologies and relationships of power” (Gruenewald, 2003a, p. 628; see also: Harvey, 1996; Lefebvre, 1991; Massey, 1994; Soja, 1996, 1999). In particular, this ideological dimension of place recognises the hegemonic nature of space and how geographical spaces often reflect and reproduce social relationships of power and domination. From a political perspective of place, critical geographers are also concerned with issues of identity and difference (Gruenewald, 2003a; Harvey, 1996; Massey, 1994; Soja, 1996). In schooling, Gruenewald (2003a, p. 631) contends:

Examining the many ways in which politics and place are entangled can inform educators with ideas about how people, places, and cultures take shape. Beyond that, entering politicized space suggests political roles for educators as mediators in the construction of culture, identity, and the places where they emerge.

While recognising that capital plays a specific role in the shaping of place, culture and identity, looking at the political dimension of place incorporates looking at alternative spatial relationships as significant (Soja, 1996). Gruenewald (2003a, p. 631, italics from original) provides examples of geographical terms used to describe these politically spatial relationships as including: “marginality, territoriality, movement, disruption, displacement, exile, annexation, division, segregation, absorption, diaspora and panopticonism”. Using the example of marginality, Gruenewald argues that schools need to become more:

... conscious of the spatial dimension of social relationships. Learners might ask, for example: Where are the margins? How have they been constructed? How do they reveal not only multiple forms of oppression, but possibilities for resistance to and transformation of domination? What have they to teach us about an
education that can help to move us toward more just societies and communities? (Gruenewald, 2003a, p. 633).

The identity and characteristics of a place are always in a state of becoming and changing and are never complete (Massey, 1994; Thrift, 2008). As such Cameron (2003b, p. 7) suggests that the only way to a stable place identity is through “fixing it in a particular time and giving primacy to one set of power relations”. Further to this, Gruenewald (2006, p. 5) claims that “places shape people (identities and cultures) and people shape places”. As the relations and meanings, and even the physical nature of a place alter over time, the relationship of people with place also alters. In this respect, then, “place is associational, weaving together ‘all manner of spaces and times’, but it is never completed because it always depends on ‘further works of association’” (Agnew, 2005, p. 91).

Performing place

Places are in a constant state of flux, never completed and always becoming – the garden bed grows (or wilts or dies, or a combination of all), the urban laneway is graffitied; is cleaned, and weathers. Our experiences in these places are always embodied and felt through our senses – the smell of the dirt as you turn the soil, the taste of a mint leaf, the prickles underfoot, the changing colours as the peaches ripen, the sound of the wind, distant cars, the thud of the shovel – and through our embodied experience we perform in place; we water the garden, or forget or plant new seedlings, we pick up the dropped rubbish in the laneway, or leave it, or make a complaint. Place is both performed through our and other (inclusive of the more-than-human world) experiences of it. Then through our experience in place we embody it:

… an embodiment which is folded into the world by virtue of the passions of the five senses and constant, concrete attunements to particular practices, which always involve highly attuned bodily stances as bodies move in relation to each other; ways of walking, standing, sitting, pushing, pulling, throwing, catching, each with its own cultural resources (Thrift, 1999, p.314).

Our embodied performance in one place relates to the performances that go on in other places – the placement of household waste into a bin for curb-side collection, causes changes to occur in other places where the waste is sorted for recycling or becomes landfill. Watson (2003, p. 145)
discusses the relational performance of place in regards to the “flows, mobility and hybridity of meaning” that occur through and in places. Conceiving of place as performed, he maintains, allows an “alternative notion of place – as an emergent effect of a complex mix of relations incorporating human subjects and agential non-human nature” (Watson, 2003, p. 145). In an example from nature reserves in the United Kingdom, Watson argues that these places, while being considered local and allowing particular human performance in such places based on their locality, also have a strong element of the global:

Paradoxically, most nature reserves continue to exist as distinctive local spaces because they exist also as standardized representations, such as species lists and habitat descriptions, in a much more universalized context (Watson, 2003, p. 145)

Watson (2003, p. 145) explores place as “an emergent effect of heterogeneous relationships, distributed across conventional boundaries between entities as well as through space and time”. Arguing that “place is not only local, specific and static”, he contends that “place is an emergent effect of practices that bring a diversity of relationships into the moment of interaction between a person and the materiality of a site” (Watson, 2003, p. 157). In investigating the conservation of a nature reserve, Watson acknowledges the processes that are involved in place making, from a man “crawling on his belly in the 1930’s” through the complex paths, abstraction and reversal to return again to the same place “in the form of a small material transformation”; a protective fence (Watson, 2003, p. 157). By doing this, Watson (2003, p. 157) has demonstrated place as both “an emergent effect of globally distributed relationships, and as an actor in those relationships” (see also Massey, 2005).

These experiences of place, and the memories, narrations and stories that come from them, reside “in our bodies and cannot be objectified or entirely externalised” connecting “what is outside of us and what is inside” (Somerville, 2012, p. 68). Somerville (2012, p. 68) describes this connection as a person’s place stories: the stories and interpretations that connect our experience – our stories – of place “to other worlds and other places, and yet they are deeply local and embodied, participating in the materiality of specific local places”. Further, just as Watson (2003) discusses the material changes brought about in one place over time through embodied, localised actions, and global abstraction, Game (1995,
suggests that “the materiality of place lives, is inscribed in our bodies”. Indeed, Gieryn (2000, p. 471) reasons that a “place is remarkable, and what makes it so is an unwindable spiral of material form and interpretative understandings or experiences”. Places, therefore, are “endlessly made” (Gieryn, 2000, p. 471), experienced and embodied, have a physical materiality and located-ness and yet are composed also of globally distributed relations.

Place as a ‘social construct’, or place as ‘being in the world’

In discussing place as always becoming and being in a constant state of change, it is important to realise the agency of the non-human world in this changing. Be it the slowly expanding spider web in the corner of the roof of a bedroom, or the instinctive work of many insects, plants and animals in the local scrubland, place is in a constant state of becoming, changing, ending, renewing.

While critical geographers such as Harvey (1996, p. 294) ask “by what social process(es) is place constructed” humanist geographers such as Sack (1997) considers place as essential to being human. From this perspective, place is unable to be reduced to merely the social, the natural or the cultural, rather it is what brings these elements together and in part produces them (Sack, 1997). In a similar vein, Soja (1999) posits that being involves more than the commonly accepted dialectic encompassing historicity and sociality. Forming a trialectic with the addition of spatiality, Soja (1999) acknowledges that both time (historicity) and society (sociality) are grounded in space/place. Without spaces in which to occur, neither time nor society would exist. In turn, both the history of a place and the social actions within that place are integral to the making of that place. We cannot be outside of place and places are the centre of experience. Places form our identities and “possibilities are shaped by the particular places we occupy” (Gruenewald, 2003a, p. 621).

Harvey (1993, p. 324) maintains that an important element in critical geography is to understand that “places, like space and time are social constructs and have to be read and understood as such”. Although this argument certainly takes on a particular anthropocentric perspective, it is
possible, however, to agree that place, space and time, while not brought into being through human society, are constituted (for humans) through socially constructed meaning.

The notion of place as being in the world comes through the tradition of Heidegger, and is informed by a dwelling perspective of place. Also having much influence on phenomenological theory, the dwelling perspective provided both a profound critique of modernity as well as the basis for living authentically through being in place – to be in place authentically is to dwell in place and, specifically for Heidegger, to dwell in one’s home (Hay, 2002). Authentic dwelling in place fosters a belonging and caring for place that:

... involves more than holding it merely in affectionate regard; it also involves taking responsibility for that place ... To sit passively by and acquiesce in the destruction of one’s home is to fail one’s duty to take all steps possible to ‘care’ for one’s dwelling (Hay, 2002, p. 161).

It is, in part, this notion of affection for and responsibility to place that resounds with philosophies of place-based education and some aspects of environmental education.

Michael Jacobs (1995, pp. 20-21), an eco-socialist, has argued for the formation of identity through the knowing of places and attachment to place as “one of the most fundamental needs of humans”, suggesting that “people do not simply look out over their local landscape and say ‘this belongs to me’. They say, ‘I belong to this’”. Place is not only instrumental to human needs, but through bringing together the human, environmental and natural, as a concept it provides space in which to resist modernist and neo-liberal regimes that emphasise the person as consumerist and individual. Conscious and critical attachment to place and identity through place, then, enables us to understand and resist the subversion of nature and destruction of the environment (Hay, 2002; Jacobs, 1995; Sagoff, 1992, 1993).

Deborah Bird Rose (2002), critical of individualistic and atomist notions of the self, claims that the dualism perpetrated by the Cartesian separation of body and mind, positions the feeling body as part of nature to be dominated or controlled by the rational mind or will; just as nature is to be dominated by the logically independent, rationally minded human society. Instead
arguing for an *embodied ecological self*, building on the work of Freya Matthews, Rose (2002, p. 312) contends that “an ecological self is materially embedded in specific places, as well as being consubstantive with the universe. The emplaced ecological self is permeable: place penetrates the body, and the body slips into place”.

Much philosophy and theory positions place as where the human, natural and environmental intersect – the interwoven nature of ‘being in the world’ (Hay, 2002). This is further developed by Birkeland (2008) who suggests that place is a phenomenon that:

... expresses the nature-culture interface in a critical way. There is much to be gained from the restoration of human relationships to place, in terms of health, social and economic development, and, most of all, sustainability. The word ‘environment’ refers here to the physical environment, or ‘nature’, and denotes an agent with as much right to care, health and well-being as humans (Birkeland, 2008, p. 284).

The importance of place to culture and identity is stressed by Gruenewald (2003a, p. 625), who contended, “we live our lives in places and our relationship to them colours who we are”. Casey (1993, p. 313) similarly maintained:

To be is to be in place. There is no being except being in place. Put the other way around, there is no utterly placeless existing ... To be a sentient, bodily being at all is to be place-bound, bound to be in a place, bonded and bound therein.

While Casey (1997) has suggested that place, and therefore the human experience of it, can never be pre-cultural or pre-social, Gruenewald (2003a, p. 626) reminds us that while experience in place shapes our culture and identity, our experiences of place, particularly the human-constructed spaces (i.e. schools, highways, suburban streets), are mediated by our culture. These socially constructed spaces are often perceived as a “natural part of our social landscape” that we take for granted, failing to see how they are cultural products. When we do this:

... we accept their existence as non-controversial or inevitable, like the falling of rain or the fact of the sunrise ... when we accept the existence of (social/cultural) places as unproblematic ... we also become complicit in the political processes, however problematic, that stewarded these places into being and that continue to legitimize them (Gruenewald, 2003a, pp. 626-627).
The role of people in place-making suggests that, within education, schools could take a “more active role … in the study, care and creation of places” (Gruenewald, 2003a, p. 627). Moreover, taking a more active role in the “study, care and creation” of places, enables students and teachers to reflect on how “places, and our ideas about them, became what they are” as well as allowing students to take a part in the process of shaping what their places will become (Gruenewald, 2003a, p. 627). The relationship of schools and communities with their local places, when based on an understanding of nature-culture as reciprocal and interrelated, enables society to draw from nature, and nature to draw from society, in both a material and symbolic nurturing (Birkeland, 2008).

**Indigenous, spiritual and ecological place**

It has been widely argued that Western, modern and consumerist lifestyles have contributed to the destruction of natural systems, environments and places (Bowers, 1995, 2006; Gruenewald, 2003a; Hay, 2002; Jacobs, 1995; Martusewicz & Edmundson, 2005; O’Riordan, 1989; Oakes, 1997; Sagoff, 1992, 1993).

Val Plumwood (1999) has discussed how modernisation and globalisation have led to perceptions of a deep relationship with place as irrelevant. In addition, modernist focus on social interaction is often at the exclusion of the non-human leading to a disconnect from nature and place. In turn, this disconnect has meant that people are unable to “understand the kind of language of the land [that]… requires a deep acquaintance with a place” (Plumwood, 1999, p. 158). Understanding the language of the land, she contended, enabled people to relate to the more-than-human world, providing a “crucial source of narratives and narrative subjects defining the distinctiveness of place” (Plumwood, 1999, p. 159).

Further to this, Martusewicz and Edmundson (2005, p. 83) have articulated that there are clear links between “Western modernist notions of knowledge as abstract, fragmented, and objective, and our hyper-separated relationships to natural systems”. Indigenous and traditional cultures, they argue, have an “ecological gaze”. An ecological gaze constitutes the forms of knowing within a culture that are context specific to place and have grown out of “unique mytho-poetic and linguistic systems born of a
particular, often centuries-old relationship to the land" (Martusewicz & Edmundson, 2005, p. 82). An example of this is the telling of stories as a way of passing down knowledge of survival or wisdom.

Modernist, individualist and globalist perspectives in society are unable to take into account the 'language of the land', and represent a socialisation from within a particular cultural framework that many people in the (dominant) Western culture are coming from (Martusewicz & Edmundson, 2005). An ecological gaze, on the other hand, acknowledges the land as active in place-making and emphasises a need to listen to the narratives of human, more-than-human and place. As Cameron (2003b, p. 193) comments, “allowing multiple stories of place to be voiced not only fosters an inclusive sense of place among a group of people, it can also help to deal with entrenched environmental conflict”.

Cameron (2003b) calls for a coming to place-responsiveness that takes into account both the individuals' experience of place and the structural barriers that impact upon those experiences. Further to this, narratives of place in an Australian sense of place in Australia “must take Aboriginal sense of place as a vital factor” (Cameron, 2003b, p. 175). A place-responsive culture, therefore:

... involves changing institutions and practices that are barriers to enriching place relationships, such as treating place as an inanimate property to be traded, or a resource for exploitation, or living lives of increasing mobility and displacement ... the notion of learning our way towards the place-responsive society (Cameron, 2003b, 194).

In one example of a cultural “ecological gaze”, Indigenous Australian connection to country shows an alternative to Western, settler Australian perspectives toward place, nature and experience. In particular, an Indigenous sense of place evokes an “inseparable link between person and country” (Cameron, 2003b, p. 4). Jacobs' (1995) distinction between people who see themselves ‘owning’ or ‘being owned by’ country, noted above, has been a politically tense clash of cultures between European and Indigenous settlers in the Australian context. According to Deborah Bird Rose, an anthropologist who has worked with Indigenous communities across Australia, Country is multidimensional and understood within a
matrix of relationships and political structures that are both autonomous, yet also interdependent:

Country consists of people, animals, plants, Dreamings, underground, earth, soils, minerals and waters, surface water, and air. There is sea country and land country; in some areas people talk about sky country. Country has origins and a future; it exists both in and through time. Humans were created for each country, and human groups hold the view that they are an extremely important part of the life of their country. A fundamental proposition in Vic River law and society is that the living things of a country take care of their own. All living things are held to have an interest in the life of the country because their own life is dependent on the life of the country. This interdependence leads to another fundamental proposition: those who destroy their country destroy themselves (Rose, 2004, p. 153).

Much can be learnt from Indigenous Australian worldviews about ways to live in the world, for instance, notions of Country and ways of living that are built upon relationship, connection, interdependence, resilience and reciprocity with nature. More generally, for those within Western cultures, gaining a sense of non-Western beliefs about relationship to place and nature can work toward problematising Western notions of dualism between nature-culture.

It is important, however, not to essentialise and ‘other’ Indigenous connection to Country, without acknowledging that settler Australians, as one example, also develop a sense of belonging and connection to place, albeit with deep cultural difference to Indigenous Australian relationship to country. Rose (2002; Rose & Clarke, 1997) discusses the permeability of place as seen through the embodied belonging that settler Australian pastoralists have spoken of, in relation to their place in Australian country:

They speak of specificities, and the exchanges between person and place are situated within the real unfolding time of their lives, the lives of their forbearers, and the lives of their descendants. The relationships thus formed are not infinitely transportable. Indeed, much of this pastoralist discourse is set in the context of why people want and need to stay where they are (in the bush) (Rose, 2002, p. 321).

An ecological gaze or perspective of place not only acknowledges the land as an active participant in place-making, but also “includes a growing sense of what the place demands of us in our attitudes and actions” (Cameron, 2003b, p. 5). Martusewicz (2005, p. 341) further extends our understanding.
of place as reciprocal and generative, as well as warning of the dangers of dismissing or abusing our relationships with nature:

Place is necessarily reciprocally created within a generative difference-producing natural world: the land, the wind, the waters and the other creatures we share this planet with. And it matters what we choose to say about this complex system or how we choose to respond to it. This is why returning to a sense of the commons is important. If we overuse the land or its creatures, if we misname it in the hopes of making it more controllable, overlooking its limits, we will destroy it and … destroy ourselves.

In another vein, Russell (2005, p. 434) questions where the voice of nature is in the era of representationalist views of the environment, which demote nature and place to being socially constructed. In particular she notes that the literature in general education is “mostly silent about anthropocentrism… attempts to discuss it are often sidelined in the interest of addressing other, apparently more pressing, issues… ‘Nature’ is also relegated to this club for the unnoticed or unpopular”. Rather than being a social/human construction, Haraway (1991) suggests that nature and place is in actuality a co-construction between humans and non-human. Anderson and Harrison (2010) provide a means for thinking this through the perspective of non-representational theories, which consider life as existing between the ‘really made-up’ of representationalism, and the ‘really-real’ of the everyday, messiness of living. Importantly, Darier (1999, p. 24) questions, “whose (human) voice can legitimately speak for ‘nature’?” Further, in response to the poststructural phrase ‘whoever does not write is written’, Russell (2005, p. 435) asks, “what happens if the ‘whoever does not write’ happens to be ‘nature’ or one of its particulars, unable to ‘write’ in conventional human forms?”

Through this section, I have discussed how traditional concepts of place and space have been seen as opposing, with place often deprivileged and seen as representing the local and parochial. Developments in geographical thinking over the past few decades have reconceptualised place as having a complex materiality that is the interface for the intersection of culture and nature. An important development in understandings of place and space has been the interrelatedness of these concepts to one another. Place has different meanings for different people, cultures and societies. Places shape the people and their identities and
characteristics, just as those who occupy certain places, in turn, shape them.

Although there are those who position place, space and time as socially constructed, I contend here that while constituted through socially constructed meaning, place is more than a social construct, and is for humans the context or situation where society, nature and culture are brought together and co-produced. It is also important to recognise non-Western conceptions of place, such as Aboriginal Australian understandings, which see place (or ‘country’) as inseparable from self, acknowledging the reciprocal, interrelated and co-dependent nature of all living things. The many, complex and contested ways of understanding place are central to the relationships that people have with the world around them. Place has both a located and material context within which all of nature is a part, as well as being central to shaping the people, cultures and environments and in turn being shaped by them. Finally, place provides the point of connection for the interrelationships, reciprocity and experiences of those who dwell in a place.

Although I suggest that place is central to our relationship with and understanding of nature, environment and the world around us, it has often been a concept unseen and taken for granted through its very everydayness. In contrast to this, recent decades have seen an understanding of environment and use of the environment through the dominant discourse of sustainability. Through the following section, I provide a discussion of sustainability and the implications that I believe come from privileging this environmental discourse over others with little contestation.

**Sustainability**

Over thirty years ago, Bowers (1979) wrote of the ideological and historical context of metaphors in education, notably the term ‘accountability’. While I do not dispute the extent to which accountability discourses have pervaded educational discourse, I draw attention to the term 'sustainability', as another powerful, often context-free, metaphor that represents a particular type of environmental liberalism, and which has pervaded environmental, environmental education and conservation fields. Given that we are now three quarters of the way through the United Nation’s Decade of Education
for Sustainable Development (DESD) (2005-2015), there appears to be, within both the Australian and international contexts, a proliferation of sustainability discourse in environmental and environmental education fields. In this section, I provide a historical context for the term, and discuss my discomfort with the largely unquestioned and uncontested use of this term.

**Historical context of sustainability**

The early 1980s saw the increase in discourse around ‘sustainable development’, where the World Conservation Strategy, a document jointly produced by the International Union for the Conservation of Nature (IUCN), United Nations Environment Project (UNEP), and World Conservation Foundation (WCF) (1980, p. 18) referred to sustainable development as the interdependence of the relationship between human beings and the natural environment:

> For development to be sustainable it must take account of social and ecological factors as well as economic ones; of the living and non-living resource base; and of the long term as well as the short-term advantages and disadvantages of alternative actions.

Under the banner of ‘sustainable development’ attempts were made to consolidate social, ecological and economic perspectives through human development, minimising impacts on the environment. This was to be done through conservation, peace and equity, appropriate development, and democracy, and was “linked as much with notions of peace, human rights and fairness as with theories of ecology or global warming” (United Nations Educational, Scientific and Cultural Organization (UNESCO), 2002, p. 7).

In 1987, the World Commission on Environment and Development (WCED) (1987) released a report entitled *Our Common Future*. Also known as the Brundtland Report, it claimed that critical environmental problems had been caused both by “poverty and from the short-sighted way we have often pursued prosperity”, making particular note of the divide between the developed and developing nations (WCED, 1987, p. 39). The Brundtland

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3Hay (2002) notes that while the term can be traced initially to several conferences in Africa during the 1960’s, however, sustainable development discourse is most often seen as having widespread introduction through the 1980 World Conservation Strategy (International Union for the Conservation of Nature et al., 1980).
report again brought into focus the concept of sustainable development, defining it as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED, 1987, p. 24).

The Brundtland Report advocated the possibilities offered through a “new era of economic growth, one that must be based on policies that sustain and expand the environmental resource base” where people would be enabled to “build a future that is more prosperous, more just and more secure” (WCED, 1987, p. 18). In turn, this economic growth was heralded as being essential in relieving the deepening poverty of much of the developing world. Often used in the justification and legitimacy of environmental education, a key message from the report was that “the world’s teachers will have a crucial role to play” in passing the message of urgency about sustainable development to children, parents and decision makers (WCED, 1987, p. 16).

Central to the concept of sustainability is the commitment to the three (and sometimes four) pillars of sustainability – environmental, economic, social (and political). Much of the emphasis within sustainability is on management of present resources to cater for the needs of the future (‘enough, for all, forever’). In addition, it is important to recognise that sustainable development came from a branch of economics, as a liberalist concept that attempted to redress the damage that occurred when there was a singular economic focus and social and environmental well-being was not considered (Hay, 2002).

The popular phrase coined by Lester Brown, and often used as a motto for education for sustainability – “A sustainable society is one that satisfies its needs without jeopardizing the prospects of future generations” (Lewicki, 1998, p. 5) – represents a fundamental shift from early discussions of sustainable development. These discussions saw sustainability as a way of tackling an inequitable distribution of resources in a world with gross resource inequities (IUCN et al., 1980). It implied a reoriented focus on the equitable distribution of resources with the future – a move from concern for

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4 Charles Hopkins (2012) notes a billboard at the 2002 World Conference on Sustainable Development in Johannesburg, South Africa, as the beginning point of the widespread use of this slogan in the Education for Sustainable Development (ESD) community. The slogan itself is attributed to an African elder.
those sharing the planet with us now, to those, presumably in our own society who will exist in the future.

**Critique**

The ideology of sustainability, however, is not without its detractors, with arguments suggesting that economic development has been privileged over environmental and social well-being, and that the interests and well-being of the present will always win out against the predicted needs of the future (Foster, 2008). In addition, the institutionalisation of the term means that it is often used as a catch-all phrase by government, environmentalists and big business alike. All of these bring their own meanings and understandings to its use, encompassing both environmental and technological perspectives, and producing the idea of sustainability as “subject to a variety of interpretations and … substantive internal contradictions” (Gonzalez-Gaudiano, 2006, p. 293). As Adisu (2005, para 1) observed:

> Unlike theorists of modernization and economic growth, the proponents of sustainable development promised that growth and environmental protection are not mutually exclusive and that one can have the cake and eat it too. Therein lay the charm – and the risk … Twenty years later, however, the promise remains as ambiguous and elusive as ever … Unfortunately, the minting of new phrases also favoured those better disposed to set the global agenda.

Further to this, Bonnett (1999, pp. 313-314) has argued that the appeal of sustainable development was the two-fold attempt to harmonise the contested ideas of “sustaining what is valued, but which is currently endangered through depletion, pollution and so forth”, and that of “accommodating ongoing human aspirations to develop, i.e. in some sense to have more or better”.

Some of these contradictions and contestations include wariness about the nature of sustainability discourse coming from a field whose promotion of a capitalist and economic view of the world has required consumerist and globalised production. Such a worldview is often attributed to the production of ecological degradation as well as the encouragement of a human consciousness which does not see the intrinsic value of the more-than-human world other than in its use for human society (Bonnett, 1999; Hay,
Indeed, prominent geneticist and activist, David Suzuki, has been very critical of economics as a set of values which fails to understand the complex, interrelated and reciprocal nature of the world and the ‘web of life’:

Economics is a set of values that they, then, try to use mathematical equations ... and pretend that it's a science. But if you ask the economist, 'In that equation, where do you put the ozone layer? Where do you put the deep underground aquifers of fossil water? Where do you put topsoil or biodiversity?' Their answer is, ‘Oh, those are externalities.’ Well then you might as well be on Mars. That economy is not based on anything in the real world. It's life, the web of life that filters water in the hydrologic cycle, its microorganisms in the soil that create the soil that we can grow our food in. Nature performs all kinds of services – insects fertilise all of the flowering plants. These services are vital to the health of the planet. Economists call these ‘externalities’. That’s nuts! (David Suzuki in Roy (Director), Louis & Robert (Producers), 2011, [56:10-56:57]).

Finally, due to its “extraordinarily elastic” nature, Davison has debated that central to any discussion of sustainability should be questions of power and hegemony:

... the encompassing nature of the language of sustainability makes it prey to co-optation by entrenched ideological and economic interests, dominant discourses and empowered institutions. With contests about sustainability resisting authoritative conclusion, the mere presence of governing forces and actors within the sustainability throng is enough to set default bearings, ushering diverse interests down a single path. To permit travel in other directions it is vital that questions of the history and geography of power, questions of hegemony, be placed at the centre of contests about sustainability (Davison, 2008, p. 191).

Regeneration

In Australia, the past decade has seen a greater consciousness of environmental impacts and interest in living in sustainable ways, and subsequent reactions to this leading to increases in those opposing the economic and social change necessary to live in more environmentally sustainable ways. Contributing to this have been a number of key events, both environmental (such as the decade long drought in the South East of the country, followed by record rainfall and flooding events), political (such as the proposal for an Emissions Trading Scheme and later the successful introduction of a Carbon Pricing scheme) and social (such as the growth in
community gardening and eco-marketing). As for McKenzie et. al (2009, p. 3), who claim that while it is encouraging to see that both locally and globally the environmental and sustainability movements is becoming more widely accepted, I also feel discomfort and “worry about what sorts of cultural agencies and agendas are and are not at play in various renditions”.

George Main (2005, p. 245) in his discussion of the place-history of the Wiradjuri people, an Indigenous language group from central New South Wales, provides an alternative to a sustainability discourse grounded in the rules and regulations of economically problematic conditions. He suggests that, given the current state of the global environment, there is a need for healing and for regeneration before there can be sustainability. In particular, he claims that the discourse of sustainability does not acknowledge the “painful history of suppression, fragmentation and disorder”, while regeneration takes on an ecological gaze that invokes “formidable new relationships” where connectivity is acknowledged and nurtured (Main, 2005, p. 245). In addition, the acknowledgement and appreciation of the alienation and loss that has occurred in place, through physical degradation, displacement and placelessness, is important in invoking new relationships to place, regenerating connection to the land, and nurturing an ethic of connectivity and interrelatedness (Cameron, 2008). This is not unlike Greenwood’s (2008) argument for a cultural decolonization and ecological reinhabitation, through the emphasis on our relationships with nature and place.

Regeneration refocuses on the importance of people understanding nature, environment and culture as relational, interconnected, and reciprocal. As Rose (2004, p. 1) suggests, in order to survive we need to view ecology not as “the individual and the species, but as the organism-and-its-environment. It follows from that, that an organism that deteriorates its environment commits suicide”.

Although there is an underlying philosophy for sustainability that focuses on the ecological and social, the growing use and misuse of the concept, means that the social, and, in particular, the economic, are privileged over the ecological. As such, there is still an absence or silencing of the ‘voice’ of nature. As a means of re-locating relationship with environment and
place as central to understanding environment and environmental education, I take on board a framework acknowledging the ties between social and environmental, with a focus on regeneration, reciprocity, eco-ethical justice and responsibility.

**A framework for the socio-ecological**

As mentioned earlier, Chet Bowers has been very critical of modernist, Western ways of life that hold deep individualistic and anthropocentric cultural assumptions, which reproduce ways of understanding the social and natural in ways that are un-ecological and damaging to natural and ecological systems. He argues that these assumptions include:

... (a) that change and experimentation with the foundations of culture are inherently progressive in nature, (b) that an anthropocentric interpretation of the Earth's ecosystems represents the highest expression of enlightened thinking, (c) that individual autonomy in the areas of thought and values represents the fullest realization of human potential, (d) that science and technology are the twin engines of human progress, and (e) that the Western form of modernization represents the most advanced stage of human development and should be promoted throughout the world (Bowers, 1996, p. 6).

Bowers and others have contended that environmental problems cannot be separated from the issues and contexts of society. Hence, any discussion of environment and society needs to be taken alongside an understanding of social-ecological justice (Bowers, 2001; Edmundson, 2004; Smith, 2004; Wayne & Gruenewald, 2004).

Suggesting that it is these assumptions that are the foundation of the "cultural roots of the ecological crisis" (Bowers, 1996, p. 6), he claims further that critical and social theorists reproduce these cultural assumptions through failing to address the ecological in social injustice, and the social in ecological injustice. Greenwood (2008; Gruenewald, 2005b) provides a well-argued criticism of Bowers' ongoing position against critical theory. He suggests that Bowers' argument positions critical theory and ecologically-just theory as irreconcilably different, rather than understanding the value that comes through thinking divergently and recognising the mutual beneficence that comes through an understanding of multiple theories and perspectives (Greenwood, 2008).
Martusewicz and Edmundson (2005) provide a discussion on what they describe as pedagogies of responsibility, developed through Bowers’ framework for a socio-ecological ethic, as a means of guiding, and problematising, educational practices and policy. This socio-ecological framework has four educational and political goals: an understanding of the relationships between the cultural and the ecological, in particular the oppression and domination of groups within these systems; attending to environmental racism, for example addressing the social and ecological injustices occurring between environmental pollution and socioeconomic status; revitalising the ‘commons’, the non-commodified traditions of different groups and communities, especially Indigenous and ethnic traditions; and, changing and reconceiving our lifestyles in ways that support ecologically sustainable growth (Bowers, 2001).

As noted above, in a melding of critical theory and place-based pedagogy, David Gruenewald calls for a decolonization and reinhabitation of our places in ways that promote more eco-centred ways of living. A cultural decolonization and an ecological reinhabitation recognises the sites of disruption and injury in the places we inhabit, unlearning much of what dominant culture and schooling teaches us about modernist Western ways of being, and learning more socially just and ecologically sustainable ways of being in the world (Gruenewald, 2003a). Here, Gruenewald privileges place as central to understanding the interconnectedness and interrelatedness of environment and nature, and suggests that a decolonization and reinhabitation requires asking the questions: “What needs to be conserved, transformed, restored, or created – here?”, as a way of bringing together action and inquiry, social justice and the ecological within place (Greenwood, 2008, p. 339).

My understanding of the socio-ecological is informed by philosophies that give agency to a reciprocal, interconnected relationship between nature, culture, and place. Here the underlying beliefs that inform my conceptual understandings of nature, place and environmental ethic are influenced by arguments that cultural problems are ecological ones, and that the ecological crisis is grounded within cultural problems (Bowers, 2001), as well as the work of Greenwood (Gruenewald, 2003a, 2004b; Gruenewald & Smith, 2008), McKenzie (McKenzie, 2005; McKenzie et al., 2009) and others (Martusewicz & Edmundson, 2005; Plumwood, 2003; Rose, 2004),
who diversely suggest that through the culture(s) and places that we live, inhabit and dwell, we need to be asking questions of conservation and transformation, regeneration and co-creation, reciprocation and relationship; ultimately coming to the understanding that “every part of the world may affect each other” (Rose, 2004, p. 362).

**Summary**

In this chapter I have provided a background discussion situating the focus of this dissertation within the complex and interrelated notions of environment, place and sustainability. The purpose of this chapter has been to position my dissertation as contributing to the field of environmental education research and philosophy that is concerned with the socio-ecological and understanding of nature, place and society as reciprocal, interconnected and interrelated.

Ultimately, my philosophical understanding of the environment, our relationship to it, and the ways that we live in place – in the world – inform my understanding of environmental education as a practice that constitutes activity, understanding and relationship to environment, society and place, embodied through our earliest years of life.
Chapter Three: Environmental Education and Place-Consciousness

In this chapter, I move onto a discussion of the background and development of ‘learning the environment’ through environmental education. From here, I provide an overview of the development of the understanding of ‘place’ as central to conceptualising environmental education, and through this discuss the role that a pedagogy of responsibility plays in the constitution of a primary environmental education which works to develop a consciousness and responsiveness to place and environment.

The contested identity(ies) of environmental education

The field of environmental education shows an ongoing contestation in its definition, in its goals as a transformational education, and in the ideologies upon which its practitioners base their practice. Despite this, the contestation over its identity, purpose and nature is not to be construed as necessarily negative, rather, the robust debates about these matters, and many others, have provided opportunity for many voices in its ongoing formations, transformations and re-formations.

Environmental education is historically constituted. Environmental learning, in the sense of humankind learning the world around them for survival, pleasure, appreciation and life, has been going on for time immemorial. More recently, and with the introduction of formal learning systems and settings as we currently know them, environmental learning was influenced by the nature romantics in the form of nature studies, outdoor experiences and field trips, and the school discipline of biology, has been documented throughout the late 19th and early 20th century. However, the history of environmental education for social and environmental change, developed from the growing social awareness during the 1960s, of an environmental crisis. The following section provides an overview of the development of environmental education from its beginnings as a new approach to teaching the environment in the 1960’s, through the various developments and debates around its definition, purpose and operation, as well as the
tensions between socio-critical, scientific and economic approaches and philosophies that have framed its practice.

A ‘new approach’ to teaching the environment:

**Foundations, approaches and debates from 1969-2000**

As previously mentioned, the 1960s and 1970s saw an increase in social concern about the environment. This, in turn, led to an increase in calls for education to be part of a solution to the environmental crisis, in what Fien (1993c, p. 1) described as the political process of schools and teachers being “called upon to assuage society’s problems”.

In 1969, Stapp et al. published their definition and objectives for a ‘new approach’ to teaching the environment in the first edition of the *Journal of Environmental Education*. Drawn from a seminar at the School of Natural Resources, University of Michigan, they outlined the problems associated with urbanisation of the United States population and called for a move away from conservation education programs that focus on basic resources, and for a move toward education that incorporates a role for the ‘citizen’ in the solution of the environmental problems identified. Environmental education, they proposed, would help citizens develop a “fuller understanding of the environment, problems that confront it, the interrelationship between the community and surrounding land, and opportunities for the individual to be effective in working toward the solution of environmental problems” (Stapp et al., 1969, p. 34).

In the accompanying list of four objectives, Stapp et al (1969) highlighted the need for an environmental education that taught understandings about relationships between nature, culture and society, and damage caused to environmental systems. These included: the inseparableness of man5 [sic] within the interrelated system of man, culture and the biophysical environment; the biophysical environment and natural resources and their distribution, status, interrelationships and present and potential use; environmental problems and solutions and the responsibilities of citizens and governments in these solutions; and, the development of attitudes of

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5 Although I don’t address the gendering of environmental education specifically in this dissertation, the work of Annette Gough (1999), Deirdre Barron (1995), Annette Gough and Hilary Whitehouse (2003), and Mary Jeanne Barrett (2005) discuss environmental discourse and the construction of meaning through feminist poststructuralist research in environmental education.
concern for the environment which should work to motivate citizens’ participation in environmental problem solving.

The definition and objectives developed by Stapp et al (1969) played a role in informing the international development of environmental education and its defining principles and objectives. The 1972 Stockholm conference on the Human Environment was the first global event recognising the degradation being caused to the environment, proclaiming, “to defend and improve the environment for present and future generations has become an imperative goal for mankind” (UNESCO, 1978, p. 1). Amongst the many suggestions resulting from this conference, Recommendation 96 called for the United Nations (in particular United Nations Educational, Scientific and Cultural Organization) to:

... take the necessary steps to establish an international programme in environmental education, interdisciplinary in approach, in school and out of school, encompassing all levels of education and directed towards the general public, in particular the ordinary citizen living in rural and urban areas, youth and adult alike, with a view to educating him [sic] as to the simple steps he might take, within his means, to manage and control his environment (UNEP, 2003, pp. Recommendation 96, para 91).

The United Nations Educational, Scientific and Cultural Organization (UNESCO) and United Nations Environment Programme (UNEP) launched a long-term commitment to environmental education through the establishment of the International Environmental Education Programme (IEEP) in 1975. Initiatives from this programme included the Belgrade Charter (1975) and the Tbilisi declaration (1977). A ten-day workshop at Belgrade (1975) attempted to further define environmental education, and develop goals and objectives for environmental education, in a statement known as the Belgrade Charter (UNESCO, 1975). Based on the premise that “unprecedented economic growth and technological progress ... have caused severe social and environmental consequences”, a new global ethic that “recognizes and sensitively responds to the complex and ever-changing relationships between humanity and nature and between people” was considered necessary (UNESCO, 1975, pp. 1-2).

The goals for environmental education defined through the Belgrade Charter, alongside the development of agreed-upon objectives for environmental education, focussed on an awareness and knowledge of the
environment, attitudes and skills for environmental care, and evaluation and participation of environmental activities. Here, the goal of environmental education was to:

...develop a world population that is aware of, and concerned about, the environment and its associated problems, and which has the knowledge, skills, attitudes, motivations and commitment to work individually and collectively toward solutions of current problems and the prevention of new ones (UNESCO, 1975, p. 3).

In 1977, two years after the Belgrade Workshop, UNESCO-UNEP convened the world's first intergovernmental conference on environmental education in Tbilisi, Georgia. This conference further built on the goals and objectives from the Belgrade charter. The opening sentence of the Tbilisi Declaration provided a justification for environmental change:

In the last few decades, man [sic] has, through his power to transform his environment, wrought accelerated changes in the balance of nature. The result is frequent exposure of living species to dangers which may prove irreversible (UNESCO, 1978, p. 1).

Further to this, the Tbilisi Declaration continued in the call for an education involved in the transformation of skills, attitudes, actions and understandings:

Environmental education, properly understood, should constitute a comprehensive lifelong education, one responsive to changes in a rapidly changing world. It should prepare the individual for life through an understanding of the major problems of the contemporary world, and the provision of skills and attributes needed to play a productive role towards improving life and protecting the environment with due regard to ethical values (UNESCO, 1978).

Following the foundational meetings, workshops and conferences about environmental education there were some who questioned the potentially problematic nature of the development of environmental education, and the inherent problems of the bureaucratic management in the oversight of the programmes and organisations (see Chiappo, 1978; Fensham, 1978; Vidart, 1978). This has been reiterated more recently by Gonzalez-Gaudiano (2005, p. 244), who claimed that:

The four million dollars that the United Nations Environment Program [sic] (UNEP) poured into UNESCO each year during the IEEP's 20-year implementation were used to finance an inefficient
bureaucracy and an editorial program [sic] which promoted precisely the view of environmental education that it later came to consider as outdated and that aligned itself primarily with the standpoint of the developed countries, meaning educational proposals with a welfare approach.

In addition, there have been a growing number of researchers and environmental educators raising questions that are critical of problematic trends in environmental education as it has become more institutionalised (see Fien, 1993c; A. Gough, 1997a; Greenall-Gough, 1993; Gruenewald, 2003a, 2004a, 2008b; McKenzie et al., 2009; Stevenson, 2007).

Chiappo (1978, pp. 457-458), for example, called for a change in approach to environmental education suggesting that in order to avoid reducing environmental education to a “purely pedagogical and informative exercise” an “awakening of critical awareness and the development of a new ethic of liberation” was needed to provide a fresh angle on the fundamental issues of environmental education. In addition, Fensham (1978, p. 450) warned of the risk of environmental education becoming “one more specialist subgroup within education competing for a share of an already far-too-sliced pie”.

Throughout the development of mainstream environmental education on the international stage, there has been criticism of the domination of colonial and Western discourses as marginalising and playing a role in silencing many sectors of the global society, particularly those in developing nations (Gonzalez-Gaudiano, 2001). There is also criticism that environmental education represents and emphasises a Western, rationalist-science, and instrumentalist view of education. A study of IEEP publications between 1983 and 1992 by Greenall-Gough (1993, p. 3) found that through these publications, UNESCO perpetuated a Western, Eurocentric, English-speaking and developed world view even though “these perspectives were largely irrelevant to most of UNESCO’s countries”. Supporting this interpretation is Gonzalez-Gaudiano (2005, p. 244), who has stated: “the IEEP editorial series was written basically by environmental educators from developed countries, which makes evident the institutional disdain with which the developing countries are treated”.
Environmental education for ... what?

While on the international level there were ongoing discussions to the definition and purpose of environmental education, as well as calls for environmental education to become a prominent part in the education of citizens for environmental responsibility, there were similar discussions in academic and education circles as to the purpose of environmental education. In 1972, Arthur Lucas’ dissertation on conceptual issues and curriculum implications for environmental education introduced the idea of education in the environment, education about the environment, and education for (the preservation of) the environment, as a way of modelling and describing the relationships between knowledge, attitudes and action in environmental education (Lucas, 1972, 1979). Based on these definitions, in 1974 Roth came to the conclusion that most of the practices of environmental education could most closely be identified with ‘education for the environment’.

Lucas’ (1972, 1979) concepts were later modified and adapted by Linke (1980), who focussed on the affective orientation of Lucas’s model (education for the environment) and identified that this was the fundamental element of environmental education. Linke’s re-conceptualisation of education for the environment as being the central element of environmental education did much to “enshrine [it] in Australian environmental education policy documents” (Jickling & Spork, 1998, p. 314). As such, these conceptualisations of environmental education and the resultant debate and criticism about them warrant some discussion here.

Lucas (1980, p. 2) provided a description of his conceptualisation of environmental education as:

Education about the environment, which is concerned with providing cognitive understanding including the development of skills necessary to obtain this understanding, and education for the environment, which is directed to environmental preservation or improvement for particular purposes, are characterised by their aims; education in the environment, which is sometimes called education from the environment by other authors (e.g. Watts, 1969; Crossland and Moore, 1974), is characterised by a technique of instruction. In the in case, ‘environment’ usually means the world outside the classroom, and in the other usages it usually refers to
the biophysical and/or social context in which groups of people (ranging from families to the world population) exist.

Lucas (1972), suggested that Stapp et al’s (1969) definition of environmental education positioned educational intervention at the level of knowledge that, knowledge how, and attitudes toward, which would then lead to action and solutions for environmental problems. He also suggested that within his conceptualization of environmental education, the Belgrade Charter (1975) and subsequent definitions of environmental education were typically education for the environment (Lucas, 1980).

In essence, education about the environment represents the learning experiences in which students can use to make informed decisions about the environment. Later interpretations of Lucas’s definition have claimed that education about the environment encourages students to have a “basic understanding of how natural systems work and the impact of human activities upon them” (Fien & Tilbury, 1996, p. 16). Hence, ‘about’ was considered important in the formation of attitudes towards, and actions within, the environment, ideally leading to “improved understanding of environmental problems and new forms of environmental management” (Huckle, 1983, p. 104). Additionally, Cutter (1998, p. 16) argued that it is education about the environment that “is essential if citizens are to participate and engage in any informed debate directed at resolving local and national environmental issues”.

Education in the environment is descriptive of a pedagogy that uses the outdoors as an avenue for learning. Subsequent interpretations of Lucas’ work have come to suggest that education in the environment involves any experience in nature – bushland, a park, beach, city street, farm or small village – that gives “reality, relevance and practical experience” to learning, using “the environment as a medium for education” (Fien, 1993a, p. 42). Specific curriculum areas such as outdoor education, field centres and field trips focus on educational experiences in the environment.

Education for the environment, conversely, is the conflation of education and environmental activism, which, when taken as a stipulative definition, enabled educators with a “tool for highlighting the often overlooked political and real-life dimensions of environment issues”, and legitimising their concerns (Jickling & Spork, 1998, p. 135). Further interpretations of Lucas’
description have contended that education for the environment encourages students to take action in the protection, preservation and improvement of the environment (Fien, 1993a; A. Gough, 1997b). Furthermore, it was seen as “... designed to increase pupils’ awareness of the moral and social political decisions shaping the environment and to give them the knowledge, attitudes and skills which will help them to form their own judgements and to participate in environmental politics” (Huckle, 1983, p. 105).

In a critique of education for the environment, Jickling and Spork (1998) believed that it had become tokenistic, often unexamined and used as though it were unproblematic. Thus, they suggested, it became no more than a slogan that served to limit possibilities in environmental education. Further to this, they questioned Fien’s argument for the crucial nature of education for the environment as pushing particular ideologies that, while on an individual level were fine, when presented as the only way in which environmental education should be conducted, limited dialogue and debate about the role of environmental education and advocated indoctrination.

Further to this, Noel Gough criticised the term as sloganistic, patronising and anthropocentric:

While it has been recognised that environmental education ought not to be merely education in or about environments, I am not convinced that the popular slogan of ‘education for the environment’ is much of an improvement. Apart from being somewhat patronising and anthropocentric (who are we to say what is ‘good for’ the environment, and which environment is ‘the environment’, anyway?), this slogan maintains the sorts of distinctions that tend to work against a deeply ecological world view—distinctions between subject and object, education and environment, learner and teacher (N. Gough, 1987, p. 50).

In his formulation of a critical ecological ontology, Philip Payne (1997, p. 134) has presented an alternative to approaches in environmental education that “endorse a contrived view of educational experience and a static, reductive notion of nature”. Critical of paradigmatic approaches to environmental education based upon a Cartesian way of looking at the self and world as separate and dichotomous, Payne has criticised:

... the so-called ‘applied science’ perspective [which] demands students study ‘about’ the environment. In the practically interpretive/culturally hermeneutic approaches unencumbered learners are often organised and immersed in romantic ‘natural’
natures. The critical perspective in practice orients students to find, investigate, solve and act on problems not necessarily of their own making (Payne, 1997, p. 134).

In a critique of the underlying ideological arguments about ‘education for’ approaches in environmental education, such as education for the environment and education for sustainability, Jickling and Spork (1998, p. 318) questioned:

Should education aim to advance particular ends, such as red-green environmentalism or sustainable development?, and is it the job of education to make people think, believe or behave in a particular way?

They suggest that, instead of endorsing a specific focus for environmental education to the exclusion of other approaches, we should instead be aiming to engage students in the debate and encourage their participation in the generative processes and discourses of environmental philosophies.

Scott and Oulton (1999) further argue the damaging impact of a focus on education for the environment at the expense of other practices. They suggest that limiting environmental education to education for the environment, has devalued other approaches to environmental education and narrowed accounts of environmental education:

The reality on the ground has always been much messier, but the result has been that, for too many writers and theorists (whether socially critical or not), education for the environment has become environmental education and, as a consequence, much work done by schools, teachers and communities has been dismissed as, at best, irrelevant, or actually damaging because in order to boost the ‘for’ approach, it is necessary to down-grade other ways of viewing and interpreting environmental education, and this has marginalised many schools’ work (Scott & Oulton, 1999, pp. 92-93).

They advocate an environmental education where different communities are encouraged to practise in ways that are locally relevant and use a multitude of approaches selected to meet the goals for the social, political, cultural and philosophical contexts of their place and community. Acceptance of their argument would lead to a practice of environmental education that encompassed “multiple approaches, carefully and communally deliberated on, to develop and deliver educational goals deemed appropriate and necessary by those communities” (Scott & Oulton, 1999, pp. 93-94).
Concurrent to these debates about the purpose and intent of environmental education was a growing political and policy focus on sustainable development. As such, education for sustainability provided another area through which the field of environmental education was faced with reshaping and reorganising itself. The following section provides a select background to the development of education for sustainability, with a particular focus on the Australian context.

**Environmental education: for sustainability?**

As discussed in the previous chapter, the 1980’s saw the rise in popularity of the term “sustainable development”, through the World Conservation Strategy and the Brundtland report. The second International Environmental Education Conference (Tbilisi+10), held in Moscow in 1987, attempted to further determine an international strategy for environmental education and training, now with an emphasis on environmental sustainability (UNESCO-UNEP, 1987).

The United Nations Conference on Environment and Development, the ‘Earth Summit’, was held in Rio de Janeiro (UNESCO-UNEP, 1992b). Delegates from more than 170 countries were present, as well as heads of states and government representatives. Out of the Earth Summit came Agenda 21, a global action plan for achieving sustainable development. Agenda 21 consisted of three programme areas for environmental education: the reorientation of education towards sustainable development; an increase in public awareness; and the promotion of training (UNESCO-UNEP, 1992a). UNESCO (2002, p.3) claims that the Earth Summit refocussed environmental education in the 1990s back to sustainable development, and that education was “reoriented to once again reflect such a vision of sustainability, one that links economic well-being with cultural traditions and respect for Earth and its resources”. Despite the number of government signatories agreeing to adopt Agenda 21, Tilbury (1994) contends that the economic recession of the early 1990s led to an inadequate implementation of the recommendations.

The Declaration of Thessaloniki (UNESCO, 1997) arose out of the *International Conference on Environment and Society: Education and Public Awareness for Sustainability*, held in Greece. The declaration
recognised the recommendations and action plans from previous international environmental education conferences as still valid, but largely unrealised. The Declaration of Thessaloniki (UNESCO, 1997, p. 1) stated that “insufficient progress has been made five years after the Earth Summit in Rio”. The declaration also recognised the immediacy and importance of education as an agent for changes in behaviour, lifestyles, consumption and production. Declaration 6 (UNESCO, 1997, p.1) affirmed that:

... in order to achieve sustainability, an enormous co-ordination and integration of efforts is required in a number of crucial sectors and rapid and radical change of behaviours and lifestyles, including changing consumption and production patterns. For this, appropriate education and public awareness should be recognised as one of the pillars of sustainability.

Despite the international development of environmental education through initiatives from UNESCO, UNEP and IEEP already discussed, an agreed-upon definition remained contested, with attempts to define and provide directions for educational education ongoing. Early in the development of environmental education, Wilke, Peyton and Hungerford (1980, p. 44) had formulated from the Tbilisi Conference (1977), guiding principles and goals for environmental education as a way to provide a clearer framework of environmental education to teachers. Albeit more generally from a science-centred position, environmental educators often revisit the definition developed by this team:

... [the goal of environmental education is] to aid citizens in becoming environmentally knowledgeable and, above all, skilled and dedicated citizens who are willing to work, individually and collectively, toward achieving and/or maintaining a dynamic equilibrium between quality of life and quality of environment (Wilke et al., 1980, p. 44).

During the 1980’s and into the 1990’s there was a subset of environmental educators and researchers within the Australian context who advocated a social inquiry model for curriculum and pedagogical practices in environmental education (Fien, 1993a; Gough, 1997; Huckle, 1993; Robottom, 1987; Stevenson, 1987). A social inquiry model, as Stevenson (1987; 2007, p. 146) suggests, “demands that students actively engage in critical or complex thinking about real problems. The development of knowledge, skills and values is not only directed towards action, but emerges in the context of preparing for (i.e. the inquiry) and taking action".

The social inquiry model provided an engagement in the pedagogical and curriculum practices of environmental education that promoted a need for contextualised learning situations and the pursuit of “actions deemed necessary and justifiable for achieving environmental education in accordance with the ideological position he or she supports” (Stevenson, 2007, p. 143). While such a model is clearly complementary to the ideology of place-based education, it does not draw on a critical engagement in place as seen in place-conscious education, as was later theorised in the 2000s (for example, Gruenewald, 2003a), and discussed in more depth later in this chapter.

Research and theoretical contributions coming from Australia at this time provided significant theorisation that advocated a critical theory position in environmental education and sought to further problematise rational-scientific oriented approaches (Fien, 1993a; N. Gough, 1987, 1990; Greenall-Gough, 1991; Huckle, 1993; Robottom, 1987; Stevenson, 2007). For instance, Huckle (1993, p. 43) commented that there was a need for a philosophy that showed the interface between education, environmental problems and sustainability anchoring “environmental problems and education firmly within the changing social structures and processes which shape the combined and uneven development of people, environments and societies around the world”. Stevenson (2007, p. 144) suggested that environmental education should involve:

> ... the intellectual tasks of critical appraisal of environmental (and political) situations and the formulation of a moral code concerning such issues, as well as the development of a commitment to act on one’s values by providing opportunities to participate actively in environmental improvement.

With the introduction of the term ‘sustainable development’ through the 1980s, the 1990’s saw calls made for environmental education to conflate with development education (Tilbury, 1995). This was further compounded with suggestions that environmental education should reinvigorate itself by having a new focus. Initially this reinvigoration was named Environmental Education for Sustainable Development, in turn evolving to Environmental Education for Sustainability (Tilbury, 1995) sometimes also called Education for Ecological Sustainability. Gradually, the hybridisation of environmental education and development education was refined into the term it is now commonly known as, Education for Sustainability (EfS).
Some have openly and wholeheartedly welcomed this conflation and conceptual alteration to environmental education, further spurred on by, and in turn spurring on, governmental adoption of sustainable development as an environmental approach as well as being an educational approach. There are, however, still many who oppose, debate and question education for sustainability as simply a replacement to environmental education (Davison, 2008; Disinger, 1990; Gonzalez-Gaudiano, 2006; A. Gough, 2006; Gruenewald, 2004a; Jickling, 1994; Jickling & Wals, 2007; McKenzie et al., 2009; Sauvé, 1996).

Key amongst the arguments supporting the move to education for sustainability is that it is able to provide a structure that overcomes the limitations of environmental education (Fien, 1993b; Tilbury, 1995), and that it “goes beyond [environmental education in] addressing values and attitudes of the individual to build their capacity for instigating and managing change” (Tilbury, 2004, p. 103). McKeown and Hopkins, in a series of articles advocating education for sustainability in North America (Hopkins & McKeown, 2001; McKeown, 2002; McKeown & Hopkins, 2003; McKeown & Hopkins, 2005), have claimed that education for sustainability was not a reorientation of environmental education, rather they reduced environmental education to a form of environmental science education that contributed to the environmental ‘pillar’ of the three pillars of sustainability (social, economic, environmental). Further to this, they called for environmental education and education for sustainability to be seen as “discrete, yet complementary … [with] separate agendas, priorities, and programmatic development” (McKeown & Hopkins, 2003, p. 127).

There are those critical and wary of attempts to reorient and recast environmental education as education for sustainability. Core criticisms of education for sustainability have been the lack of philosophical analysis of central concepts in its development, the lack of scrutiny or critique of the term, and the seemingly unquestioned acceptance of ‘sustainability’ as a concept as though its meaning were self-evident (Jickling, 1994).

Previously, the argument has been made that education for sustainability, in being an ‘education for’ – an adjectival education (Gruenewald 2004a) – pushes particular ideologies rather than opening them up for debate (Jickling, 1994; Jickling & Spork, 1998). Further, Jickling (1994, p. 1)
argues that the use of education for sustainability has become a “vague slogan susceptible to manipulation”, used by governments and corporations for their own agendas, where “the expression is essentially a coded one—the dictionary meanings of the words do not necessarily add up to the meaning understood” (Smyth, 2006, p. 254; see also A. Gough, 1997a; Jickling & Spork, 1998).

More recent criticism of the move to sustainability suggests that this has enabled a repositioning away from the environment, something Gonzalez-Gaudiano (2006, p. 292) aptly sums up:

Although it has to be admitted that ESD has brought about a repositioning of educational processes in the context of national and international policies, there is also a chill in the air as environmental matters steadily lose their own vitality and relevance within these discourses.

Finally, Sauvé (1996, p. 8) critiques Tilbury’s strong advocacy of environmental education for sustainable development through the identification of several key characteristics – holism, interdisciplinarity, value clarification and integration, critical thinking, issue-based and action learning – as being no different from those already contained in the principles of EE found, for instance, in the Tbilisi Declaration, asking “What, then, is really new?”. Sauvé also suggests that EE has been paired with sustainability as a way to promote development models and the equity and durability of resource use. The advantage of this, for Sauvé is that it has been “successful in starting dialogue between economic and environmental worlds” (1996, p. 8).

More recently, with the inception of the UN Decade for Education for Sustainable Development (2005-2015), Gonzalez-Gaudiano (2005, p. 244) has disputed that UNESCO’s move to education for sustainability through the Rio Summit (1992), the Thessaloniki Conference (1997), and the Johannesburg Summit (2002) has led to ESD “now being asked to promote education as more of a social process than a curricular process; an education more focused on people than on nature”.

While there are many and varied criticisms of education for sustainability, the language of sustainability has become influential in other ecologically-conscious ways of thinking, and an often-preferred alternative to
‘environmental education’ in Australia through federal funding of programs such as the Australian Sustainable Schools Initiative (AuSSI). Despite this, in choosing to position my work in this dissertation as environmental education I situate myself within the debates and contestations of environmental education in particular, and between environmental education and education for sustainability more generally. Through my experience and observation during the empirical field-work of this research, I found that ‘education for sustainability’ (EFS) and ‘environmental education’ (EE) were used interchangeably by the participants of this research, with little acknowledgement of the distinction between these fields. Further, the practices in these schools of education that promoted an environmental ethic and understanding aligned more generally with the aspects of environmental education than education for sustainability. In addition, where it was called education for sustainability, and comments made about learning for living in sustainable ways, these were often focussed on local environmental practices or degradation, and made little to no reference to the economic, political or social aspects of local and global people and development.

I have provided here a brief background and context to the development of environmental education from the beginnings of the environmental movement in the 1960s, until the turn of the century. The following section continues to review the developments of environmental education up to the present day, and the introduction of post-modern and post-structural approaches to research and perspectives of environmental education.

Rethinking limits and possibilities in environmental education: 2000-2012

Internationally, the promotion of sustainable development during the 1990s, and in the wake of the Brundtland report and the Rio Earth Summit, heralded the development of a “people’s declaration on global interdependence and universal responsibility” (Earth Charter Initiative, 2011, p. 1). Following the work of hundreds of organisations and thousands of people, the Earth Charter (2001), was developed as a document striving to imitate the UN Declaration of Human Rights, but including acknowledgement of the interdependence and fragility of life on earth, the inequality of development and the need for universal responsibility. The
Earth Charter presented four principles of respect and care for the community of life: ecological integrity; social and economic justice inclusive of development; the social-ecological; and, democracy, nonviolence, and peace. Together, these principles form a platform in which to base a call for an urgently needed, shared vision of the “ethical foundation for the emerging world community” (Earth Charter Initiative, 2011). Although there was no formal recognition, advocates for the Earth Charter achieved significant positive support during the World Summit on Sustainable Development (2002).

Gruenewald (2004a, p. 95; 2004b) contended that the Earth Charter opened up the possibilities for a socio-ecological education, and issued a challenge for people to take into consideration the “social, political, economic, historical, ecological, ethical, cultural, local, and global dimensions of our lives”. Further to this, he suggested that the Earth Charter could serve as an alternative to the problematic practices and marginalisation now inherent in the ongoing institutionalisation of environmental education, with its focus on the elements listed above (Gruenewald, 2004a).

The 2002 World Summit on Sustainable Development held in Johannesburg, again addressed issues of sustainable development and education. Environmental education was rephrased as ‘education for sustainable development’ and identified as a key initiative in sustainable development:

... education is not only central to sustainable development, it is humanity’s best hope and most effective means in the quest to achieve sustainable development (UNESCO, 2002, p. 2).

The World Summit on Sustainable Development held in Johannesburg, 2002, affirmed the commitment of the United Nations to fully implement the recommendations made in Agenda 21, recognising that not enough had been done to implement them in the past decade (UNESCO, 2002).

UNESCO (2002) released a report on the lessons learnt about the role of education in sustainable development over the decade between the Earth Summit (1992) and the World Summit on Sustainable Development (2002). The report claimed that people had gained considerable understandings
about the environmental problems facing the world through the media, social movements, governments and life experiences. Consequently, UNESCO (2002, p. 37) identified that:

...there is a need to move beyond awareness raising, and to engage people critically and creatively in their own communities, planning and engaging in action for socially just and ecologically sound development at the local level.

However, Gonzalez-Gaudiano (2005) has argued that, in reality, at the Johannesburg Summit:

Education was not, by any means, a major concern or topic of debate during these talks. This has meant that the approved ‘commitments’ do not establish definite goals... [and] little can be expected of voluntary contributions and ‘commitments’ that do not involve the developed countries – it is as if the problem of environmental deterioration were only due to poverty.

The UN Decade of Education for Sustainable Development (hereafter the Decade) was heralded in, in 2005, with rather more of a fizzle than a bang. Gonzalez-Gaudiano (2005) attributed this to environmental educators by and large being the only educators both aware of and debating education for sustainability, and showing any interest in it. In a political and theoretical analysis of education for sustainable development, Gonzalez-Gaudiano (2005, p. 248) questioned the value of such a Decade:

Is ESD a new fetish or is it about to become one? Because that is the impression we get when it is presented as ‘this time we’ve got the answer’; in other words, as a new ‘sorcerer’s stone’ that will solve all of humanity’s problems and not just those faced by education. Is environmental education really a passé concept or, as I have suggested, are its questions still relevant? Is it necessary to coin a neologism such as ESD to overcome deficiencies and inertia, or is it a case of the same old worn out manoeuvre of proposing neologisms which … cause processes of ‘change so that nothing changes’?

The ESD Section of UNESCO (2007) presents a report based on a compilation of materials from UNESCO and partner organizations about the implementation of the Decade. Similarly, a range of articles presented both at the commencement of the Decade and at the mid-way point in 2010, have provided various reports of the progress, successes and challenges of the DESD implementation (Andelman, 2005; de Haan, Bormann & Leicht, 2010; Elias, 2006; Lang, 2005; Law, 2005; Malakwen, 2005; O’Donoghue &
Lotz-Sisitka, 2006; Ostuni, 2006; Paden, 2007; Tilbury & Janousek, 2007). Further to this Tilbury (2007), Wals (2009), and Mulà & Tilbury (2009) have each called for a consideration of ways to monitor and evaluate the Decade for contribution, effectiveness and impact.

While there are a number of articles published in regards to the Decade, those that contain critique have largely discussed the failure of the field of education and educational systems to embrace education for sustainability (Pigozzi, 2010), perhaps inadvertently confirming Gonzalez-Guadiano’s (2005) suggestion that most educators outside of the field are not particularly interested.

**Dominant approaches to teaching and learning in environmental education**

A number of researchers (see, amongst others Blenkinsop & Egan, 2009; Bowers, 2001; Gonzalez-Gaudiano, 2006; A. Gough, 1997a, 2006; A. Gough & Whitehouse, 2003; N. Gough, 2000; Gruenewald, 2004a; McKenzie, 2004, 2005; Stables, 2001, 2010), have raised concerns about and critique of environmental education, its foundations and acts to define. Gruenewald (2004), with regard to the many international commissions, conferences and summits producing documents advocating the call for more environmental education, contended that while there have been attempts to “integrate social and ecological concerns”, this has often been undermined through the very act of “specifically calling for environmental education”, which, in being an “adjectival educational discourse”:

...works to legitimize and reinforce problematic trends in general education; especially as environmental education is disciplined by science and conventional environmentalism, environmental education has neglected the social, economic, political and deeper cultural aspects of the ecological problem (Gruenewald, 2004a, p. 73).

Gruenewald (2004a, p. 95) goes on to claim that by becoming constituted as a subject discipline within the dominant education paradigm, “environmental education is easily ignored and can be stripped of its revolutionary political content”.

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Stevenson (2007, p. 140) has also argued against the dominant environmental education practice of integrating environmental education into already established curriculum areas in schools, suggesting that this practice, rather than incorporating problem solving and action oriented goals, emphasises "the passive assimilation and reproduction of simplistic factual knowledge and an unproblematic 'truth'".

Rickinson (2001, p. 307) in identifying the imbalances of the evidence base of learners and learning in the environmental education research field, suggests that there is a "relative shortage of work on learning processes as opposed to learning outcomes, education characteristics as opposed to environmental characteristics, and learning as opposed to learners". Rickinson (2001, p. 307) suggests three strategies to address these imbalances, including a broader empirical focus, deeper empirical investigations, and the prioritising of longitudinal studies, in relation to learners and learning, over cross-sectional studies. Additionally, he suggests that a broader empirical focus should be "informed by ideas not only from other research in environmental education, but also from social science inquiry more generally" (Rickinson, 2001, p. 307).

Undertaking a Foucauldian analysis of environmental education, Gruenewald (2004a, p. 74) contended that environmental education in schools often "gets translated into isolated activities where depth is sacrificed and there is little opportunity for students and teachers to make meaning of their experiences with the environment" (see also Sobel, 1996). Similarly, efforts to integrate environmental education into schools are paradoxical in nature as the aims of environmental education are "dwarfed by the power of the dominant educational discourse, which serves different, arguably anti-environmental ends" (Gruenewald, 2004a, p. 74, and see also Bowers, 1996). Moreover, Gruenewald suggests that not only is the environment ignored in dominant educational discourses, but those who critique the dominant educational discourse are similarly silent on the relationship between the socio-political and the ecological, resulting in a 'double silence':

The effects of this double silence is to push concerns about the environment to the margins where it is called environmentalism, a fringe position banished by many critical educators from serious talk about socio-political concerns (Gruenewald, 2004a, p. 78).
In addition, Gruenewald has claimed that the range of definitions of environmental education have been sufficiently vague, so that many practices that could be aligned loosely to the goals of environmental education were seen as having ‘done’ it:

...for example, one could make the claim that one is “doing” environmental education even if only a small fraction of the curriculum is devoted to studying the environment and people’s relationship to it. Classic examples of this at the school-district level are the “nature retreat” where all sixth graders spend one overnight at an environmental camp, or the “outdoor experience” where all fifth graders are taken for a day to an environmental field station. At the classroom level, teachers and students can be said to “do” environmental education if they plant a garden, write a poem about nature, measure pollution, or research the extinction of species. In other words, most environmental education in schools gets translated into isolated activities where depth is sacrificed and there is little opportunity for students and teachers to make meaning of their experiences with the environment (Gruenewald, 2004a, p. 74).

Stevenson (2007, p. 139) suggested that ideological and critical inquiry was vital for students of environmental education to engage in, in examining the ideologies underlying environmental reform. However the “uncritical role of schooling in maintaining the present social order” is in direct contrast to the “socially critical and political action goals of environmental education”. Gruenewald (2004a) similarly contended that the political value of environmental education is undermined through its becoming a disciplinary practice.

**Dominant approaches to environmental education research**

To expand further on the previously discussed critiques about the institutionalisation of environmental education, the late 1990s and early 2000s saw both the advancement of education for sustainability, alongside calls for a rethinking of environmental education, its ideologies, goals and purposes, with growing emphasis on methodological, epistemological and ontological concerns in the way that environmental education was practised and researched.

W. Scott (2009) and Hart and Nolan (1999, p. 6) have both suggested the need for further and substantive critique of applied science methods occurring in educational research. In particular Hart and Nolan (1999) have
claimed that during the 1970s and 1980s the field did not address concerns about the need to diversify methodological approaches and show value for the variety of qualitative approaches until the 1990s. They have suggested that “at the core of much environmental education research is the epistemological stance that constructive environmental actions are underlain by appropriate knowledge and ecologically sensitive attitudes” (Hart & Nolan, 1999, p. 38). The result of this is that the most frequent approaches to environmental education research describe classroom environmental education programs whose aim was to “develop strategies for the integration of environmental education into already established areas of the curriculum, such as chemistry, earth science, marine science, drama, literature etc.” (Hart & Nolan, 1999, p. 16).

Rickinson (2001, p. 306) has contended that a key weakness in environmental education research has been that “the vast bulk of the evidence base is quantitative in nature, and the qualitative evidence that is available is predominantly interpretivist/constructivist”. He suggested that in addressing this methodological uniformity, it would be worthwhile:

... broadening the range of theoretical and epistemological frameworks within the area, enhancing the extent of qualitative evaluations and inquiry, and continuing the development of conceptions of learners as active agents, rather than passive subjects, in relation to the environment and environmental education (Rickinson, 2001, p. 306).

Suggesting the necessity of a methodological shift, McKenzie (2004, p. 180) has advocated the need to move away from scientific-rationalist and interpretive approaches to environmental education. Instead, she argued, approaches that problematise essentialist beliefs about environmental action is needed in the development of research that could “work within a tension between a poststructural view of the world as shifting, messy, and fictional, and a desire for very real social change”.

The previous decade has seen a growing number of those who have called for a diversity of views and voices in environmental education research, with N. Gough (2000, 2002, 2003), Stables (2001), A. Gough & Whitehouse (2003), Gruenewald/Greenwood (2003a, 2003b), Hart (2005), Payne (2005), McKenzie (2005; McKenzie et al., 2009), Blenkinsop and Egan (2009), Jickling and Wals (2008), and Lotz-Sisitka (2009) being just a small
number of those advocating diverse, postmodern, poststructural and/or critical approaches to research.

The methodological shift away from scientific rationalism, interpretive approaches, and environmental essentialism has still some way to go, with philosophical and theoretical interrogation largely silent. Although interest in recent years has grown, there has been a limited acknowledgement of concepts of interconnectedness or reciprocity in nature. This in itself presents a problem for environmental education research, given the complexity of the ecological and educational fields, and the oft-focused on minutiae of ‘issue’, ‘behaviour’ or ‘program’ in much environmental education research.

There are, however, examples of environmental education research that move to disrupt the field, with a recent special edition in the Australian Journal of Environmental Education drawing on perspectives informed by Goethe, poststructuralism, place ontology, and the historical constitution of the field (Bradley, 2011; Cutter-Mackenzie, 2011; A. Gough, 2011; Stevenson, 2011; Stevenson & Evans, 2011; Stewart, 2011; Whitehouse, 2011). The past few years, have also seen discussion and debate over a variety of environmental education research issues and concerns, such as Scott’s (2009) discussion of environmental education research since Tbilisi, and the collection of responses to this (Breiting, 2009; Cutting & Cook, 2009; Jickling, 2009; Krasny, 2009; McKenzie, 2009; A. Reid, 2009).

Furthermore, stimulating and challenging debates and intellectual rigour is present in special issues of Environmental Education Research, such as that edited by Hart (2005) on poststructuralism, post-modernism and post-critical inquiry in environmental education research, and the debate around Gruenewald’s (2008a) essay ‘The best of both worlds: a critical pedagogy of place’ (Bowers, 2008; McKenzie, 2008; Smith, 2008; Stevenson, 2008). These examples are just some of the work currently moving to propose and disseminate critical and divergent views of environmental education and environmental education research: challenging limits, exploring possibilities, continuing to evolve along with our understandings, to “keep… an open ending” (A. Gough, 2011, p. 19).
The final section in this chapter addresses environmental education research and practice since the turn of the millennium, particularly where there has been embracing of postmodern, poststructural and post-critical approaches to environment, place and schooling in the reimagining of environmental and sustainability education. Here, I turn to a discussion of literature, philosophy and pedagogy which privileges place for environmental learning in formal schooling. I situate place-based education as a field coming from a background in rural, community and experiential education, providing a discussion of its recent evolution into a place-conscious environmental education. I conclude the section with a discussion of place as a concept that is central to pedagogies of responsibility in environmental education. The aim of this is to come to an end-point in the literature reviews and toward the crux of my dissertation: to consider ways in which place, knowledge and practice provide a way for rethinking and reimagining environmental education.

Reimagining environmental education

Blenkinsop and Egan (2009, p. 92) suggest that the three “big ideas” that inform education (and, as a matter of course, environmental education) – socialisation, Plato’s theory of the transformation of the mind through knowledge, and Rousseau’s developmentalism – actually “leave little room for a congruent and deeply rooted environmental education curriculum”, and in turn constrain the ways that those practicing environmental education are able to think about the problems that are being faced in education and in the environment.

Their analysis, along with a growing number of researchers, provides a basis for arguing for the need to rethink the way that environmental education is approached in formal education (Bowers, 2004a; Cameron, 2008; Gonzalez-Gaudiano & Buenfil-Burgos, 2009; Gruenewald, 2004a; Gruenewald & Smith, 2008; Hart, 2005; Martusewicz, 2005; Martusewicz & Edmundson, 2005; McKenzie, 2004, 2005; J. Reid, 2007; Russell, 2005; Somerville, 2007b). Indeed, Noel Gough suggests that the efforts to provide universal definitions to environmental and sustainability education serve to regard “contestation, ambiguity and multiplicity as problems to be solved (and which are, in principle, solvable) rather than as qualities that signal marvellous potentials for an on-going, open-ended fabrication of the world”
(N. Gough, 2009, p.160). As such, there is justification for a rethinking of the ways that we educate, value diverse knowledges, and relate to the world around us that involves thinking and imagining both limits and possibilities while acknowledging education as, “an endeavour that imperfectly, yet hopefully, walks the blurred line between cultural determinism and resistance” (McKenzie et al., 2009, p. 9).

Preceding this call for a reimagining of education, environment and culture, there have been arguments disputing the ability of environmental education to be transformative. Scott and Oulton (1999) have questioned whether development in the field of environmental education had actually moved any closer to the environmentally educated, concerned and responsible citizenry of Stapp (1969). They suggested that, “there seems little evidence that formal environmental education has had a sustained effect, beyond schools, on the ways that people act in their adult lives” (Scott & Oulton, 1999, p. 90). As previously mentioned, Gruenewald (2004a) has discussed the position of environmental education delivered through the formal school system as simply reinforcing arguably anti-environmental discourse through dominant education paradigms. A further example is Payne’s (2005) argument against the assumption that environmental education has such a high influence on students’ lives within formal education, suggesting that this is misguided, and excludes the many experiences, activities and discourses that students carry with them from outside-of-school interactions:

It is unreasonable to conclude, as many have, that environmental education has ‘failed’ because learners’ knowledge hasn’t increased, or behaviours have not changed. Why? A preoccupation with research into the efficacy of school-based environmental education ‘experiences’ contrived (epistemologically, as pedagogy) by the school’s/ state’s curriculum and enacted by teachers usually excludes the everyday experiential/ existential ‘baggage’ those learners bring (socio-ontologically) from their ‘being/ doing/becoming’ at home. If so, the internal interactions of both families and classrooms and the external relations between home and school have been ‘misrepresented’ and, respectively, ‘delegitimized’ and ‘depoliticized’ (Payne, 2005, p. 416).

A place-consciousness in environmental education: background

Place-conscious education is used to refer to the “philosophical orientation that embraces place as a construct fundamental to the purpose, process
and structure of schooling” (Gruenewald, 2005a, p. 263). Although used interchangeably with place-based education, I follow Gruenewald in preferring the term ‘place-consciousness’; place-based education has connotations of being about the locality, while place-consciousness suggests consciousness of both one’s immediate place as well as “an awareness of other places beyond one’s own local environment”, so as to foster an understanding of the interrelatedness between places (Gruenewald, 2005a, p. 263).

Coming from a history of community-based learning, rural education, project-based learning, and experiential learning, the value of place as a theoretical concept relevant to education has been reinvigorated recently. The last two decades have seen a privileging of place across a diversity of disciplines, such as: rural education (for example, Bartholomaeus, 2006; Bauch, 2001; Rural School and Community Trust, 2003; White & J. Reid, 2008); environmental philosophy (for example, Cameron, 2003a; Cameron, 2003b, 2008; Casemore, 2007; Hopwood, 2010; Stefanovic, 2004); geography (for example, Birkeland, 2008; Hung & Stables, 2011; Spencer, 2005; Storey, 2005); postmodernism and poststructuralism (for example, Britt, 2009; Kehily & Nayak, 2008; Russell, 2005; Somerville, 2006a, 2007a, 2007b, 2008, 2012); art education (for example, Lai & Ball, 2002); outdoor education (for example, Stewart, 2004; Willis, 2011; Woodhouse & Knapp, 2001); Indigenous education (for example, Sykes, 2008); literacy and literacy education (for example, Brooke, 2003; Burke & Cutter-Mackenzie, 2010; Comber, Nixon & J. Reid, 2007; Cormack & B. Green, 2007; B. Green, 2007; Kerkham & Comber, 2007; A. Reid, Payne & Cutter-Mackenzie, 2010; J. Reid, 2007); and across many areas of environmental education including critical education, pedagogical theory, behaviour management, and teaching practices (for example, Arenas, 2001; Ball & Lai, 2006; Dubel & Sobel, 2008; N. Gough, 2009; M. Green, 2007; Gruenewald, 2003a, 2003b, 2005a, 2006, 2008b; Gruenewald & Smith, 2008; Knapp, 2005; Martusewicz, 2005; Mclnerney, Smyth & Down, 2011; McKenzie, 2008; Orr, 2007; Palmer, 2011; Payne, 2010; Payne & Cutter-Mackenzie, 2009; Powers, 2004; Raill-Jayanandhan, 2009; Sanger, 1997; Schlottmann, 2005; Smith, 2002, 2007; Sobel, 2004; Stevenson, 2008; Tooth & Renshaw, 2009; Vaske & Kobrin, 2001; Wattchow, 2007; Wattchow, Burke & Cutter-Mackenzie, 2008).
Place-based education – as distinct to place-conscious education – is education that is “grounded in the resources, issues, and values of the local community and focuses on using the local community as an integrating context for learning at all levels” (Powers, 2004, p. 17). A committed proponent and developer of place-based education programs in the USA, the Rural School and Community Trust define place-based learning as:

... learning that is rooted in what is local – the unique history, environment, culture, economy, literature, and art of a particular place. The community provides the context for learning, student work focuses on community needs and interests, and community members serve as resources and partners in teacher and learning. Place-based educators have discovered that this local focus has the power to engage students academically, pairing real world relevance with intellectual rigour, while promoting genuine citizenship and preparing people to respect and live will in any community they choose (Rural School and Community Trust, Rural School and Community Trust, 2003)

Place-based education, therefore, encompasses a broad hope by educators to:

... ‘tear down’ school walls so that the community becomes integral to all facets of student learning – that is, that the school is open and inviting to the community and the community welcomes student learning occurring in many dimensions (Powers, 2004, p. 18).

As Powers (2004, p. 18) has claimed, education that is conscious of and makes use of places, allows students to “see the relevance of what they are learning and therefore become more engaged in the learning process”. Additionally, Powers (2004, p. 18) has suggested that evaluations of place-based education programs show “strong promise for improving student learning and community engagement ... students who are engaged in real-world learning are more likely to succeed than are those who learn equivalent material from more abstract textbooks”.

Although it has a number of similarities to place-based education, the purpose for becoming conscious of place in education is to “extend our notions of pedagogy and accountability outward, toward places”, making learning more relevant to “the lived experiences of students and teachers ... so that places matter to educators, students and citizens in tangible ways” (Gruenewald, 2003b, p. 620). Place-conscious education has an emphasis on making connections and understanding the interrelationships
between one’s own place and places elsewhere, including the ecological, cultural and political relationships.

Gruenewald and Smith (2008, p. 345) argue that, rather than simply being a push for curriculum reform in education and environmental education, place-conscious education is a means in which to develop and address issues of “human responsiveness and adaptability to the local and global dilemmas that now demand our attention, intelligence and energy”. Additionally, Smith (2007, p. 190) suggests that place-based education “although rooted in environmental education” differs from conventional environmental education “by the attention its practitioners direct toward both social and natural environments” through situating “at least part of student learning in the local”.

**A place-consciousness in environmental education: philosophy**

Within environmental education, place-conscious education focuses on both the social and ecological environments where learning occurs. Sobel (1996) suggested that teaching about environmental education concepts (for example ecosystems or catchments) should involve the use of local places and provide students with a context for what they are learning. On the other hand, learning about ecosystems in rainforests, when students live in an alpine area or semi-arid plain, for example, does not provide students with a reference-point for their learning, nor allow the local environment to become the classroom.

In a move away from the science-disciplinary and behaviour-changing focus of much environmental education, although still grounded in a developmental-constructivist model, Sobel (1996) believes that teaching children about environmental problems and issues is not simply a way of making them aware of the problem and thence growing up to be adults who present environmentally responsible behaviours. Rather, by emphasising environmental problems in schools, we may well be doing the opposite and “cutting [children] off from their roots” (Sobel, 1996, p. 1). When schools focus on global problems rather than local places, Sobel (1996, p. 2) asks, “what really happens when we lay the weight of the world’s environmental problems on eight and nine year olds already haunted with too many concerns and not enough real contact with nature?”. This is maintained
further by Arenas (2001, p. 2), who contends that without a pedagogy that highlights relationship to place “children cannot comprehend, even less feel a sense of commitment towards, issues and problems in distant places until they have a well-grounded knowledge of their own place”. Sobel (1996, p. 10) maintains that “what is important is that children have an opportunity to bond with the natural world, to learn to love it and feel comfortable in it, before being asked to heal its wounds”.

Cameron (2003a, p. 99) promotes place-responsiveness as holding a “creative tension between deep experience and critical awareness” in an ethic of place, further claiming that education has a central role to play in promoting this place ethic. Suggesting that a place-responsive society “is one whose institutions and customs nurture and support a rich, deep connection with place and places”, he suggests that mainstream Australian society does not at present do this (Cameron, 2003b, p. 13; see also Cameron, 2008; Plumwood, 2001). In discussing an ethical place education, Cameron (2003b) considers the importance of depth of experience in place, combined with critical awareness in developing place-responsiveness. He also highlights the significance of engaging Indigenous Australians’ knowledge and coming into a relationship with the “fact of prior Aboriginal inhabitation and intimate knowledge of every part of the country” (Cameron, 2003a, p. 106).

Arguing for the centrality of place in the social, Cameron (2008, p. 303) has argued that “by implication, education, environmental sustainability and intercultural dialogue should not just take place into account, but they should be deeply grounded in place”. This deep grounding in place also applies to the field of environmental education. As well as providing an opportunity for environmental education to become more participative as a result, an ethical place education encourages intercultural dialogue and community action. A critical awareness of place allows students to investigate the influence of social, political and economic decisions on natural places, incorporating Stevenson’s (2007, p. 139) “socially critical and political action goals of environmental education”.

A critical pedagogy of place is the articulation of place-conscious education and critical education (Gruenewald, 2003a). Where place-conscious education emphasises educating within a local and ecological context,
critical education emphasises the identification and challenge of social oppression, including the socio- ecological and oppressions occurring in nature (see also Bowers, 1995; Furman & Gruenewald, 2004; Gruenewald, 2003a; Jucker, 2004). As an amalgam of place-conscious education and critical education, a critical pedagogy of place therefore “focuses attention on analysing how economic and political decisions impact particular places” (Gruenewald, 2003a, p. 3).

In a critical pedagogy of place, Gruenewald (2003a) contends that students need to be educated to the decolonization and reinhabitation of places. Decolonization, as already touched upon, involves an understanding of the patterns of domination and discrimination that have benefited some while exploiting others. It looks at how the places of human and nature have been “diminished or thwarted” by such domination and discrimination (Gruenewald & Smith, 2008, p. 346). Reinhabitation, on the other hand, involves the “restoration of relationships to other people and the land characterised by affiliation and responsibility” (Gruenewald & Smith, 2008, p. 347 see also Gruenewald, 2003a).

In a response to Gruenewald’s argument for the pedagogical nature of place, Noel Gough (2009, p. 156) has suggested that the relationship between “natural places and pedagogies” are not inherent, rather that they occur through the “cultural practices that enable or encourage us to attend closely to their multifarious qualities”, both profound and superficial. In this sense, he suggests that place is not pedagogical in itself rather that it becomes so through cultural practices – such as those that foster and enhance a sense of relationship, participation and connection.

While place-conscious education is becoming a growing educational movement, Gruenewald (2003b, p. 621) warns that within current educational discourse, “where place-conscious traditions continue, they will be under constant pressure to prove their worth by conventional measures in national, state, and local systems of education that remain disengaged from and unaccountable to the connections between people, education, and places.”
A place-consciousness in environmental education: research and practice

As mentioned earlier, the inclusion of place as an important element in education and environmental education is becoming increasingly popular. More mainstream examples of place-based education, which build on behaviourist models of environmental education or on the assimilation of environmental education into standards based education, are shown through evaluations of place-based programs (Powers, 2004), investigations into behaviour and student achievement (Gibbs & Howley, 2000; Lieberman & Hoody, 1998), and environmentally responsible behaviour (Vaske & Kobrin, 2001). These studies, and others like them, have identified the influence of place on environmentally responsible behaviour, the enthusiasm and independent learning of students, and also promoted positive changes in teaching practices. While affirming the role that place plays in behaviour and responsibility on those in that place, however, these studies can be likened to the type of environmental education research criticised by the likes of Gruenewald (2004a), Bowers (1996), and N. Gough (2002) as seeking to legitimise and institutionalise environmental education in the school curriculum through a discourse of standardisation and accountability.

An Australian study undertaken by Malone and Tranter (2003a, p. 4) investigated the use, design and management of school grounds with regard to children’s environmental learning, suggesting that “natural environments have advantages over purpose built playgrounds … because they stimulate more diverse and creative play”. In particular Malone and Tranter (2003a, p. 6) argued that:

... the school ground is, for many children, one of the few places where they can interact with their peers in a natural, outdoor environment. Consequently, children could benefit significantly from maximising the environmental learning opportunities of school grounds.

Finding that those students attending a school where they were encouraged to have free outdoors play, giving them opportunities to “construct, explore and investigate their surroundings” had the greatest environmental learning, Malone and Tranter (2003a, p. 5) contended that “when schools make a concerted effort to integrate natural environments

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into their education (using local areas or their own school grounds) academic performance improves across the curriculum”. Unfortunately in most of the schools they investigated, they found that the schools had:

… sterile, hard spaces, lack of differentiation and pre-determined teaching spaces … [which] implied a view of children as passive learners, only capable of responding to their environment, rather than as social actors with a reciprocal relationship to their environment. This view does little to encourage children to construct, explore and investigate their surroundings (Malone & Tranter, 2003a, p. 20).

They concluded that the results of their study demonstrated the setting of the school and the value placed on environmental learning as an outcome of play dictated the behaviours that were most prevalent in the schools that they observed (Malone & Tranter, 2003a).

Gregory Smith (2007) discussed several place-conscious environmental education programs in the United States with an environmental justice focus. In particular, he described schools, such as the Greater Eggleston Community High School, which through the work of one dedicated teacher, her class, and community volunteers brought about changes to the monitoring of, and legislation about, local air pollution and the restoration of community spaces. Similarly, Smith (2007) discussed the place-conscious environmental education actions of other schools which brought about changes to student engagement in learning and participation within the community, while also benefiting the local communities through notifying and providing residents with information that directly affected their social and ecological environments, often promoting democratic means of bringing about political change.

In an Australian context, the Special Forever research project, a joint environmental communications program between the Primary English Teachers Association (PETA) and the Murray Darling Basin Commission (MDBC), focused on the local places of the schools, often resulting in raising students’ awareness of conservation issues in their local places while developing literacy skills (see Comber et al., 2007). In particular, Comber et al. (2007, p. 22) suggested that “young people involved in studying and communicating about their places discover, through their own efforts, that words matter in the struggle to look after places … They discover also, over time, that actions matter”. There are a number of
examples of place-conscious education throughout this project, showing, amongst other things, that education that emphasised being conscious of one’s local place has led to improvements in behaviour, opportunities for open-ended projects, the improvement and regeneration of school grounds, and community participation (Comber et al., 2007).

Further to this, research in Australia by Margaret Somerville and Monica Green (2011, p. 16) have looked to two “ethnographic place-oriented research” projects in which they have been involved in South East rural-regional Victoria. Their discussion of the practices in those schools was presented within a place-based education conceptual framework, where “the educational significance and potential of places outside the classroom, in the school grounds and beyond”. In particular, Somerville and M. Green (2011, p. 30) highlight the embracing of “chaotic possibilities” that engagement in the complexity of community relationships, community-place connections, and the representation of place and nature brought to those schools, leading to a deepening of engagement with place in “empathetic and considerate ways”.

This select review of research that has reported examples of place-conscious environmental education has attempted to show that alongside claims that an awareness and consciousness of place in schools has been linked to improvement in student learning, engagement and behaviour, place-conscious approaches to education have often provided a forum for increased community, environmental and political action about their place. In many examples of schooling where place is privileged or emphasised, those schools have acted as catalysts for change in the community through the dissemination of information about social and political impacts on the local places. In turn, this has resulted in democratic ways of bringing about political and social changes. Place pedagogy which merges experience with the critical awareness of a place and its history is also an important way to engaging learners with non-Western discourses, Indigenous place knowledge, and alternative ways of knowing and being in place (Cameron, 2003a; Gruenewald, 2003b; Hay, 2002; Payne, 2006b). In this sense then, pedagogies that embrace place as central to students’ learning, begin to also engage students and teachers in pedagogies of responsibility.
Contending that an awareness of social justice is “insufficient to respond to the onrushing ecological crisis”, Martusewicz and Edmundson (2005, pp. 88-89) advocate an eco-justice approach which “incorporates social justice while recognizing the need for ecological sanity”. Bowers (1996, 2001) discusses the importance of considering ecological justice alongside social justice issues of race, gender and the socio-economic (see also Gruenewald, 2004a). Eco-justice, in turn, does not simply privilege the ecological over other forms of oppression and disadvantage, but argues for the recognition of the ecological as well as social. Environmental racism, protection of the commons, local and Indigenous knowledge, and earth democracy are all elements of an eco-justice which “foster[s] the necessary interconnectedness and interdependency between individuals, groups, species and the environment” (Martusewicz & Edmundson, 2005, p. 71).

Based on Bowers’ framework, Martusewicz and Edmundson (2005, p. 72) have developed an eco-justice framework where local and global ecosystems, environmental racism, hyper-consumption, protection of the commons, earth democracies, and local knowledges and practices are understood as interconnecting and related. They suggest that teachers and teacher educators need to adopt such a framework in forming an ecological and social “pedagogy of responsibility”: a pedagogy that “is required if we are to address the rising tide of ecological destruction and related cultural domination” (Martusewicz & Edmundson, 2005, p. 72).

Using pedagogies of responsibility, educators “must begin to understand and teach about the ways that human cultures are nested within and impact larger life systems”. Therefore, it is necessary to engage students in what it means to live responsibly “at the intersection of diversity, democracy and ecology” (Martusewicz & Edmundson, 2005, p. 77). Similar to Gruenewald’s (2003a) critical pedagogy of place focusing on the need for people to decolonise and reinhabit their places, “a pedagogy of responsibility decentres and then refocuses humans as part of a complex web of life” (Martusewicz & Edmundson, 2005, p. 81).

Here, notions of regeneration, rather than sustainability, are central to such a pedagogy and include the acknowledgement and nurturing of the
interconnectedness of the systems and webs that support life on this planet, alongside the recognition of disruption, oppression and fragmentation. As for eco-justice, pedagogies of responsibility ask first: “what are my just obligations to this community?”, before asking: “what are my oppressions from which to be liberated?” (Martusewicz & Edmundson, 2005, p. 79):

Thus a pedagogy of responsibility exists in the tension between two necessary ethical questions: What do we need to conserve, and what needs to be transformed?

While sustainable development and education for sustainability has increasingly come to the forefront of the environmental movement over the past thirty years, so too has criticism of it. Arguing that sustainability has become a catchcry for various groups with vested interests, I have suggested that regeneration is a more appropriate concept, with its connotations of healing, acknowledgment of the interrelatedness between human and the more-than-human sphere, and the refocus on social and ecological justice.

Pedagogies of responsibility and ecological justice emphasise a response to the ecological crisis through the incorporation of ‘social justice’ and ‘ecological sanity’ (Martusewicz & Edmundson, 2005). With an emphasis on participation and responsibility towards the local ecological, cultural and social community, eco-justice and pedagogies of responsibility are grounded in place and in a schooling that is responsive to and conscious of place.

Reimagining environmental education through place-consciousness and regeneration

Gruenewald (2004a, p. 73) has suggested that, in general, most would agree that the common purpose of environmental education is to “provide people with the experience and knowledge needed to care for our environments”. Furthermore, he claimed that there is value in recognising the diversity of political and social commitments and beliefs in what it is that “counts as knowledge and experience, what constitutes care, and even the meaning of environment” (Gruenewald, 2004a, p. 73). The very nature of environmental education as an education striving for change – to
environments, behaviours, and attitudes – means that the goals and aims of any definition of environmental education are always unattainable; there is always something else to work towards, new knowledges or beliefs to adopt or adapt. The cultural and biophysical worlds within which these practices are situated are messy, complex and happening in the everydayness of living: as Seddon (1993, p. 1) writes, “the world is complex and untidy, and … tidiness in human affairs is an artefact of intellectual procedures, and not a sustained reality”.

However, the value of an environmental education can be seen through its potential in developing a consciousness of the human, the more-than-human, and the material sites through which they interact. The goals of environmental education, no matter how highly debated, contested, questioned or accepted, will always form (and, in turn, transform and re-form) in the moment, and will always form a practice with limits and possibilities, at once enabled and constrained (Schatzki, Knorr Cetina & Von Savigny, 2001).

The historical constitution of environmental education as a field in which people learn the knowledge and experience to care for the environment is contested, political and divergent. However, the experiences and knowledge gained about the environment are always situated in place – and it is the consciousness of and responsiveness to place that is central to relationship with place and environment.

**Conclusion of literature review**

This brings to a close the discussion of the background of environmental education, sustainability education, and pedagogies of responsibility and place. Chapter Two provided an overview and review of key literature in environmental philosophy, geography, sustainability and eco-social justice. Throughout Chapter Three, I have built these multi-disciplinary perspectives into a discussion and review of literature in environmental education, providing a critique of what I consider to be problematic elements of environmental education. I have also provided a discussion of place-consciousness in environmental education, which is a key pedagogical and philosophical focus of the empirical research within this dissertation. I now move onto a description of the empirical and conceptual
work of this dissertation with a discussion of case-study methodology, and the research design and processes.
Chapter Four: Conceptual and Methodological Frameworks

The purpose of this chapter, in light of the previous discussion of the literature and theories informing understanding of place, environment and environmental education, as well as of the philosophical underpinnings of my approach to understanding environmental education, is to provide a conceptual and methodological framework through which the research was designed and conducted. The conceptual and methodological framing of the research discussed in this chapter has involved the contribution that theories of practice (or rather, practice theory and philosophy) have given to understanding case-study as a methodology, and in turn how this methodology has informed how and why data were generated, analysed and reported.

The structure of this chapter begins with a discussion of the conceptual framework that is seen through the lens of practice theories. Following from this, I frame the methodological discussion around case-study, looking first to the role and purpose of qualitative case-study as an account of research that is ‘betwixt and between’ that of method and methodology. The ensuing discussion of research methods considers the decisions and choices made in what has counted as data, and how and why the data have contributed to the formation of the philosophical-empirical arguments through this dissertation. A discussion of the ethical considerations and personal viewpoints of the research looks to how the case-studies have formed meaningful, ethical and effective representations of the places and practices that form the case-study schools. I conclude the chapter with a discussion of the implications and challenges of the methodological decisions made in the design, conduct, and reporting of the empirical research, considering how these have shaped the dissertation. I turn now to consider the conceptual framing of this research.

Conceptual framing of the research

Initially in discussing the conceptual framework for this research, I would like to draw attention to the title of this dissertation: Practising Place and ‘Learning to Love the World’: An Exploration of Place, Knowledge and
Practice in Environmental Education. Through this title, I foreground place, knowledge and practice as concepts through which to explore environmental education as an account of practice. More explicitly, though, I want to highlight the connection here between practicing and learning, and between place and world. Here, practicing and learning can both be understood as actions that are carried out. Further to this are the notions of place and world: where place can be understood from the immediate and local – a room, garden, community, or school ground – through to the expansive and distant – as region, nation or world. Important to this is the sense of place and practice, specifically the conceptualisation for environmental education of place as practised and the world as learnt. Conflated with this notion of place and practice are also the concepts of affect and activity, looking particularly to what this might mean in environmental education – and more specifically in primary schooling – for how we come to act in place.

The conceptual framework that I have generated is strongly related to the principles of practice theories, a loose collection of theories that attempt to understand the minutiae of everyday action and interaction, including within this non-representational theories in human geography (Anderson & Harrison, 2010; B. Green & Kemmis, 2009; Kemmis & Mutton, 2012; Kemmis & Smith, 2008; Schatzki, 1996; Schatzki et al., 2001; Thrift, 1996, 2008). It is in understanding environmental education through the lens of a practice-theoretical approach, where environmental education is understood as an organised array of activities – as a practice made-up of other practice – that practice, knowledge and place become central concepts. Further, this enables an account of environmental education practice that is “caught up with and committed to the creation of affect, as contextual, and as inevitably technologized through language and objects” (Thrift & Dewsbury, 2000, p. 415). In this sense, the use of case-study as a methodological approach has provided both an account of the practices in the case-studies, as well as a means through which to investigate practice.

Therefore, understood through the conceptual framework of place, knowledge and practice, environmental education is formed through arrays of activity which attempt to impact, to disturb even, the relationship that we hold with the world. In this sense, environmental education is informed by,
and informs, *praxis* – the actions that come from practical and prudent knowing and judgements for the good of *the earth*⁶.

Given the conceptual framing in theories of practice and the interrelatedness of place, knowledge and practice, the overarching focus questions informing the exploration in this dissertation are:

- How are place, knowledge and practice interrelated in environmental education in primary schooling?
- What do theories of practice bring to understandings of place and knowledge, and of how environmental education might be practised?

I now discuss the research methodology, specifically, what it has meant to undertake a case-study, how the data was generated and analysed and the implications and challenges of the decisions made for the research.

**Research Methodology**

In a discussion of methodology in environmental education research, Dillon and Wals (2006) provide an analogy between the cooking of a meal and undertaking research. Through the process of cooking a meal, decisions and choices are made – personal preference, taste, likes and dislikes, the degree to which the recipe is followed, the availability and accessibility of ingredients, equipment and utensils – all of which influence the end product of the meal. Like cooking, research is a process that involves choices being made, dependent on a range of factors over which we have varying levels of control⁷:

> Usually research is more complicated but, in essence, this analogy serves to remind us that the final product—the substance of our conclusions—also depends on factors over which we have no control, factors over which we have some control, and a range of beliefs and preferences that reduce our choices in designing, conducting and reporting research (Dillon & Wals, 2006, p. 549).

The methodological considerations taken in exploring the intersection of place, knowledge and practice within the context of environmental

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⁶ This is related to the Aristotelian notion of praxis as informed and committed action, based on phrōnesis – practical knowledge and judgement – for the good of (hu)markind (Flyvbjerg, 2001; Kemmis & Mutton, 2012). I argue that this should be extended to include acting wisely for the good of *the world* and the interrelated, reciprocal systems of life in our biosphere, including the human and more-than-human entities and the non-living objects.
education through this dissertation have similarly involved such an array of factors; some of which I have had much control over, and others little control. These and other factors, such as beliefs, preferences and life situations, have influenced, enabled or constrained the carrying out of the design, conduct and reporting of the research. In a move to examine "the positions and tensions in research ontologies, epistemologies and axiologies" (Dillon & Wals, 2006, p. 550) encountered, the remainder of this chapter addresses the methodological considerations and the implications and challenges of the choices made through this research.

**Case-study method/ology**

In a discussion of methodology and method in environmental education research, Dillon and Wals (2006) highlight the differences between *methodology* – the ontological, epistemological and axiological considerations – and *methods* – the tools used to generate, collect, and analyse data – that each inform decisions on how the research is carried out, what is counted as data and its ethical treatment, and the implications and challenges of those decisions (Dillon & Wals, 2006). Ideologically, the decision to undertake case-study as a means to explore practices of primary school environmental education that engaged with place as central to their practising, allowed a “research as co-learning” conceptualisation of the empirical work of this dissertation (Dillon & Wals, 2006, p. 553).

Given this, case-study as a study of practice allowed for an exploration of the everyday actions and interactions that informed the practising of environmental education in the participating primary schools. The focus of case-study on the “concrete, practical, and context-dependent knowledge” of real-life situations and practices, provided a methodological basis through which to generate an account of environmental education practice in those schools (Flyvbjerg, 2001, p. 70). Case-study provided a context through which to deepen my understanding of place and environmental education practice, as well as an opportunity to explore practices differently and given that “human behaviour cannot be meaningfully understood as simply … rule-governed acts” (Flyvbjerg, 2001, p. 72). A further, important aspect of the insight that case-study provided, was the opportunity to explore accounts of practice differently given the diversity of everyday experiences, knowledges and activities of the participants in those places.
Criticism of case-study methodology generally point to a lack of generalisability, and thus the ability to inductively build theory through case-study, as evidence of methodological weakness (Stark & Torrance, 2005; Yin, 2003). However, it is this very focus on the particular, on examples and experiences that enable understandings of accounts of practice, which have led to case-study being a valuable methodology for the conceptual framework within which this dissertation is situated (Flyvbjerg, 2001; Stark & Torrance, 2005; Thomas, 2010). In this way, the case-studies were constructed around fieldwork as a way of investigating the array of activities that formed environmental education practices, as genuine and ethical representations. Further to this, case-study was not simply a means to representing environmental education practice, but also a way in which to explore the knowledges and experiences constituted through place, environment and environmental education in those schools.

As an approach to undertaking empirical research, my ontological and epistemological assumptions of case-study fit in-between that of methodology and method. The choice to undertake case-study necessitated methodological considerations that addressed the bounding, construction and pre-existing nature of case study. Further, the choice of case-study provided a means to inquire into the practices of environmental education in particular schools while also existing as context-dependent products of that inquiry – as an account of the arrays of activity that formed environmental education practice (Stake, 2003). According to Stake (2003, p.134), case-study is other than a methodology, in that it involves a “choice of what is to be studied,” by whichever methods are chosen to study it.

Each of the case-studies constructed for this empirical research provided an account of the arrays of activity in primary schools where environmental education and place were privileged. These involved practices that pre-existed my arrival and continued to exist on my departure. Each case-study was constructed through the data that were generated and analysed, including my experience as a researcher being in that place at that time. Thus the case-studies were constrained by the spatial and temporal events and happenings of those places and times. The constructions of these case-studies, therefore, produced a ‘snapshot’ of the places and practices of the case sites, filtered through the perspective of myself as researcher.
The following section seeks to address some of the general and particular methodological considerations in undertaking case-study for this research. Specifically, I consider case-study methodology against criticisms that it lacks generalisability, leading into a discussion of case-study as a form of *phrōnesis* following Thomas (2010) and Flyvbjerg (2001, 2006). I complete the section by addressing the constructed, pre-existing and indeterminate nature of case-study (Kemmis, 1980; Stake, 2000, 2003).

**Methodological considerations in case study – theory generation and/or practical knowledge**

Case-studies provide a way of examining specific and particular examples, a common approach in research disciplines such as law, medical and psychological research where the particular and extreme are documented. However, the common focus on the singular in case-study methodology in the social sciences has led to it being treated as a “methodological second best” (Thomas, 2010, p. 575), typecast as a “weak sibling” (Yin, 2003, p. xiii), and regarded by more “serious” social science research as flawed because of a lack of generalisation able to be built out of the single case, and therefore lacking in theoretical induction overall (Flyvbjerg, 2006).

The lack of generalisability to wider populations has been highlighted as a potential weakness in case-study research (Stark & Torrance, 2005). However, social scientists such as Flyvbjerg (2006), Stake (2003) and Thomas (2010) have disputed the emphasis on generalisability in the critique of case-study research, suggesting that those criticisms show misguided and over-simplified assumptions about case-study and its value as a context-dependent investigation of practice (Flyvbjerg, 2006). Stake (2000, p. 21) claims that it is the purpose and meaning made from a case-study that shapes its contribution and value:

...when explanation, propositional knowledge and law are the aims of an inquiry, the case-study will often be at a disadvantage. When the aims are understanding, extension of experience and increase in conviction in that which is known, the disadvantage disappears.

Opposing those who criticise case-study as a ‘weak’ research methodology, Flyvbjerg (2006), Stake (2000, 2003) and Thomas (2010), amongst others, have problematised the role that generalisability plays in social science research. Thomas (2010, p. 577), for example, has
suggested that understanding the social through technical theory based on
generalisation is problematic and unattainable because of the “contingency
of social life and the necessary limitations of the kind and quantity of
confirmatory evidence that can be disclosed”. Generalisability in case-
study, Flyvbjerg (2001) and Thomas (2010) advocate, is not only
unattainable but detracts attention from the purpose, value and insight to
the local, particular and practical that is a strength of case-study:

... any argument about the weakness of case study that rests on its
lack of generalizability fails to recognize the limits of induction in
social science generally and fails simultaneously to acknowledge
the significance of abduction. It fails, in other words, to recognize
the offer that can be made in local circumstances by particular kinds
of looser generalization (Thomas, 2010, p. 577).

My decision to design the research around three smaller-scale case studies
was informed by conceptualisations of case-study as providing insight into
the particular experiences and practices of place and environmental
education in each of the schools, including those that were common across
the schools, and those practised differently. Following the criticism of
Lincoln and Guba (2000, p. 40), who suggested that assumptions of truth or
generalisability in social science research were too often deterministic, I
foocussed instead on the value that case-study brought to the research
through thick descriptions and the transferability of conclusions between
cases. Influenced also by Stake (2003, p. 140), who contended that “case-
study method has been too little honoured as the intrinsic study of a valued
particular... [and generalization should not be emphasized in all research],
I was drawn to conceptualisations of case study that would enable me to
explore the ways in which place, knowledge and practice intersected
through environmental education as particular and every day. As Thomas
(2010, p. 577) has explained in other terms; through the common, everyday
form of “inference to the best explanation”.

The idea of looking to case-study as a means through which to make
“inference to the best explanation” aligns with a focus on practice and
exemplary knowledge in case-study that enables insight into
“understanding and behaviour in particular situations”. Thomas (2010), and
Flyvbjerg (2001, 2006), have both proposed that case study provides both
a description and explanation of practical and experience-based
knowledge, *phrōnesis*. In turn, through understanding accounts of experience through the context of case-study, along with connections that we make to our own experiences, we come to understand practices that inform these.

Understanding case-study as based on *phrōnesis*, rather than a process of theory-generation, provides the opportunity to see that the meanings we make “are malleable and interpretable in the context of varieties of experience… [that] enables one to gather insight or understand a problem” (Thomas, 2010, p. 578). Exploring the practices unique to the particular context of each school provided a means through which to understand environmental education practice, as well as how environmental education was practised differently. Looked at together, the experiences of the schools provide complimentary understandings of how place and environmental education might be practised.

**The constructed, pre-existing, indeterminate case-study**

While a case-study is utilised in a move to understand specific contexts or phenomena that exist within the “messy complexity of human experience”, the case is still simply a case - not the phenomenon itself (Haas Dyson & Genishi, 2005, p. 3). Case-study, therefore, is always a case “of something”. Yet, through the process of turning the “messy complexity of human experience” into that which is textual and mobile, it becomes an *immutable mobile* – a *something* that is transformed through becoming stable, yet also then transportable across places and times (Haas Dyson & Genishi, 2005, p. 3; Watson, 2003, p. 151).

Case-study research involves the research of something that is both pre-existing – that which the case-study is investigating exists whether or not it is researched and exists prior to being researched – as well as constructed through the researching of it (Flyvbjerg, 2001, 2006; Kemmis, 1980; Stake, 2000, 2003). Further to this, the object of a case-study is always

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7 From an Aristotelian tradition, *phrōnesis* refers to practical knowing and judgement that is context-dependent, based on experience and developed through practice. Flyvbjerg (2001, p. 70) has described *phrōnesis* as “not concerned with universals only… [but] must also take cognizance of particulars, because it is concerned with conduct, and conduct has its sphere in particular circumstances”. Thomas (2010, p. 578) has described *phrōnesis* as “practical knowledge, craft knowledge, with a twist of judgement squeezed into the mix”.

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86 Chapter Four: Conceptual and Methodological Frameworks
indeterminate, and yet it is transformed from a “situation as an object of perplexity into an object of understanding” (Kemmis, 1980, p. 117). Thus, the transformation from the everyday actions and practices situated in place to the “immutable mobile” (Watson, 2003, p. 151).

The phenomena or event investigated in a case-study occurs in place as well as being a domain of practice. Thus, case-study involves an inquiry into the practices of those who are present within the case. Seeing that practice is inseparable from those whose practice it is (Kemmis, 2010), case-study provides an opportunity to become aware of the actions and practices of particular people or groups, within the situation or context of their happening (Reckwitz, 2002).

The practices in which each of the schools was engaged pre-existed my decision to approach them about participating in my empirical research. The process of contacting the principals at potential schools provided me with opportunities to discuss some of these practices, as well as providing information about my planned research practices. The schools that consented to participate in my research were contacted initially by phone, followed up with mailed letters of introduction that provided the necessary information about my planned research project. This contact enabled me to outline potential implications of participation, the forms of data I expected to generate while at their school, and what their consent to participate might entail. I visited each case-study site prior to the commencement of data generation. This enabled me to gain an idea of the materiality of the place and to negotiate with the school principal or key teacher their potential role in my research project, my hopes for their school’s participation, and my responsibilities as a researcher. Finally, in providing this information and speaking with the respective principals, I sought permission to conduct research at their school and approach the staff and students to gain their consent to participate in my data generation.

In an example of the constructed and indeterminate nature of case study, the selection of the case-study sites involved a process of information gathering through word-of-mouth recommendation, casual conversation and lead-following. This led to the sometimes strategic, and at other times serendipitous, meeting of each of the case schools. Such a process, naturally, led to equally viable schools that were not participants, and many
more that were never identified. A selective process where a field of schools is narrowed into three will always involve a process of exclusion. The schools that consented to participate as case-studies were approached because the school, or a particular teacher in the school, demonstrated environmental education practices that could be related to a broadly-defined use of place for environmental learning and education. Some examples of these were gardening, involvement in specific environmental or conservation programs, or a strong community involvement in the students’ environmental learning. The exclusion of other schools involved a myriad of reasons, ranging from a minimal focus on environmental education, the time-frame and school scope and sequence regarding environmental education curriculum, a lack of interest in participation on their part, unable to be contacted when crucial decisions were made, and although peripheral, where there was an incompatibility with my life situation at the time – where my then eleven-month old daughter was central to factors such as traveling, being away from home, and access to childcare and support networks.

Three case-studies were undertaken in primary school settings. Two of these involved me spending two weeks in each of the respective schools (Flatlands Public School and Mountain Top Primary School), while the third case involved ongoing visits to the site during an environmental education unit of work, over the course of a school term (Riverside Public School). The schools were selected because of their practices of place-based environmental learning at those sites, as well as the commonalities and differences between the ways that they included place and environment in their teaching/learning, and the level of involvement that they had in environmental education.

In the imagination and construction of a case, Ragin and Becker (1992, p. 5) contend that it is the “boundaries around places and time periods that define cases”. The issue of where to draw the boundaries of a case is an important one, with Stark and Torrance (2005) emphasising that, by not drawing boundaries, the size of a case can generate huge amounts of data, presenting a weakness to the overall research design. Through case-study research, and being present in a site, it is likely that a researcher will become aware of previously unknown tangents, stakeholders and phenomena, which was certainly apparent in my experience of each of the
schools that participated in my research. While this is problematic if the data generated becomes unmanageable, there is danger also in too tightly bounding the case-study so that the “[q]uestioning and surprise, intelligent noticing and serendipity” is lost (Thomas, 2010, p. 579). However, determining flexible and malleable boundaries before beginning fieldwork can ensure that the generation of data is focussed on the issues, events and phenomena being researched. The utilisation of research tools, such as semi-structured interviews and the mapping of the core environmental education activities and practices of each of the schools based on initial discussion with the principals, enabled me to enter each of the schools seeking to generate three types of data. These involved seeking data that provided information to clarify actions and practices of place-based environmental education that I was already aware of (e.g. ‘can you tell me more about your involvement in Learnscapes8?’), data that inquired into the environmental education and place activities and practices based on my experience (Thomas’ [2010] ‘intelligent noticing’) of being in that place (e.g. ‘how did this mural/garden-bed come about?’), and data that were generated through surprise and serendipity, following suggestions and taking opportunities as I became aware of them.

The place and practices of the schools that were selected for the case-studies provided points of interest whereby there was both a diversity of practices of environmental education, alongside practices that were common across the cases. The differences and similarities of practices also provided me with an opportunity to explore the ways in which similar practices are practised differently, and the spatial and institutional factors that contribute to those. I felt that the generation of data across all cases within one calendar year was important in minimising potential discrepancies caused by policy, departmental or governmental changes that might mean the climate within which the schools were practicing would be much more variable. The bounding of the case-studies varied between cases; generally, the physical places that were the focus of data generation included the school grounds (playgrounds, gardens), classrooms and,

8 Learnscapes Planning and Design is an organisation that works with schools to create experiential learning environments, typically in the school grounds, although they can also be developed outside of the school grounds. The aim of this program is to “enhance student’s learning through active participation” and “create new outdoor spaces where students can learn and play more effectively and enjoyably” (Tunggal, 2008, para. 4). I refer to this program throughout this dissertation as Learnscapes. Information can be found at http://www.Learnscapes.org as well as in the following chapter.
where appropriate, the community areas utilised for environmental learning by one of the schools.

Although a certain level of flexibility was required in seeking participant involvement, the focus of the research meant that participants were predominantly teaching staff or students at the respective schools. In addition, the high involvement of community members, non-teaching staff and parents in the environmental education program at one of the schools, led to the inclusion of some community members and parents as participants due to the relevance of their involvement in the school.

I now move to a discussion of the methodological choices, and the implications of these, for the generation and analysis of data. Here I look to qualitative methods of data generation and thematic analysis, and the considerations taken in the forming of meaningful, ethical and effective ‘representations’ of the places that formed the case studies.

**The construction of the case-studies**

A strength of case-study research lies in the richness of description that builds on and develops the case in seeking to inform an understanding of that case (Flyvbjerg, 2001; Stake, 2003). As established, I chose case-study as a methodological approach that enabled the construction and establishment of boundaries around the practices of environmental education in the three participating primary schools, with place as a central aspect of each case-study. In turn, this allowed an emphasis on the contextualised knowledge and experiences of environmental education, an engagement with both social and individual actions and practices in those places, and the inclusion of multiple participant perspectives and sources in generating data (Flyvbjerg, 2001, 2006; Stark & Torrance, 2005). My explorative approach to being in each of the case schools provided opportunity for the organic generation of data (Lincoln & Guba, 2000), and allowed me to embrace those situations and opportunities that arose, which could not be anticipated in advance (Thomas, 2010).

The case-studies were formed through the generation and analysis of data in three primary schools, with each school forming a distinct case. Multiple sources of evidence (interviews from multiple participants, observations
and documents) contributed to the procuring of a large amount of data in order to develop the case-studies, allowing for a richly built case-study from the data generated (Gillham, 2000). In turn, the case-studies were used to inform the philosophical-empirical study of place, knowledge and practice in environmental education in this dissertation.

In this next section of the methodology, I provide a discussion of some of the ethical considerations in accessing and gaining informed consent in each of the case-studies, followed by a discussion of the generation and analysis of data. Throughout this discussion, I continue to account for the ethical considerations that were addressed in the carrying out of the research, with a focus on the case-studies as ethical representations of the place and practices at those schools.

**The ethical carrying out of the research**

The relevant institutional permissions to conduct this research was sought and granted by the Charles Sturt University Human Ethics in Research Committee, the NSW Department of Education and Training Research Ethics Committee, and the Victorian Department of Education, Early Childhood and Development Research Ethics Committee (refer to p. xi – xv for the approval to conduct research from these institutions).

After gaining consent to conduct research in schools from the NSW Department of Education and the Victorian Department of Education and Early Childhood Development, I sought permission from the principals of three primary schools in south-eastern Australia to access their schools. This also involved distributing information statements and consent forms to teachers, students and parents to provide information about the research project, methods of data generation and potential impacts of involvement with my study (see Appendix 1, Information Statement, and Appendix 2 Consent Forms).

Gaining permission to undertake research in the schools involved was a relatively straightforward process that involved meeting with each of the principals to discuss the research that I planned to undertake, and what this might involve for them and their schools. The process of gaining informed consent from teachers and students was also fairly straightforward, with
the exception of Mountain Top Primary school, where the teacher who had been delegated to distribute the information and consent forms ahead of my arrival made a well-intentioned, but unfortunate, decision to instead attach the section for signing in the consent to be photographed form to the school newsletter. The implication of this was that when I arrived at the school I had permission to photograph 35 students, however was unable to conduct interviews as there had been no opportunity for participants to give informed consent. Consequently, upon realisation of this, I distributed the information sheets and consent forms to each classroom in the school. Although this resulted in a lag of a day or more before I could commence student interviews, this time provided me with the opportunity to interview several staff as well as begin to filter through a cupboard of documents that I was given access to.

As Stake (2003) has claimed, I found case-study research to be an evolving process. Throughout the generation of data, participants at the school introduced parents, volunteers, non-teaching staff or community members to me as potential contributors to my case-study. Because of this, there were occasions where participants were recruited 'on-the-spot', while I was on-site. Forewarned of the possibility that this might happen, I carried with me additional copies of information statements and consent forms so that as it eventuated, the provision and discussion of information sheets and consent forms was appropriately allowed for. This process enabled me to follow the tangents, surprises and serendipity that could not be pre-empted (Thomas, 2010).

The three case-studies were constructed from the data that was generated and analysed from the interview, observations and documents made available. A breakdown of the data generated in the case-studies can be seen in table 4.1.

I provide now a description and discussion of the design and conduct of the data generating processes, looking also to what I have determined to be the implications and limitations of these processes. The techniques that I developed through undertaking each of the case studies could be
### Table 4.1 Data generated

<table>
<thead>
<tr>
<th>School</th>
<th>Interviews – students</th>
<th>– teaching staff/community members</th>
<th>Observations</th>
<th>Artefact collection</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Flatlands</strong></td>
<td>13 students:</td>
<td>Three teachers:</td>
<td>Classroom literacy lesson (1)</td>
<td>School operations and background (15)</td>
</tr>
<tr>
<td></td>
<td>Year 1 (1)</td>
<td>Daniel (Principal)</td>
<td>Gardening class (1)</td>
<td>Curriculum and planning (18)</td>
</tr>
<tr>
<td></td>
<td>Year 3 (3)</td>
<td>Colleen (Yr. K-2)</td>
<td>EEC visiting school (1)</td>
<td>Student work samples (10)</td>
</tr>
<tr>
<td></td>
<td>Year 4 (2)</td>
<td>Miranda (Yr. 3-6)</td>
<td>Play/recess time (3)</td>
<td>Photographs (182)</td>
</tr>
<tr>
<td></td>
<td>Year 5 (3)</td>
<td>Teaching aide (2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Year 6 (4)</td>
<td>Community members</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>EEC committee (4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Former student (1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Visiting teachers (2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Riverside</strong></td>
<td>14 Year 6 students across two focus groups:</td>
<td>One teacher</td>
<td>Classroom observations (12)</td>
<td>School operations and background (1)</td>
</tr>
<tr>
<td></td>
<td>Yabbies (7)</td>
<td>Trudy (Yr. 6)</td>
<td>Stream Watch (1)</td>
<td>Curriculum and planning (31)</td>
</tr>
<tr>
<td></td>
<td>Froggies (7)</td>
<td></td>
<td></td>
<td>Student work samples (12)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Photographs (48)</td>
</tr>
<tr>
<td><strong>Mountain Top</strong></td>
<td>15 students:</td>
<td>Seven teachers:</td>
<td>Learnscapes (2)</td>
<td>School operations and background (8)</td>
</tr>
<tr>
<td></td>
<td>Prep (3)</td>
<td>Fran (Principal)</td>
<td>Waste Wise lesson (1)</td>
<td>Curriculum and planning (17)</td>
</tr>
<tr>
<td></td>
<td>Year 1 (1)</td>
<td>Janet (Learnscapes Coordinator)</td>
<td>Science lesson (1)</td>
<td>Student work samples (18)</td>
</tr>
<tr>
<td></td>
<td>Year 3 (1)</td>
<td>Kathryn (Vis. Arts)</td>
<td>Play/recess time (2)</td>
<td>Photographs (114)</td>
</tr>
<tr>
<td></td>
<td>Year 4 (1)</td>
<td>Mary (Yr. 5/6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Year 5 (2)</td>
<td>Sarah (Yr. 5/6)</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Year 6 (7)</td>
<td>Helen (Yr. 3/4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Grace (CRT Yr. 1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>42 students</td>
<td>11 teachers</td>
<td>25 lesson observations</td>
<td>130 documents</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9 community members</td>
<td></td>
<td>344 photos</td>
</tr>
</tbody>
</table>
described as having a generative effect, whereby I learned and refined my research skills through the experiences of success, frustrations and reflection as I undertook each case study.

**Data generation and analysis**

As with many situations, the practical ‘doing’ of a thing is central to the learning of it, and my experience of researching has been the same. Thus, I had initially approached the design of the research study with a somewhat shallow understanding that what I was ‘doing’ involved the generation of data through *ethnographic methods* without also coming from an *ethnographic perspective*. Bloome (2011, p. 12) in a discussion critical of the labelling of tools and methods as ethnographic, without the corresponding methodological understandings, suggested that such a claim is an indication of “simply a qualitative study”. Although this realisation came after the generation of data were completed, it raised the point that the methodological understanding did not stop evolving and emerging once the fieldwork was complete.

As discussed, the case-studies were formed through decisions of *who* was to be involved in the generation of data in each school and *what* were to be the specific focus areas. The research design involved qualitative methods that generated data through interviewing and recording formal and informal conversations, observations and field notes, and the collection of relevant documents and artefact. In addition to the evolving nature of methodological understanding, the process of data generation and analysis are also ongoing and simultaneous, rather than linear. The context in which the research is situated, and which the research attempts to understand, is always complex and messy, and the tangents, turns and complications in generating data are always present (Stake, 2003). Two acknowledgements need to be made in regard to this. First, is the importance of understanding that analysis occurs throughout the process of the generation of data. Second is the need to draw boundaries and reasonable restrictions around what counts as data so as not to generate more data than can be practically used. The implication of this leads to decisions and choices about what is to be included and what is to be excluded as data.
The remainder of this section provides a description of the design, data generation and analysis processes used in constructing the case studies. More specifically, I discuss the forms of data generation used, their design and the processes undertaken in generating data, and the process of thematic analysis in developing understandings about the data.

**Interview design and processes**

The use of interviews to generate data about experiences of place, environmental education teaching and learning, and background information about the schools, was the key form of data generation in the construction of the case studies. As such, considerably more depth and detail is taken in this section of the discussion than is provided for in the discussion of observation and artefacts.

In undertaking interviews I made use of interview guides to provide “a direction … to the interview so that the content focuse[d] on the crucial issues of the study” (Burns, 2000, p. 424). Although the interviews had similar focus questions for each participant, I designed the guides to be more in-depth for the key participants involved in environmental education in each of the cases (for example, the principals, the Learnscapes coordinator, and the classroom teacher at Riverside), and a slightly less detailed guide designed for other participating teachers who, while interested in aspects of place or environment in their teaching, did not identify specifically as an environmental educator. For interviewing students, I developed a third, less structured guide that provided general topics for discussion. Those interviews ran in an open-ended way, guided by the students’ interests and experiences in their school places. I discuss first the design and process of interviewing the adults who participated in these case-studies. Following this, I address the different form that interviews with students took.

The interview guide for teachers consisted of 16 questions, with the more detailed guide for key participants having 20 questions. These questions focused on participants’ background and approach to teaching, their use of school-ground places for learning, their attitudes and approaches to environmental education, their experiences of the schools’ curriculum, and their personal approach to curriculum (Appendix 3 Principals’ interview
Each interview guide was designed to begin with questions to gain some background understanding of the participant and school, such as “Tell me about your school/class?” and “How would you describe your approach to teaching?” These were also adjusted according to the role of the participant, particularly at Flatlands Public School, where some of the participants were not teachers. With my research questions in mind, the questions in the interview guides were designed to provide insight into the use of environmental and place-based education in the case sites. The questions that were developed took into account my interpretation of place-based and environmental education literature and theory. The interview schedule was divided into four separate categories:

- **School and personal approach to teaching**: with questions concerning experiences of the school as a teacher, teaching philosophy, background at the school.

- **Environmental Education**: with questions about interests in environmental education, specific approaches or focus in teaching environmental education, and thoughts on student response to environmental education.

- **Places used for learning**: with questions concerning relationship with place, use of place in teaching, thoughts on student’s response to learning in place, and personal understanding of what a place focus in education meant.

- **Curriculum decisions**: with questions about participants’ thoughts on their school’s curriculum, curriculum-decision making, and use of places in the curriculum.

The same interview guides were used across each of the three schools, however questions were adapted and re-phrased to take account of the local context and situations while the interviews were being conducted. For each scheduled interview, I provided each participant with an interview guide prior to their interview and invited them to suggest any changes, additions, or removals that they would prefer. This provided participants...
with the opportunity to become familiar with the types of questions that I was going to ask and hopefully ease any fears that individual participants may have had about being interviewed. Second, through making the agenda explicit and allowing participants the opportunity to have input into questions and to prepare answers in advance I was, in effect, handing over some of the control of the interview process (D. Scott & Usher, 1999). This enabled participants to identify my agenda in interviewing them and to give them time to prepare and consider their answers, as well as contribute to the interview agenda. However, none of the participants made suggestions in regards to the questions provided to them, and it is likely that as the questions were explorative and not intended to be confronting, they did not see the need to take the interview at anything other than face-value.

Providing all adult participants with the interview agenda ahead of time was not always possible. Particularly relevant to the Flatlands case-study, several community members who regularly volunteered at the adjacent Environmental Education Centre became involved in impromptu participants, following introductions from other participants at the school. Preparing a specific interview schedule for these community-based participants, with their many and varied contexts for involvement with the school, was not possible, so in these cases a short, open-ended and unstructured conversation was undertaken, informed by my developing understandings of the focus of the Environmental Education Centre on place, environment and their role in the development and running of the Environmental Education Centre.

Interviews were carried out in a conversation-like manner, with occasional prompting, to focus the discussion on topics related to place, environmental education and place-conscious education. In selecting the physical location in which the interview would take place, I encouraged each participant to suggest a setting and time that would suit them, aware that participants involved in classroom teaching were often busy with many other tasks. As such, many of the teachers who participated provided time for the interview to occur during their timetabled classroom-release or after students had left for the day. The setting of the interview varied for the adult participants. Mostly, the teachers who participated chose their own classroom or office to be interviewed in, with two teachers instead selecting outside places, including a bench in the sun at the end of the day, and another interview
where the participant and I walked around the school grounds in order for her to show me specific places. Adult participants who were not teachers were interviewed in a range of places, generally the most convenient and quiet place available at the time. This included benches outside school buildings and walking around the gardens.

Each participant, with one exception, consented to being recorded using a small hand-held digital voice recorder prior to the interview. When appropriate during interviews, I made notes of key words or concepts, programs or projects, or recommendations of places, people or resources to seek. As soon as practical after each interview, I also spent time making notes about my impressions of the topics discussed and points of interest that occurred, such as my reaction to participant comments, my perception of non-verbal body-language, and overall impressions of the interview. In the single occurrence where the participant, a casual teacher who had recently completed a block of teaching at Mountain Top, did not wish to be recorded, I scribed the interview. This participant indicated that her role as a casual relief teacher contributed to her decision not to allow recording. This proved to be quite difficult as my attention was distracted from listening by trying to write at the same time, meaning that the conversation-like flow of the interview was lacking. Furthermore, the process of writing the interview meant that the role of memory and on-the-spot judgements made about the relevance of what to include and exclude were significant in records of this interview.

In planning to interview students, I had felt that a largely unstructured open-ended interview approach with groups of two to three students would work best, based on suggestions by Flick, Kardoff, and Steinke (2004); and D. Scott and Usher (1999). The question guide for students was designed to be used as a prompt for conversation, and focussed generally on places that students felt were special or important, and attitudes and thoughts about learning and lessons undertaken in the school grounds. In my preparation, I decided that, following the interview, I would then ask students to take me to the places that they thought were special in their school grounds and photograph them using a digital camera. As it turned out, the first interview with two Year 6 students from Flatlands Public School was at times quite awkward and I quickly realised that my planned approach needed to be rethought. After recognising that the most valuable
conversation with these initial students had occurred once I handed the control of the camera over to them and talked with them as we walked around the school grounds, I decided to continue using this informal, ‘tour-guide’ style interview with the rest of the participating students. I found that this approach evoked for students the memories of activities undertaken in particular places, allowed them to act as guides and show me places that they had played a role in creating, and enabled a free flowing conversation. Although I did make use of several prompting questions through each interview with students (i.e. what are some special places in your school? Can you show them to me? Tell me about your school?) and ensured that I asked general demographic information (how old are you? Do you live in town? What grade are you in?), after the first interview I found that allowing students to control the pace and focus of the interview led to much richer conversations.

Students at Flatlands Public School and Mountain Top Primary School were interviewed in groups of two, with the occasional group of three. Due to the timetable constraints and the different approach taken to the construction and bounding of the case-study at Riverside Public School, two larger groups of seven and eight students, respectively, were interviewed. These interviews were conducted around a table in the quiet space of the staff room, with permission. In this case the interview was more structured and my role also involved, to a very small degree, more of a teacher-like persona as it was occasionally necessary needed to remind students not to speak over each other. In these focus groups, I asked questions based on the student interview guide, then allowed for the conversation to be more student-driven.

Each student interview began with me introducing myself as ‘Rebecca’, explaining to students what I was doing as a researcher and that I ‘wanted to know what they thought’ about the places in their school that were special to them, and the activities that they did at their school where they learned about the environment. With the exception of the very first interview, I then showed the students my hand-held voice recorder and explained what it was for, asking for their permission to use it to record our conversation. In all cases the students gave permission for me to record our conversations, often being somewhat fascinated with the device initially. However, they soon forgot that they were being recorded and
spoke freely in response to my questions and prompts. I showed the students how to use my camera and handed it to one of the group, asking them to walk me around their school and show me the places in their school that had special meaning to them. As we walked around their school grounds, the students in each group shared the camera, taking photographs and discussing the places that we were walking through. This approach put the students at ease, and made an attempt to reduce the power relations often complicit in adult-child interviews (D. Scott & Usher, 1999).

After completing the fieldwork for each case-study, interview recordings were transcribed, with the use of a paid research assistant in transcribing several of the interviews speeding up this process. Transcriptions of the interviews were taken as an *ad lib* copy of the words that participants used. Where participants paused or their tone of voice emphasised a specific point they were trying to make, replication of this through textual representation was attempted through the use of strategic punctuation and italics. Although I was unaware of it at the time, I believe that a limitation of the transcription process in this research was that a notation system highlighting the contours of participant speech was not utilised. In future research, I would be keen to engage further into understandings constituted through writing as inquiry (Richardson, 1997) or the transcript poems discussed by Kerkham (2011).

Transcription limitations aside, each interview transcript was carefully edited before being returned to the relevant adult participants for member checking. I included with this a short note thanking them for their participation in the research, along with an explanation of the purpose of member checking. Here I emphasised that they had the opportunity to respond to anything within the transcript that they felt needed additional explanation or gave an erroneous representation of their views, beliefs or experiences. This gave participants the opportunity to verify their recorded answers and make changes or provide further information, that they felt were necessary in providing an accurate representation of their views. The decision to do this was based on D. Scott and Usher’s (1999, p. 111) suggestion that providing interviewees with the opportunity to edit the transcript of their interview acknowledges “that the interviewee may be mistaken, and the opportunity is afforded to them to improve their account”.
Of the twenty transcripts returned to participants, only one was returned with significant changes. These were predominantly changes to how the spoken word was read, although there were also changes made to the answers of three questions, along with the removal of one entire question and answer. Accordingly, the transcript that was used for analysis was altered to reflect the changes that the participant had made.

**Observations**

From initial contact and visit to the case-sites, through to reflection on the completed on-site generation of data, I was making observations about the schools. These observations ranged from making notes about the material place of the case sites, reflecting on my experiences in those places using voice recordings, formal observation of specific lessons, through to focused observations of students interacting with each other during recess and lunch breaks. As D. Scott and Usher (1999, p. 100) have contended, the value of observation is that it provides the opportunity to understand the context of the activities that were spoken of by participants. In addition, through observing lessons, I was able to gain a more in-depth view of the meaning-making and constitution of knowledge that was being carried out through the environmental education practices – something which was difficult to elucidate through interviews.

The observations in the schools involved both formal and informal observations. Formal observations took place as unstructured observation of lessons in order to explore the practices that were being carried out (Gibson & Brown, 2009). Furthermore, carrying out these observations led to an emerging understanding and interest in the ways that environmental education was practised differently by individual teaching staff.

Formal observations were voice-recorded with the permission of each of the teachers concerned. Alongside the recordings I simultaneously made notes of events and conversations that I observed. Following my time in each of the schools, I transcribed the observation recordings, choosing to transcribe only those parts of the observation that were clear or relevant (for instance, unrelated interruptions to lessons and times where noise levels meant that conversations could not be distinguished, were noted but not transcribed).
Informal observations were made through note-taking whenever I was presented with the opportunity to observe students during recess and lunch breaks, as well as my personal reflections and observations of my experience of being in those places. In addition to this, at the end of each day of data generation, I recorded my impression of the school in daily journaling. These observations were also included in analysis.

My techniques for recording observations improved as I become more experienced and had more practice. Initially, all classroom observations were recorded in a notebook, with key happenings in the classroom noted. If possible, I also made notes on the conversations of students that I was sitting close to. I found that most lessons had an initial period of teacher-led instruction, after which students were set individual or group tasks. In these situations, I attempted to spend some time with each group so that I could observe each of the tasks. After spending time observing what the students were doing, I would also talk with them about their task, their approach to doing it, and occasionally ask prompting or open-ended questions as they carried it out. I found that often students would also engage me as they undertook their task, treating me as an additional teacher and asking me to clarify the task, spell a word, provide an answer about the task, or explain what a particular object, event or phenomenon was. When this occurred, I would either refer them to the classroom teacher or mimic the teacher’s strategies to answering student questions, such as having students attempt the word they didn’t know how to spell then come back to it later, or ask them further questions to assist them to work out an answer by themselves.

As data generation progressed, and I became more fluent with the process of undertaking observations, as well as cleared in my intent and purpose, I initiated the use of a chronological pro-forma where I noted events and student responses in sequential, approximately five-minute, blocks.

At the end of each day of data generation, I would take time to write my reflection on the occurrences of the session, my impressions of particular observations or interviews and my thoughts on the processes of data generation. These field notes also formed additional data for analysis and reflection. In transcribing and writing field notes for analysing the observations, I used a slightly amended version of the pro-forma mentioned in order to compare the written and transcribed data alongside my initial analysis.
Artefacts

With permission from the school principal and participating teachers, relevant artefacts were collected that related to the place and curriculum practices of environmental education in those schools. These artefacts and documents were understood to be pre-existing the researcher and providing "remnants or features of the social worlds/lives/practices being explored" in these schools (Gibson & Brown, 2009, p. 66).

These artefacts and documents were accessed through key participants at each site, such as the principal at Flatlands Public School, and the Learnscapes coordinator at Mountain Top Primary School. Classroom displays that were photographed and samples of student work, as well as those artefacts collected at Riverside Public School were done so with the permission of the classroom teacher (due to the case-study being constructed around the activities of one Year 6 class).

Where possible these artefacts were photographed using a digital camera, with photos being loaded onto a computer and the files named according to the document. This was beneficial where the artefacts consisted of colour images or photographs, and it also allowed a clearer copy to be taken. A further benefit was found when digital images were able to be easily included in computer mediated analysis. Where paper-based artefacts were photocopied, costs for the paper and the photocopier were reimbursed to the school.

During fieldwork, I catalogued artefacts numerically in order to store and describe them for easy retrieval. Following fieldwork, I used a filtering process to organise the documents and artefacts collected. This involved categorising each document as relevant, irrelevant or background to the case study. Almost all of the documents and artefacts collected were primary sources, typically created by or through the school. There were several examples of secondary documents, such as a case-study of Flatlands Primary School that had been conducted eight years previously, given to me by the principal on my initial visit to the school, hence contributing to my background understanding of the school prior to commencing fieldwork.
The artefacts that were deemed relevant or of having background information for the case-study could be organised into primarily four types of document:

**School documents**

These documents provided background information about each school's engagement with environmental education practices. This included several portfolios documenting the process and development of Learnscapes at Mountain Top Primary School, and an information booklet about the development of the Environmental Education Centre at Flatlands Public School. Copies of the Learnscapes maps at Flatlands Public School and Mountain Top Primary School were made, as was a copy of the School Environmental Management Plan at Flatlands Public School.

**Curriculum documents**

These documents included lesson plans and units of work that were relevant to environmental education. Curriculum planning documentation was also included where it provided a scope of the school’s practices relevant to environmental education and not just a copy of the state curriculum standards or syllabus, which I had already accessed. Learning resources and worksheets that were used for environmental learning activities were also included.

**Student work**

Where appropriate copies could be made, samples of student work and classroom projects were collected and photographs of student work in classroom displays and student artwork were photographed.

**Photographs**

As mentioned earlier, photographs were utilised as a way of providing a visual representation of places around the case sites, as well as being used extensively as a tool in student interviews. I made use of photographs in documenting school and classroom displays that were relevant to environmental education, as well as numerous photographs of each of the schools grounds, in order to gain a visual 'feel' for those places.
In addition to the photographs that I took, during interviews students took photographs of places that they felt were significant or special, as well as places that had been used in their learning experiences. Through taking these photographs, a number of relevant and interesting discussion points were raised during their interviews.

Analysis

Gibson and Brown (2009) content that the process of inclusion and exclusion in the generation of data, alongside critical reflections and fieldwork notes made in the moment of fieldwork, mean that the researcher is always also analysing:

... analysis is a lived part of the working through of the method, and not just a tool that is used to make sense of the data once it is created. Relevant data is an emergent property of this ‘lived analysis’ (Gibson & Brown, 2009, p. 66)

This acknowledgement of lived, ongoing analysis accepts that analysis occurs intuitively and as a matter of phronesis – where the previous experiences and knowledge of the researcher play a role in the development of judgements – as well as through designed analytic methods. Throughout fieldwork, this included myself as the researcher making decisions about what should be made note of or not during observations, which documents or artefact I should seek out, collect or copy, and which to choose to exclude, as well as informing the carrying out of interviews as I made judgement calls about unplanned questions, changes to wording and the use of prompts. In this way, the generation and analysis of data did not involve linear or separate processes, rather different moves and moments informed one another in a feedback loop.

Once the generation and analysis of data occurring in the fieldwork was complete, I undertook a thematic analysis of the data. Thematic analysis entailed a process of coding and categorising words and phrases, and forming patterns relevant to the purpose of the research. This involved reading the data with the “aim of searching for aggregated themes within data” through the commonalities, differences, and relationships present (Gibson & Brown, 2009, p. 128). The examination of commonalities involved coding those aspects of the data that could be categorised as “an
example of" (Gibson & Brown, 2009, p. 128). These, in turn, involved further division and coding.

While looking for commonalities in the data, which allowed me to pool together examples of, I was also conscious of identifying those things that didn’t ‘fit the mould’; in other words, I looked also for those things that were distinctive, peculiar, or contrasted with the commonalities. Finally, I also looked to the ways that different codes and categories related to other aspects of the analysis in order to identify and generate themes, both within each case-study and across the case-studies. In undertaking this analysis, I used the computer program NVIVO, developed by QSR International (2002) to carry out the processes of coding, categorising and thematic analysis. While this program was convenient in undertaking these processes, my approach to using it was consistent with Gibson and Brown’s (2009, p. 181) argument that “computers and computer programs do not analyze data, researchers do. The computer and qualitative analysis packages are merely tools that assist researchers in their data work”.

Following transcription and member checking, the interview and observation transcripts, text-based documents, fieldwork notes and research journal for each-case study were imported into NVIVO. Photographs taken by students were analysed alongside interview transcripts, enabling what was said about specific places to be analysed in context with a visual representation of the place they photographed. Photographs were also tallied, to show those places photographed more or less frequently by the collective participating students in the school, alongside analysis of how and what different students focussed on when taking photographs, for example the use of close-up or distant framing of photographs of places, and the emphasis in the photographs of animals and insects, trees and plants, or man-made structures.

Using NVIVO for qualitative data analysis provided me with the opportunity to carefully read and re-read the data, coding excerpts of text into free nodes and tree nodes, and enabled me to identify and group together the common patterns and themes emerging across cases. After initial coding of the interviews into free nodes was completed, I then grouped the free nodes into five common themes that were reflected across each of the case-studies. These themes consisted of:
1) **background information** about the school, community and environmental education program;

2) **curriculum** – showing references to the school’s curriculum, the use of place in the curriculum, and the programs, resources and learning in the curriculum;

3) **place** – pertaining to references to places and special places, discourses of place, places in the school, and pedagogy and place;

4) **environment** – with focus on environmental education practices, catalysts and barriers to environmental education, discourses of the environment, and students and the environment;

5) **miscellaneous** – showing references to those codes that were unexpected or unsought yet present enough to warrant coding. These included discourses such as gender that were not a focus area, yet still provided an insight into the varying views of participants.

These categorisations provided a framework through which to construct the individual case-studies, as well as a starting point through which to develop my understanding and contribute to the theorisation of notions of place, knowledge and practice in environmental education.

A secondary process that I undertook while generating and analysing the data was that of being reflective about and aware of the biases, implications and challenges of the research process, including ideals that I held about educating, research, and environmental education, and the expectations and assumptions that I held about potential findings in the case-studies. By journaling my thoughts during the process of data generation and analysis, I attempted to redress these potential weak-spots through being explicit and honest about the research design, generation and analysis of data. An example of this awareness can be seen in the excerpt below, where I reflect on my attitude toward analysing an interview that I had felt hadn’t gone well:

*Interesting work analysing this interview. It is difficult to overcome both my feeling about the interview, which was a bit awkward and difficult, the participant, who although on the surface said that she was happy to be involved and gave informed consent, came across as resenting giving me the time (despite [_____] actually taking her students so that she didn’t lose release time anyway), and finally her member checking of the transcript, which was so drastic – removal of things that she had said which she clearly didn’t like because they positioned her in a bit of a negative light. So how do I get over this? Perhaps over time – revisit it again once I’ve had time*
to remove myself from the immediate situation? Maybe I'll also try the analysis again once it has been de-identified. I think that also important is reminding myself over again the importance of treating the data (and therefore the participants) with respect – just because I didn't enjoy the experience does not mean that the value of these attitudes, practices or experiences are any less (Research Journal, August, 2008).

I have provided an overview of the methods and process that I undertook in generating and analysing the data from the case-study sites. The processes, decisions and choices used in interviewing, observing and generating artefacts within the case-study sites have been discussed in detail. This final section of the methodology provides a more reflexive look to the implications and challenges of the research methodology, in particular the choices made, the role of the researcher and the anonymisation of place, reporting and representing the schools as case-studies in ethical ways, as well as several limitations of this research that I have identified in retrospect and reflection.

**Implications and challenges in the research methodology**

A central concept for non-representational theories has been the move to break down the Cartesian divide between the world, “the really real”, and the representations and signs through which we give it meaning, “the really made up”. Instead, as Anderson and Harrison (2010, p. 6) suggest, it is through this divide that we lose sense of how “meanings and values may emerge from practices and events in the world”, and of being as a “manifold of actions and interactions” (Thrift, 1996, p. 6).

Of relevance to the actions and practices of research, then, is the recognition that “while we do not consciously notice it we are always involved in and caught up with whole arrays of activities and practices. Our conscious reflections, thoughts, and intentions emerge from and move with this background ‘hum’ of on-going activity” (Anderson & Harrison, 2010, p. 7). The purpose of this section is to think consciously about the “background ‘hum’ of on-going activity” that have implications and challenges for the actions and interactions, choices and practices involved in the design, conduct and reporting of my research.
Representation

Although ‘non-representational theories’ inform the philosophical-empirical understanding of environmental education practice in this dissertation, this does not deny, or position adversely, the role that representation plays in case-study research. In claiming to be non-representational, these loosely collected theories with their focus on the everyday action and interaction are not anti-representational; rather they are accounts of the actions and practices within the world – as opposed to the actual, in-the-moment actions and practices. So the case-studies are both a representation of those actions and practices, yet at the same time I acknowledge that representation, with the social constructivist emphasis on the divide between the real and the made-up, is in itself ‘constructed’ and insufficient to understanding the always-ongoing actions and practices of the social (and more-than-human) world (Laurier, 2010).

In this sense, then, the nature of writing the case-studies, and subsequent discussion of parts of them in relation to conceptualisations of place, knowledge and practice, have meant the “really real” places, activities and practices are reduced as they become the “really made-up” (Anderson & Harrison, 2010, p. 6). Along with this comes the recognition that the messy materiality of place exists outside of the representation of it – the text and data constructions of the case-studies (Watson, 2003). This recognition is important, however, to distinguish it from representationalist thinking that suggests place exists only as an “effect of the projection of social relations and cultural constructions on to material reality” (Watson, 2003, p. 149).

The choice of case-study as a methodology enabled an in-depth and context-dependent inquiry into the place of, and understandings within, sites of environmental and place-conscious education practices in three schools. This provided the opportunity to include multiple sources, perspectives and methods of data generation in attempting as rich as possible a description of the place and environmental education practices within those schools.

Although pre-existing phenomena contributed to and became part of each case, the produced mobile case-studies did not exist prior to being imagined and constructed (Ragin & Becker, 1992). In becoming a
representation of places and practices at a particular point in time, the case-studies were bounded by my decisions and choices of what is to be foregrounded and backgrounded, what is to be included and what is left out. Decisions are made that have implications for the generation and analysis of data, and ultimately the meaningful, ethical and effective representation of the case. Finally, a further construction of the case comes through the eventual reader’s own interpretation of what the researcher has reported, and understood, amidst the alignment of this case with their understanding of multitudinous other cases, both similar and dissimilar (Flyvbjerg, 2006).

Through undertaking this research I have attempted to construct each of the case-studies as representations that provide meaningful, ethical, and effective accounts of environmental education practice and action in the schools. I have done this in several ways, through the generation and analysis of the data at each school, where I have sought to understand and explain the background stories and contexts of each of the schools. I have also designed the empirical research in order to explore the current practices of place, environmental education and curriculum through the inclusion of multiple ways of generating data, and the inclusion of multiple participants from varying perspectives and experiences. Finally, throughout the process of data generation, analysis and the writing of this dissertation, I have attempted to maintain a reflexivity and honesty in representing and discussing the schools and the case-studies.

Despite attempts to negate them, there are always implications and limitations to the decisions made in producing a meaningful, ethical and effective representation of the schools. One such limitation was that I did not provide a copy of the complete written case-study to each of the schools for member-checking and validation. This would have been a valuable inclusion in the research design, adding further ‘weight’ to claims of effective and ethical representation of the schools, as well as providing participants with further opportunities to shape my understanding of their place and practice of environmental education (Stake, 2003).

A further decision that had implications for the representation of the schools was the use of anonymity and de-identification to provide confidentiality for each of the schools. This led to pseudonyms used for the names of people
and places. In providing anonymity to participants, I believed that it would enable them to speak more frankly about their school and community, should they wish, as well as reducing the potential for harm from participating in this research.

Underlying the use of anonymisation are assumptions that identification can be harmful or invade a participant's privacy, and that the use of anonymisation techniques and pseudonyms can prevent identification (Nespor, 2000). The decision was therefore made as an unquestioned belief that it would protect participants from potential harm, although the potential for harm through being identified in this research was not considered to be very high. Similarly, assurances to anonymise the participants and places were given in reaction to the assumed need for confidentiality, as required by the various institutional research ethics committees. Indeed, at that stage of the research project, I was unproblematically and uncritically taking for granted the role of anonymity in qualitative research (Nespor, 2000).

Critical of the practice to anonymise the places and settings in qualitative research, Nespor (2000, pp. 546-547) has argued that this practice “decouple[s] events from specific locations” and works to “distanc[e] the participants and events described from a public sphere shared with researchers and readers”. The characteristics of each of the schools involved in this research were shaped by, and played a role in shaping, the historical, cultural and community contexts within which they were practised, which are inseparable from the place that they inhabit. Place, name and identity are closely interlinked, yet through the process of being recreated without identity a setting is created that is, essentially, placeless. Although efforts have been made to retain an effective representation of each school's identity, this had to be done within the confines of the ‘place-less’ confidentiality imposed by institutional and researcher-made decisions, in order to also maintain an ethical representation. The implication, then, of assuring participants confidentiality has meant that the place-identity of each school has been anonymised.

I now turn to a discussion of my role as the researcher in relationship with the place and the participants, and the negotiations, implications and challenges that were played out through this role. I follow this with a
discussion of how the research was reported, and what the role of the reader brings to the construction of the case-studies.

**The role of the researcher**

As Sarantakos (2005, p. 38) maintains, “the reality gained by researchers who listen to respondents talking about their lives are constructions of the constructed reality of the respondents; they are impressions of a reconstructed reality”. In the design, generation, analysis, and reporting of data, I likened my role as the researcher to that of an interpreter of interpretations, acknowledging the partiality and perspective-bound nature of my understanding and relationship with the people who participated in my research (D. Scott & Usher, 1999). This view also takes into account that the participants in the research:

... are multiply situated; their perspectives are full of social contradictions, and their experiences are not easily captured … Therefore, these experiences cannot simply be taken at face value, since they are not events per se but reconstructed stories. To simply transcribe experiences is to fail to examine critically constructions which are very 'real' to informants … any voice is both an interpretation and itself in need of interpretation" (D. Scott & Usher, 1999, pp. 17-18).

By being present in the located place experienced by those I was ‘researching’, I was also engaged in generating embodied understandings of that place. These understandings were based on my perception of participants’ stories and observable actions in that place, as well as my experiences and understanding of the history of other places. Simply by observing, recording, and interviewing, I was also playing a role in that place – encouraging reflection on practices through the interview processes and causing interruptions, distractions and disruptions to lessons, classes and the everyday activities in that place.

In amidst the practice of research and data generation in the case studies was the emergence of a research relationship between myself and the participants and people in those places. This relationship involved a negotiation and renegotiation between myself and the participants of the research (Maxwell, 2005). Initial negotiation with each of the schools involved developing both of our understandings in regards to their role as participating in my research, and my role as a researcher and observer in
their school. Further negotiation involved the development of researcher-participant relationships with individual and collective participants and the importance of developing a positive rapport for eliciting their understandings, reflection on and description of practices of place and environmental education. Similarly, my physical presence as a researcher within the school space involved respecting the rights of those people within the case-study schools who did not want to participate, and those who agreed to participate but did not wish to be recorded or to be observed. Emphasising to participants that I was interested in the ways that they practised place and environmental education, rather than as a critique of their practices, was important in building this rapport. A reflexive approach was incorporated into the research through journaling my awareness of my role in the research, and recording my thoughts, interpretations and considerations about researcher-participant relationship. Through this process, I have remained conscious of being fair to participants, who have given their time, by accurate representation and reporting of their words, attitudes and practices as I was able to, while also trying to be honest and open in reporting my observations, analysis and understanding.

Gaining access to each of the schools was a key point of negotiation with each of the schools. The requirements of the New South Wales and Victorian ethics approval outlined that I approach the principal of each school as a first point of contact. Thus, the principal was central to my access to the school as well as often playing a role introducing me to staff and students and the initial coordination of my time at their school. In two of the case-studies, Mountain Top Primary School and Flatlands Public School, they were also a central participant. The benefit of this was that I was able to get direct access to those who the principal felt were most involved in the schools environmental education practices. However, an implication of this was that they were also able to play the role of gatekeeper and control, to some degree, the teachers, community members, and occasionally students, who should be approached about participation. In this sense, then, they also played a role in the construction of the case-study, through their decisions, choices and reception to my undertaking research in their school.
**Reporting**

The reporting of the case-studies has been a two-fold process. Firstly, the case-studies have been reported through a process of describing and weaving together the events and related information in the making of a story (Thomas, 2010, p. 579). The narrative that has been used to describe the place and the practices of environmental education in each school has been put together through the words and the stories, the observed actions and practices, of those who participated in the research. This *thick description* of the case-studies has looked to “[n]ot just what people do but more importantly what they think and feel” (Thomas, 2010, p. 580).

Reporting the case-studies in this way, has led me to understand first-hand what Flyvbjerg (2006) means by case-study holding several layers of meaning. These layers incorporate: that which is occurring at the case site; the data that has been generated and analysed by the researcher; and, the meaning provided through the process of reporting by the researcher's reconstruction of the case and their decisions on what is to be included and excluded (Flyvbjerg, 2006).

Secondly, analysing and reporting the data have led me to a philosophical-empirical inquiry into place, knowledge and practice, and the intersection of these within the case-studies. The description of the case-studies have, therefore, provided a context through which to further develop and inquire into a more detailed understanding of the place, practices and constitution of knowledge in environmental education in each of the schools.

Finally, I want to acknowledge that in any interpretation of case-study is the understanding that is drawn from and connected to the experiences of the reader. In this sense, then, the interpretation of the case does not belong only to me, but also to those who read it, with their own interpretations and judgements based on their experiences of environmental education practice, of place, and of research. As Thomas (2010, p. 580) has suggested, it is “the context sensitivity that enables readers to make sense of the narrative of the case, [and] agree or disagree with the researcher”.

Although a researcher will understand the case as in-depth and rich, the meanings given to it by the process of reporting, through the decisions
made on what to include and exclude, through to the style of narrative, mean that the case takes on a different form for the reader of the study. In turn, readers will have their own interpretations and understandings based on multitudinous other cases that they have already been exposed to:

One case will be compared with another and compared with our own experience. We make sense of the unfamiliar by reference to the familiar, by way of drawing personal analogy (Thomas, 2010, p. 580).

**Shaping the dissertation**

The discussion of the conceptual and methodological frameworks in this chapter have provided a basis through which to understand the decision and choices in the design, conduct and reporting of this research, as well as the implications, limitations and ethical considerations of these choices. I have discussed the conceptual framework for coming to understand environmental education through practice theory, through the interlinked and connected concepts of *practice, knowledge* and *place*. Here, I introduced the notion of environmental education as an account of practice that is informed by praxis – as action-making practice.

Following this, I discussed case study as method and methodology that provides an account of practice and phrōnesis. The methodological considerations of case-study provide a way of conceptualising the accounts of practice in each of the schools as constructed, as bounded and as pre-existing. In the second section of this chapter, I have provided a description and discussion of the generation and analysis of the data, reflexively looking also to the ways that the case-study schools were represented in a meaningful, ethical and effective way.

I conclude the discussion of the methodology with a section on the implications, challenges and limitations of the empirical research, in particularly the consideration of what representation and anonymisation might mean for a study that builds on concepts of practice and place, the role of the researcher in the research, and implications in reporting the research.
The key conceptual understandings, literature and methodology that have been discussed in the dissertation, thus far, provide a foundation on which the philosophical-empirical discussion rests in the remainder of this dissertation. The following chapter, Chapter 5, provides a description of the context and background to each of the case-studies. This is followed by three chapters exploring environmental education practice in the case-study schools. *Place, knowledge, and practice* form the central philosophical-empirical discussion of each of these chapters, and although in each chapter one concept is foregrounded, it is understood as interconnected with the other concepts. Although for the sake of textual convenience these chapters have been ordered in a particular way, they are to be understood as interconnected but non-linear and none privileged over the others. Together these form a philosophical-empirical exploration that look to what theories of practice can bring to understandings of how environmental education might be practised in place.
Chapter Five: Context of the Case-Studies

The purpose of this chapter is to provide background information and contexts for each of the schools that formed a case-study. The descriptions of the schools provide an overview of the place and environmental education practices there. Where appropriate, this is told through the stories and words, the documents and photographs of those who participated in the research. I also provide a description of the physical and material places in which the case-studies were conducted and some of the core practices of environmental education that I observed. An overview of the data collection and several key practices and programs, philosophies or approaches to teaching environment and place are discussed within the context of each of the schools. To conclude the chapter, a discussion of the similarities and differences, connections and interconnections, between the case-studies is presented.

Getting their hands dirty: Flatlands Public School

Background context of Flatlands Public School

The township of Flatlands, in the Riverina region of southern New South Wales, has a population of approximately 150 people, and a public school (K-6) population of 33 students, drawn from both the town and outlying farms. A twenty minute drive from a nearby major regional centre, many of the town's population commute to work in the city, or work locally as farm labourers and tradespeople. Much of the nearby rural landscape is broad-acre farming, with increasing numbers of hobby farms. Local groups, particularly the Landcare group, have put much effort into increasing local biodiversity and native habitat through educating the farming community, establishing wildlife corridors and conducting audits and seed banks of remnant native vegetation.

It was my father who, following a Landcare presentation he attended that showcased the school, Environmental Education Centre and community, raised my awareness of the environmental education focus at Flatlands Public School. After some initial internet searches to discover publicly available information about the school, I contacted the principal, Daniel,
and arranged to meet with him in the following weeks, when I would be travelling near the school.

Flatlands Public School was located on a side road off the main road through the town. The school consisted of five buildings: two classrooms housing the Primary (Years 3-6) and Infants (Years K-2) classes; the library/staff room; the weather shed; and the toilet block. The school has two classroom teachers, as well as Daniel. In his role as principal, he takes classroom release for Miranda (K-2) and Colleen (3-6), as well as facilitating the 2000 or more students that visit the Environmental Education Centre every year. Because of the priority given to environmental education at the school, Daniel has also created a position for a gardening teacher, Julia, who works one day a week with small groups of students. There is also a teacher’s aide one day a week, Emily, an environmental scientist who worked for the local Catchment Management Authority the rest of the week. Within the school’s curriculum, Miranda and Colleen took responsibility for the ‘literacy’ (English KLA) and ‘numeracy’ (Mathematics KLA) lessons, with Daniel teaching the classes for science, social studies and physical education, and creative arts and ICT taught by two specialist teachers who visited the school on a fortnightly rotation.

The school grounds were extensive, given the number of students, with areas of the grounds set aside for a bird garden (image 5.1) with native shrubs and trees to encourage Indigenous bird species, a vegetable garden (image 5.2) used by the infants class, and an area used for making cubbies amongst the pine trees in the ‘school woodlot’. In addition, there
were garden beds around each of the buildings (image 5.3) and a small orchard behind the primary classroom. There was a large concreted area, where students lined up for notices at the beginning of each day, ate morning tea and lunch, played handball and soccer amongst other school yard games, and used for physical education activities. At the front of the school grounds was the infants' playground.

Adjacent to the school was an Environmental Education Centre and town nature reserve. Originally a degraded and disused stock reserve and public watering place, this four-hectare block of land had been regenerated through school and community partnership, and was used extensively for environmental learning by schools in the region.

**The development of Flatlands Environmental Education Centre**

The development of this space into a nature reserve began in 1993, when three Flatlands locals had a conversation about the old stock reserve adjacent to the public school. Degraded, full of weeds and various other types of rubbish, a local resident described it as being "just a bare ugly spot with sheep in it to keep the weeds down!" (Susan, EEC committee, FPS, March, 2008). Thinking that it could be turned into "a nice place for the locals to wander around" (John, EEC committee president, FPS, March 2008), they initially considered it being a Bush Reserve, then an Arboretum. In 1994, contact was made with the local Landcare group, who subsequently expressed considerable interest in the idea. Seeing it as an opportunity to show-case plants to local farmers and land-owners in order to combat a loss of biodiversity, habitat and land clearing, and to conserve wildlife in the region, the Landcare president at the time, Susan, applied for and received a $600 grant for a landscape plan. Work on the park began in 1995, followed by a decision at the end of that year to invite the school, next door to the park, to run a contest to name the park. By the end of 1995 the recreation committee in charge of overseeing the park held a meeting and decided that a major focus of the park should be environmental education.

After arranging with the local council to change the designation of the area from stock reserve to recreation ground, the school was invited to take an
active part in the regeneration of the block in 1996. The principal, Daniel, jumped at the chance and students from the school were involved in planning, propagating and revegetating land. In 1998 the park was redesignated as a nature reserve, under the auspices of the local council, and henceforth has been run by a volunteer committee consisting of community and school members. Thus began a partnership between school, community and local government that saw the co-creation of a place of bio-diversity, regeneration and environmental education, fostering both ecological and rural-regional sustainability (B. Green & J. Reid, 2004).

As John claimed:

*The nature reserve is not just meant for school children; that’s part of the big picture – we like to engage anyone that’s got an interest in the environment and not just Landcare, but just the general public. It’s been great for the community; it’s given them a sense of pride (John, EEC committee president, FPS, March 2008).*

Also in 1998, the school agreed to take part in a trial of the Learnscape program and procured some funding from the NSW Department of Education and Training. Involvement in Learnscape had the students planning, propagating and planting in the nature reserve. Following nomination by the local Landcare group, in 1999 the school and nature reserve won the NSW Landcare Education Award. The following year, the school and the, now, Environmental Education Centre won the National Landcare Education Award, an event that helped to promote the highly regarded work of the school and environmental education, as well as community pride and engagement in sustainability issues and environmental regeneration.

Since then, the school and Environmental Education Centre have grown and developed, being successful with numerous funding grants and trust applications. Community working bees led to the development of the nature reserve; this included creating a wetlands in addition to the already present dam, building a composting toilet and the rammed earth Discovery and Learning Centre, and creating an Indigenous seed bank. In addition, the nature reserve had become a stage for community events, ranging from Wattle Day, to church services and weddings. Finally, through the involvement of the school in the Learnscape program, the Australian Sustainable Schools initiative (AuSSI), and Junior Landcare, the Environmental Education Centre became a model for other communities,
schools and environmental organisations in the region. As John, the committee president, wrote in a history about the development of the nature reserve and Environmental Education Centre in 2006:

... the challenge is to make a ‘real difference’ in the world of Environmental Education and to be a model of ‘best practice’ in the teaching of future generations of young Australians ([Flatlands] Environmental Education Centre: A place of Discovery and Learning – The [Centre’s] Story, document collected at FPS, March, 2008).

**Constructing the case**

The case-study at Flatlands Public School and Environmental Education Centre was constructed through the generation of interview, observation, photograph and documentary data during an intensive ten day visit. The focus of this case-study was the whole of school approach to environmental education, as well as the connections forged between the school and community through a shared interest in place and environmental education. Figure 5.1 provides a visualisation of the core focus of the data generation explored through the case-study. It was created following the generation of data, during the initial stages of writing the case-study as a means of making sense of the case-study and to ask the question “What was this a case of?”

Figure 5.1 Visualisation of case-study and data collection, Flatlands Public School and Environmental Education Centre.
The data collected through this case-study predominantly involved interviews with teaching staff, community members on the committee of the nature reserve, and walking interviews where students took photographs of places around the school as we talked. Further data was collected in the form of observations of classroom lessons and lessons with visiting schools to the Environmental Education Centre, as well as the collection of documents provided by Daniel, Colleen and Miranda. Table 5.1 provides a brief overview of on the participants involved in the case-study.

Table 5.1 Basic participant information for Flatlands Public School (names, role or year level)

<table>
<thead>
<tr>
<th>Students</th>
<th>Age</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peter</td>
<td>11</td>
<td>6</td>
</tr>
<tr>
<td>Mel</td>
<td>11</td>
<td>6</td>
</tr>
<tr>
<td>Hamish</td>
<td>11</td>
<td>6</td>
</tr>
<tr>
<td>Liam</td>
<td>11</td>
<td>6</td>
</tr>
<tr>
<td>Nathan</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Brendan</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Sophie</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Grant</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>Ayden</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>Matt</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>Abbey</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>Harry</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>Samuel</td>
<td>6</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Staff/community member</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daniel</td>
<td>Principal, committee member</td>
</tr>
<tr>
<td>Colleen</td>
<td>Infants teacher (K-2)</td>
</tr>
<tr>
<td>Miranda</td>
<td>Primary teacher (3-6)</td>
</tr>
<tr>
<td>Julia</td>
<td>Gardening teacher , parent</td>
</tr>
<tr>
<td>Emily</td>
<td>WELC aide</td>
</tr>
<tr>
<td>John</td>
<td>EEC committee president</td>
</tr>
<tr>
<td>Susan</td>
<td>EEC committee member</td>
</tr>
<tr>
<td>Amanda</td>
<td>EEC committee member</td>
</tr>
<tr>
<td>Cameron</td>
<td>EEC committee member</td>
</tr>
<tr>
<td>Lisa</td>
<td>Visiting teacher, City Scape Public School (Year 3)</td>
</tr>
<tr>
<td>Carol</td>
<td>Visiting teacher, City Scape Public School (Year 3)</td>
</tr>
</tbody>
</table>

Teaching/learning place and environment in the case-study

The focus on environmental education at Flatlands Public School was integrated through the teaching and learning of that school. An emphasis on the place and environment of the students and school could be seen throughout the day-to-day activities that students were involved in. Although I explore these activities in regard to the place and the constitution of practices and knowledge through experience in them in following chapters, I explore here some of the key aspects of my observation of this school, which I felt contributed to its uniqueness and its distinctive approach to environmental learning, including the opportunities provided to students, and for students, for informal learning. I provide a brief overview of this as a context for the school.
Learnscapes at Flatlands Public School

Nearly concurrent to the development of the Environmental Education Centre and nature reserve, was the school's involvement in the trial of the Learnscapes\(^9\) program in New South Wales. As part of the Learnscapes trial, Daniel realised that the actual Learnscapes did not need to be contained within the school grounds, providing impetus for the school-community collaboration:

"That's when my eyes lit up and I saw that and I thought, ‘oh well, this is all right!’ So I was approached to get involved from the Department [of Education] in Sydney. And we were given a bit of a carrot, a couple of thousand dollars I think, to help to try and develop some plans and do some workshops and it sort of grew from that. So our Learnscapes is actually probably more outside the school than inside the school (Daniel, principal, FPS, March, 2008, image 5.4)."

Image 5.1 Flatlands Public School Learnscapes map - the school grounds are at the bottom of the image, and the Environmental Education Centre is above this (FPS, March, 2008).

\(^9\) Although I will be discussing the Learnscapes program in this section in relation to its implementation at Flatlands Public School, a more detailed discussion of Learnscapes is provided in the context of Mountain Top Primary School later in this chapter, where I will also relate the role that the adoption of a learnscapes philosophy played in the development of the environmental education program.
As part of the Learnscapes process the old school fence was torn down and replaced by a low mesh fence, allowing for the visual-spatial connectedness between the school and the nature reserve.

There used to be a teachers’ residence between here and halfway between here and the centre. Now, the residence wasn’t here when I came, but the legacy of it was. There was a tin fence right across down there and a tin fence behind and a garage was still there. Well as part of the Learnscape philosophy … my vision was that this wouldn’t work unless it was all one site. If you had to walk across the road and that was seen as, you know, ‘that was Flatlands EEC and this was the school’, it wasn’t going to work. The first thing we did was we ripped down the fences and we sold the garage, cleaned the place up and put a gate… put a nice little low fence and a track across and we claimed it and said that ‘this was part of the school grounds’. As far as the community knows, that is part of the school grounds. Technically, on paper, it’s owned by the council and we’ve got a hundred year lease on it. But for all intents and purposes, people who visit, people who come, they see that as one – that’s part of our school grounds. So, we’ve adopted it. And that’s been a critical thing. Even though we don’t fully manage it, we’ve still got a … it’s just all blurred together (Daniel, principal, FPS, March, 2008, image 5.5)

Image 5.5 The site of the school grounds where the old teachers’ residence used to be. The replacement fence can be seen running through the middle of the photograph, and the roof of the EEC Discovery and Learning Centre in the middle left (FPS, March, 2008).
Daniel considered that the school’s involvement in both projects was an example of good timing. Further impetus came when the Environmental Education Centre won several state and national awards early in its development, lending it credibility, respect, and – most importantly – support within the community. John and Susan believed that what started as an idea with locally focussed, informal educative goals, turned into something much more than anyone could have imagined.

By the time that I began data generation there, the school was no longer actively participating in the Learnscape program. Rather, the school and the Environmental Education Centre committee worked together to build a momentum and impetus for further works, including the Discovery and Learning Centre, a rammed earth ‘classroom’ space, and various garden beds. At the time of data collection, Daniel had begun inquiring into participating in the Stephanie Alexander Kitchen Garden Program, which was subsequently set up at the school in 2011.

**Informal student learning: Conversations, cubbies and gardening class**

Students at Flatlands Public School were afforded many opportunities for informal environmental and place-conscious learning. Three things, in particular, imprinted on me the value of the informal environmental learning opportunities that were provided to, and taken by, these students.

In the first instance, due to the small size of the school and the personable, friendly and charismatic nature of the teaching staff, students were often involved in conversations with teachers and each other about the natural world. An example that I observed during one recess break was when students found a large, spider that they brought to the teachers (image 5.6 and 5.7). Following discussion on how to identify the spider (which at that stage they thought might be a bird spider) the students who found it were instructed to return it carefully to the place where it had been and to leave it undisturbed, as well as other insects or animals that they came across.
This approach to dealing with student curiosity meant that students were encouraged to be inquisitive and follow their interests, as well as provided with support in developing their inquiries. It also meant that they were encouraged to take risks through being inquisitive, as well as learning ways that they could find answers to their questions. The same attitude and approach was observed several times during my visit to the school and also demonstrated through Daniel’s comment:

... kids are bringing me in things all the time to observe. You know, they’ll bring things in jars, they’ll bring in leaves, they’ll bring in an insect or a spider or a dead snake. They’re always bringing things in and showing and talking ... So things, like incidental things like that’s happening ... I feel it’s just got to be a part of their everyday life that they’re doing (Daniel, principal, FPS, March, 2008).

Miranda also commented on this as being something that set the school apart:

I think that the environmental focus in this school and the fact that Daniel is really motivated in that direction really motivates the children in that direction too. They are constantly coming with information that they have found out about a particular animal or bird or anything over the weekend, and they come and tell him because they know he is the one that has the real environmental interest. And I think that it has just made the children a lot more environmentally aware than they would have been just being brought up in a normal school with the tar and the cement and neatly cut lawns and all of the rest of it that you associate with normal schools. I really think that the children get a broader interest and a more natural interest; it just happens, it is just a part of the way that they think and, which is a huge benefit to them which helps them in the long run, makes them more observant, makes them more aware of what’s going on around them (Miranda, Yr. 3-6 teacher, FPS, April, 2008).

In addition to the informal day-to-day learning experiences that they were exposed to through such attitudes and encouragement, students were also
provided with opportunities for play and risk taking. The building of cubbies and forts in the garden areas of the school grounds was allowed and encouraged by the teachers. In addition to this, the teachers had a “hands off” (Miranda, Yr. 3-6 teacher, FPS, April, 2008) attitude toward students making cubbies; they didn’t interfere, or tell students what they could or couldn’t do unless there were safety concerns.

As a result, all of the students in the school were involved to some degree in the building and play involved in cubby making (image 5.8). During one lunchtime I observed the girls in Year 5 and 6 working out who was which princess, and several Year K, 1 and 2 students playing a game involving ‘cowboys’, ‘protectors’ and cicada shells.

The discussion of cubbies was also present in the older students’ conversations, with each of the participating Year 6 students showing me and taking photos of their various cubby spots. Again, the informal play and learning opportunities from participating these free play activities were an invaluable part of the experience of students at this school.

A third example of the informal learning opportunities of students at Flatlands Public School involved the dedication of class time to gardening. In developing a maintenance budget, Daniel reallocated some of the maintenance funding for grounds keeping, paying a local parent, Julia, for three hours each week as the gardening teacher. As Daniel stated, “we have made that a priority in our school community – that our children are going to get that experience every week. That is going to be one of the things: that they are going to be out there, hands on” (Daniel, Principal, FPS, March, 2008).

In Stage groups\(^\text{10}\), students spent an hour or so with Julia every week undertaking a range of activities from weeding, irrigation, planting, and more.

\(^\text{10}\) Primary schooling in the NSW education system groups students into year level stages where Early Stage 1 (ES1) refers to the first year of schooling (Kinder, also known as Prep, Reception of Foundation in other states in Australia); Stage 1 (S1)
propagating, composting and watering, in both the vegetable garden as well as the more expansive Environmental Education Centre gardens.

During my observation of these classes, I reflected on the benefits to students and the connections that they were making through these experiences in place:

_The kids seemed to really enjoy this time and in between running around everywhere, got in and weeded a lot. They would also often relate what they were doing to what they also do with their parents – i.e. seeing and naming particular bugs, how many bird species they have in their house yard, their Dad growing tomatoes etc. It is really extending the informal environmental learning experiences into a set practice of the school: while also keeping it informal and unstructured (Research journal, FPS, March, 2008)._ 

While undertaking this activity, the conversation of the students revolved around the weeds they were pulling up, the plants that they weren’t pulling up, the insects, bugs and worms that they saw, and general chatter about events in their lives – sports, family visits, and weekend activities. These classes were valuable, both for the practices modelled to students, as well as the conversations and the informal nature and minimal structure of the class. In particular, Julia said that:

_I love my children touching earth, because they don’t get enough of it … I just make sure that, you know, they are in touch with what is going on around them, because there is so many structured things, like everybody takes their kids to swimming and cricket and football training and we do that too … but it is all structured, so they are in the classroom all day and then after school they go to this structured lesson again. I like the idea of bringing the kids out and you know they get to weed and they get to mulch and they just love it (Julia, gardening teacher, FPS, March, 2008)._ 

_the Flatlands Environmental Education Centre_

The principal, Daniel, was a driving force behind the environmental education focus at the school and was very active in sourcing funding for the school and the Environmental Education Centre. Environmental education had become an important priority for the school community, and something that Daniel felt was fundamental to his own role, particularly in “…the need for encouraging kids to take risks and get outside and get their

refers to students in Year 1 and 2; Stage 2 (S2) refers to students in Year 3 and 4; and Stage 3 (S3) refers to students in Year 5 and 6.
hands dirty… challenge them, you know” (Daniel, principal, FPS, March, 2008). Daniel approached the task of establishing environmental education as central to the work of the school by working to ensure that students were exposed to many outdoor, environmental and place-based experiences. To Daniel, environmental education wasn’t a curriculum area to be addressed separately or in a specific, fixed manner, rather it should come through in everyday schooling:

… it’s not something that you can really write down and say this is the formula. We sort of are very flexible, open approach to … connecting with whatever needs connecting with, then and there. (Daniel, principal, FPS, March, 2008)

The school and Environmental Education Centre had gained quite a lot of recognition for their environmental education work, both with the local community as well as with schools in the region. Daniel’s work in advocating environmental education and promoting the school-fostered partnerships with environmental education networks in the United Kingdom and Scandinavia. He participated in a study tour to those countries in 2005, and in turn had hosted representatives from those networks at the school. In addition to this, Daniel has worked on developing a local environmental education network with schools in the region, and together they have adapted a state-wide unit of work for their local context, alongside the production of a six-part DVD series and workbook to support the unit of work.

Through the development of the Environmental Education Centre, schools in the local region have had access to educational experiences in native bushland being regenerated with local plant species, as well as learning about conservation of habitat and species for biodiversity. The nature reserve, from an ecological perspective, had provided habitat for the endangered sugar-glider possums, and a stopover point for migrating red-king parrots. Audits undertaken of bird species in the immediate area had seen an increase from 50 bird species in the late 1990s, to over 130 bird species by early 2008.

Although Daniel championed the integration between the Environmental Education Centre and the curriculum and decision-making in the school, due to the nature and size of the school it was clear that the teachers worked well together to support this focus. Neither Miranda or Colleen felt
that they were responsible for taking “the environmental side” (Miranda, Yr. K-2 teacher, FPS, April, 2008), yet, at the same time, there was evidence in lessons, discussions, interviews, and student work samples of these teachers also drawing on various environmental themes in their teaching practice. In addition, both Miranda and Colleen expressed that while they felt the Environmental Education Centre was a useful, if not so frequently used curriculum resource, for them, the school grounds provided then with more scope as a resource that they could integrate with other aspects of their teaching:

*I don’t deliberately set out to teach environmental issues or environmental content, mine just kind of happens along the way; I see [the school grounds] as a resource and I use it for a particular idea that I want to present or a particular text type I want to develop* (Miranda, Yr. K-2 teacher, FPS, April, 2008).

**Overview**

The case-study at Flatlands Public School involved a range and variety of interconnecting and interrelated practices of place, environmental education and curriculum. Some of the key components of this case-study were the school’s focus on environmental education where there was connection with the community and community resources. The size of the school and community, and the school’s access and contribution to the ongoing development of the Environmental Education Centre, meant that for these students environmental education was a part of their everyday experience of school. The staff and students who participated in interviews were all aware of this uniqueness and conveyed a sense of place and a pride in what they enabled students to experience. Although there was a focus on biodiversity and environmental science understandings, environmental education was a theme, integrated across the school, rather than fitting within particular disciplinary boundaries. Finally, despite the teachers having distinct ideas on whether or not they did environmental education, there was indication that this ‘theme’ was a background to much of the students’ experience of schooling.
Chapter Five: Context of the case-studies

Background context of Riverside Public School

Riverside Public School can be found in an outlying suburb of a regional city in the Central Tablelands of New South Wales. The city had a population of approximately 35,000 people, with about 2,200 people living in the suburb of Riverside, at the time of data collection in 2008. The non-urbanised areas surrounding Riverside were open farmland, with predominantly beef cattle, sheep and market garden cropping. Education, however, was the largest industry for the region, with a large number of public and private schools, as well as one campus of a large, inland multi-campus university located there.

The students at Riverside Public School were typically from the middle-class suburb of Riverside. Although some students were drawn from surrounding farming areas there had been a decrease in the number of students coming from the farms over the past few decades. The school was originally established in 1868, when Riverside was growing as a village, and has run continuously since then. The school population at the time of data collection was approximately 350 students across 16 classes.

My first visit to Riverside Public School occurred three years prior to my being there in the role as researcher. Previously, I had undertaken several casual relief teaching days there, finding the school to have a pleasant atmosphere and, from personal experience of it, a muddy sports ground. On my return to the school as a researcher, I found that much of the school was unaltered, aside from the addition of demountable buildings, a covered walkway connecting the demountable buildings to the rest of the school,

Image 5.9 View of school buildings (photo taken by Megan, Yr. 6, RPS, June, 2008)

Image 5.10 The back of the school (photo taken by Megan, Yr. 6, RPS, June, 2008)
and several more garden areas.

Riverside Public School, like many public schools in NSW I had experience of, consisted of a mixture of brick and demountable buildings (image 5.9), concrete and asphalt, covered walkways, downtrodden garden beds, and open grassy spaces out the back. It was located on the northern side of the northern-most ‘suburb’ of the larger regional town. The boundaries of the school not facing the street led onto farm properties on the river flats, with the hills of the Central West Tablelands in the distance (image 5.10).

Efforts of the student environmental club, coordinated by the Kinder/Year 1 teacher, meant that there were several spaces around the school grounds that had been regenerated over the previous few years. This teacher’s encouragement of the environmental club had led to a number of students in Year 5 and Year 6 keenly pursuing gardening activities around the school in their lunch and recess breaks. These included the newly built frog pond and native garden, as well as other native garden areas. In addition, there was an established Heritage Garden developed to celebrate the history of Riverside that included signs providing information about the school and the settlement’s past.

The case-study at Riverside Public School was constructed out of observations of the teaching and learning involved during the course of an environmental education unit of work in the Year 6 class during term 2 of 2008. The Year 6 class had 23 students, 14 boys and 9 girls, whom Trudy described as being a “pretty homogenous group, and mostly mono-cultural too” (Trudy, Yr. 6 teacher, RPS, June, 2008). Almost all of the students were local to Riverside, with Trudy suggesting that students in her class were “pretty much born and bred in [Riverside], and not many farmers anymore – some small landholders” (Trudy, Yr. 6 teacher, RPS, June, 2008).

As a government school in New South Wales, Riverside Public School was mandated to meet the requirements of the New South Wales Board of Studies K-6 syllabus in each of the key learning areas. The school had also developed a School Environmental Management Plan (SEMP), in accordance with the New South Wales Department of Education and
Training \(^{11}\) Environmental Education Policy (NSW DET, 2001). Although this meant that the school had an environmental management plan developed for the school grounds and management of resources, there was no indication that students were involved in this process. In addition, the incorporation of environmental education in the school curriculum occurred predominantly through the science and social studies (Human Society and its Environment) key learning area scope and sequence, across K-6 year levels.

As well as the state-prescribed curriculum, Trudy suggested that the school had a strong emphasis on extra-curricular activities. As a result, time in class was often disrupted, particularly at certain times of the year when students were participating in activities such as debating, sports competitions, public speaking, the eisteddfod, and a chess competition. Consistent with wider state, and increasingly national, emphases on literacy and numeracy development, the school had a strong curricular focus on literacy skills. Trudy felt that this focus meant that there was sometimes a school culture that emphasised the products of students’ work and performance in literacy, rather than the “experience and process” of learning (Trudy, Yr. 6 teacher, RPS, June, 2008).
Trudy’s classroom, where the majority of the observations and interviews were undertaken, was a typical classroom. Chairs and desks were set up in an F shape and positioned so that students could easily see the end of the classroom that held a white board and the teacher’s desk. The walls were covered with posters, information sheets and student work that related to the focus of the term’s environmental education work on rivers, catchments, and Murder Under the Microscope (image 5.11). Displays around the room also served as reminders about the local river, ecosystems and environmental care – all aspects of the unit of work being undertaken (image 5.12 and 5.13).

According to Trudy, Riverside Public School had pockets where environmental education was a focus of the planned school curriculum. These included moves in certain parts of the school, such as the environmental club, dedicated science and HSIE units of work on the environments, and a high school transition unit that focussed on sustainable energy use. Based on conversations that I had with Trudy and the environmental club teacher, these environmental education practices were the work of select teachers, passionate about the environment and environmental education rather than a cohesive whole-of-school approach to environmental education. Despite the clear enthusiasm of one or two individual teachers at this school, other teaching staff were not engaged in environmental education outside of the school’s planned curriculum scope and sequence.

There was support from the school principal for the staff who were drawing on environmental education in their teaching, as well as for their work towards submitting applications and receiving grants for funding water tanks and light saving devices and were in the process of sourcing funding for solar panels. Barriers to the integration of environmental education at the school were identified by Trudy as a lack of time for “curricular indulgence”, an emphasis on meeting outcomes and “box ticking”, the prescriptiveness of the NSW curriculum, and the numerous interruptions that came with extra-curricular activities such as sport and training (Trudy, Yr. 6 teacher, RPS, June, 2008).
Constructing the case

The focus of Trudy’s Year 6 class’ unit of work was to address the HSIE strand ‘Environments’. It had been developed through the conflation of an online simulation, Murder Under the Microscope, and the Connected Outcomes Group (COG) unit of work, Living Land, and was also built into the class literacy group activities. In addition, the students’ participated in the Catchment Management Authority’s (CMA) Stream Watch program to monitor water quality twice a year, an activity that was also linked to the term-long unit.

Trudy, the Year 6 teacher, explained that the ‘Environments’ unit of work “pretty much does our environment HSIE in that term”, while also complementing the science program taught by a release teacher, which dealt with “catchments, biology and food chains” (Trudy, Yr. 6 teacher, RPS, June, 2008). As Trudy described it, the school’s scope and sequence had “environmental ed [sic] squashed into one term”.

Trudy’s decision to conflate Living Land, Murder Under the Microscope, and Stream Watch enabled both an integrated approach to teaching about the environment, and the opportunity to complement what she was doing with the science teacher’s focus on catchments, biology and food chains. Furthermore, linking Murder Under the Microscope with creative and practical art activities allowed Trudy to incorporate her own passions into the unit. The culmination of the term’s work was also developed out of the adoption of Living Land, where students worked in four groups to identify an environmental issue specific to the school, research it, and create an action plan that they then presented to the school during an assembly. The focus areas that these groups worked in were: research and development of a frog pond; catchment management plan as a follow up to Murder Under the Microscope; energy audit of the school, undertaken with a parent assistant, and developing an action plan in reducing energy use and potential solar panels for the school; water use audit of the school along with overseeing two new water tanks harvesting rainwater runoff. Figure 5.2 provides a mind-map in answer to the question, ‘What is this a case of?’, created during the initial stages of writing the case-study, creating a visualisation of the environmental and place focuses explored through the case-study and the data generated.
In constructing and bounding the case-study at Riverside Public School, the focus of data collection were observations, interviews and document collection. Twelve observations of lessons were undertaken over the course of the school term (see table 5.2) and I also joined the class for the river quality monitoring with the CMA, which occurred outside of the school term, but was linked to this unit of work. No observations were taken during week one, as the previous term’s unit was being concluded, week four, when I was absent for personal reasons, and week seven when Trudy was absent due to family commitments.

Table 5.2: Schedule of observations

<table>
<thead>
<tr>
<th>Term 2 week</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
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<td>1</td>
<td></td>
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<td></td>
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<tr>
<td>2</td>
<td>Observation 1 - HSIE C006</td>
<td>Observation 2 - HSIE Science</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Observation 3 - HSIE C006</td>
<td>Observation 4 - Art Class</td>
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<td>4</td>
<td></td>
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<tr>
<td>5</td>
<td>Observation 5 - Reading Group</td>
<td>Observation 6 - Dance Class - Art</td>
<td>Observation 7 - Acquaint - HSIE</td>
<td>Observation 8 - Riverwalk - Art</td>
<td>Interview 1 - Trudy</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>Observation 9 - CMA Plan</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>7</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Observation 10 - CMA Plans</td>
<td>Observation 11 - CMA Plan</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>9</td>
<td>Observation 12 - CMA plan</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Interview 2 - Frogs</td>
<td>Interview 3 - Yabbies</td>
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</tbody>
</table>
Formal semi-structured interviews were undertaken with Trudy, the teacher, as well as two student group interviews. These students were from two of the action groups, each of whom had a particular inquiry focus – the frog pond, and the catchment plan. One group, the ‘froggies’, had been involved for the previous three weeks in the development of a frog pond and native garden in an empty playground space between a demountable and the school boundary. The other group interviewed, the ‘yabbies’, were those students who had been involved in the development of the catchment action plan for the second part of the Murder Under the Microscope task.

In addition to the formal interviews, informal conversations during and following observations were recorded. The participants who consented to be involved in the interview process included 14 students from the Year 6 class, and the teacher, Trudy (table 5.3).

<table>
<thead>
<tr>
<th>Staff</th>
<th>Role</th>
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</thead>
<tbody>
<tr>
<td>Trudy</td>
<td>Year 6 teacher</td>
</tr>
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<table>
<thead>
<tr>
<th>Students</th>
<th>Age</th>
<th>Focus group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amelia</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Bianca</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Gabby</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Olivia</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td>Patrick</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Loki</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Jack</td>
<td>11</td>
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</tr>
<tr>
<td>Bree</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Cade</td>
<td>11</td>
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<tr>
<td>Zack</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Joseph</td>
<td>11</td>
<td>2</td>
</tr>
<tr>
<td>Caitlin</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Kobe</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Brad</td>
<td>12</td>
<td></td>
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</tbody>
</table>
Teaching/learning place and environment in the case-study

The focus of place and environmental learning in the Year 6 class at Riverside Public School was largely based around the connected outcomes group (COGs) unit of work, *Living Land*, and the activities that contributed to this unit. The discussion here provides an overview of *Living Land* along with the River Walk art activity and the Murder Under the Microscope simulation as they were incorporated into the learning and teaching in this class.

Connected Outcomes Group Unit of Work: Living Land

The environmental education focus during the term was taught through *Living Land*, an integrated, cross-curriculum unit of work. This unit was developed for teachers as part of the Connected Outcome Groups (‘COGs’12) initiative of the NSW DET (2006). The COGs, as they have come to be called, were designed to take advantage of the connections between content, processes and skills across the key learning areas of the NSW syllabus. Trudy felt that the use of COGs enabled her to integrate the term’s focus on environments through the HSIE, science, English and art syllabus outcomes.

The focus of *Living Land* was to explore “the influence of the natural, built and heritage environments on people’s lifestyle choices, leisure and artistic expression. Our actions impact upon the environment and have implications for the future” (NSW DET, 2006, p. 1). The activities planned through this unit covered performance and art works that were responsive to the natural environment, the creation of mixed media artwork, an environmental case-study that looked at a sensitive environment and the effect that use and management had on it, the impact of the environment on health, and the development of a model for an energy efficient house (NSW DET, 2006).

In teaching the COGs unit Trudy adapted and made changes to it in order to accommodate other learning activities that she had developed over

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12 Despite the seeming awkwardness of the spelling of the acronym ‘COGs’ with an additional ‘s’ at the end, as it appears in this way on official documentation and the website I will continue to refer to it as such.
several years of the ‘environments’ focus in the school’s scope and sequence. This included the online simulation Murder Under the Microscope, monitoring of water quality through the Stream Watch program, and student creation of place-conscious artworks developed from the student excursion to the river for Stream Watch. One example of this adaptation was seen in the development of the action plans that enabled students to evaluate the use and management of a local and school-based environment, rather than undertake a case-study of an Alpine environment. The River Walk artwork developed opportunity for connection with the local river and tied the Stream Watch activity, which occurred in the first and third term, into the ‘Environments’ unit in second term. Following is a discussion of Murder Under the Microscope, Stream Watch, and the River Walk activity, in order to provide a context to discussion in the following chapters. Following this I briefly discuss the environmental club, of which several of the students in the class were members.

“It's Murder!”

A central aspect of the environmental education in the Year 6 class was the online simulation program, Murder Under the Microscope (NSW DET, 2008). Murder Under the Microscope was developed as a science-based investigation, where over the course of five weeks, registered student groups from schools across Australia, and internationally, use the online resources and clues as a starting point for investigating a fictional eco-crime. Based on an inquiry-based pedagogical model, students’ piece together information from a series of clues released over the course of the five weeks through the simulation. In order to make sense of the clues, the groups work through a range of learning activities in order to research ten crime sites (catchments), and fifteen villains (causes) and victims (effects) each, narrowing these down into an accusation that correctly identifies the crime site, the villain and the victim. For example, Murder Under the Microscope in 2008, Heartbreak on the Horizon, involved a crime site near Dubbo, in the Macquarie River catchment, the Bush-
Stone Curlew as the victim, and unsustainable land management as the villain. The first group to submit the correct accusation on the accusation-day was named the ‘Eco Sleuth of the Year’. Following the accusation, groups then had three weeks to develop and submit a Catchment Management Plan that addressed the issues and suggested solutions for dealing with the cause of the environmental problem. These were then judged, with the winner named the ‘Eco Planner of the Year’.

The students at Riverside Public School registered their group as the Riverside Yabbies. The classes I observed when Murder Under the Microscope was the focus of lessons would generally start with the whole class discussing the previous lesson and any clues that had been released, as well as students suggesting and making the case for why they thought a particular crime site, victim or villain were correct or not. Following this, the class would check the website to see if there were any new clues or information, before moving into groups to continue their research and investigation. Crime sites, victims and villains were divided amongst the groups, as they became available, and each group would compile information about each one, based on their research (image 5.15). Once the research and publishing of the information was complete, groups would share their information with the rest of the class and add it to the “It’s Murder!” display on the classroom wall.

Environmental and place-conscious learning from this program occurred through students’ researching geographical features of Australian rivers, ecological problems from land use to invasive species, and plants and animals in Australia that were becoming endangered through environmental degradation. As well as the
environmental learning outcomes, students developed literacy and research skills, information technology, and group work and communication skills. Students were engaged in the tasks, which involved a lot of research and inquiry learning. Students would also frequently demonstrate their retention of learning through discussions and debates forming around new clues and hypotheses about possible victims, villains and crime sites.

**Stream Watch and River Walk**

Stream Watch was a water quality monitoring program run by the Catchment Management Authority across Australia. The purpose of Stream Watch was to maintain records of the quality of rivers and streams across catchments in Australia through consistent monitoring of the water. For the Year 6 students at Riverside Public School, this involved collecting samples of water from the local river and observing it to count and categorise the insect life. Twice a year the students in Year 6 undertook water monitoring by walking to the sample collection place on the local river, about a kilometre’s distance from the school. The Stream Watch coordinator for the local CMA would meet them at the site with the necessary equipment and explain to students how they were to proceed (image 5.16). Preparatory and follow up activities in class meant that students were also becoming aware of some of the environmental issues in regard to water quality in the catchment.

As well as learning about water quality and monitoring, this activity provided students with opportunities to talk about their sense of place. Trudy suggested that this was evident in “*the dialogue as they walk down – ‘that’s so and so’s dog’, waving to people they go past, ‘there’s Chelsea Webster’s horse’*” (Trudy, Yr. 6 teacher, RPS, June, 2008), and it played a role in their formation of place and community identity. Furthermore, as students experienced class activities about catchments, pollution and water quality,
the walk meant that they were able to take note of where these things were occurring in their local community. In particular, Trudy noted:

*Dog pooh! There’s always dog pooh – they notice that and it gives us something to talk about. Because, where does it go? That reinforces the stuff they know about it – it helps them make connections* (Trudy, Yr. 6 teacher, RPS, June, 2008).

A second outcome of the Stream Watch activity was developed from the walk to the river and back. As students walked, they took photographs of signs, landmarks and other aspects of the walk related to environmental and catchment contexts. These photographs were then printed and displayed in sequence on the “It’s Murder” wall display (image 5.17). They were then used in the development of the River Walk artworks to represent the walk to the river. These artworks were developed over several art and HSIE lessons. Students’ created an etching and a print, presenting these together on a 60 x 20cm paint-wash card. The first artwork was made using the photographs taken during their walk to the river. Students selected one photograph each that they drew, using pencil and paper, and then created an etching of using crayon and black paint. The second artwork involved making a print out of a drawing they had made, based on a remembered landmark from their walk. Finally, during a lesson that focussed on using symbols to convey messages – such as Indigenous Australian paintings, road signs and Chinese symbols.
students developed individual symbols to represent the walk to the river, which they drew, painted or printed onto the backing card, in order to convey a sense of movement (image 5.18).

Environmental club

On the periphery of the case-study was the student environmental group that had been set up and coordinated by the school’s Kinder/Year 1 teacher several years previously. With the help of this teacher, students at the school had formed an environmental club that took responsibility for developing garden areas in the school ground. Students who volunteered their time at lunch and recess undertook gardening projects around the school grounds. During my time at the school, students from the environmental club who were in Trudy’s Year 6 class had assisted in completing a frog pond and native garden. This garden was included as one of the action plans that students developed as a product of their ‘Environments’ unit of work (image 5.19). Although the Environment Club teacher did not participate in this research, some of the students in Year 6 who participated in my research and interviews were also involved in the environmental club.

Overview

Looking to the core concepts of place, knowledge and practice in the Riverside Public School case-study, this was a case where the local teacher was making some use of local places for environmental education practices to develop student understanding of catchments. The unit of work, Living Land, as well as the incorporation of both Stream Watch and Murder Under the Microscope, meant that the environmental education knowledge was predominantly based on the science discipline, although with the inclusion of visual and performing arts in developing student understandings. A reoccurring theme in the lessons, and promoted by
Trudy, emphasised the connectedness between actions in one place having an impact on other places.

**Creating places/spaces for learning at Mountain Top Primary School**

**Background context of Mountain Top Primary School**

The township of Mountain Top, with a population of approximately 3,250 people, was a former gold-mining town in the foothills of the Alpine region of North-Eastern Victoria. Mountain Top Primary School was one of two primary schools in the town and had a student population of 184 children across eight classes. The proximity to the Victorian Alpine National Park meant that much of the surrounding area of Mountain Top was natural bushland, although extensive farming in the surrounding regions had led to areas of deforestation. The township, steeped in a rich history of gold-mining and bush-rangers, had a number of heritage-listed buildings and sites that contributed to its popularity as a tourist destination. As such, tourism was a major industry for the town, with a number of historical sites of interest, as well as the natural setting, providing much of the interest for tourists.

Mountain Top Primary School was the only state government primary school in Mountain Top, although the town had a second, Catholic primary school with a smaller student population. The Mountain Top Primary School site was quite large, and incorporated the main, heritage-listed, school building, built in 1875, and four demountable classrooms (image 5.20). The

*Image 5.20 Mountain Top Primary School's main heritage listed school building (c 1875) (MTPS, September, 2008)*
school grounds were extensive and incorporated a sports oval, paved basketball courts, and fenced tennis court, as well as garden and grass areas.

The school consisted of thirteen teachers across eight composite classes – two Prep/Yr. 1 and Yr. 5/6 classes, and one each of Yr. 1/2, Yr. 2/3, Yr. 3/4, and Yr. 4/5. In addition, there was a visual arts teacher, a performing arts teacher, a librarian also in the role of a part-time special education teacher, and a coordinator for the school’s Learnscapes program who also worked part time as the LOTE teacher. The current principal, Fran, had commenced at the school in 2008, nine months prior to the commencement of my data collection.

**Constructing the case**

The case-study at Mountain Top Primary school was constructed largely around the Learnscapes program that the school had adopted. Interviews about environmental education practices were undertaken with staff who volunteered to participate. These participants were Janet, the Learnscapes coordinator, Kathryn, the Visual arts teacher, Mary, the grade 5/6 teacher who focussed on the environment as a theme for literacy activities, Sarah, another Year 5/6 teacher who drew on the *Waste Wise Schools Program*¹³, and Fran, the school principal. In addition to this, a short interview was undertaken with Helen, the Year 2/3 teacher, following the observation of her class working in their Learnscapes garden. Other observations of environmental education focussed lessons were undertaken with Mary and Sarah. In addition to observations of lessons and interviews with the staff at the school, fifteen students from Prep to Year 6 also participated in interviews, in groups of two or three. A list of interview participants can be found in table 5.4.

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Table 5.4 Basic participant information for Mountain Top Primary School (names, role or year level)

<table>
<thead>
<tr>
<th>Student</th>
<th>Age</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>David</td>
<td>11</td>
<td>6</td>
</tr>
<tr>
<td>Brianna</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>Amber</td>
<td>11</td>
<td>6</td>
</tr>
<tr>
<td>Nicholas</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>Zoe</td>
<td>11</td>
<td>6</td>
</tr>
<tr>
<td>Joanne</td>
<td>11</td>
<td>6</td>
</tr>
<tr>
<td>Matthew</td>
<td>11</td>
<td>6</td>
</tr>
<tr>
<td>Christina</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Jessica</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Renee</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>Jacob</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>Alex</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Lee</td>
<td>6</td>
<td>Prep</td>
</tr>
<tr>
<td>Annie</td>
<td>6</td>
<td>Prep</td>
</tr>
<tr>
<td>Gemma</td>
<td>6</td>
<td>Prep</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Staff</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Janet</td>
<td>Landscapes Coordinator/LOTE</td>
</tr>
<tr>
<td>Kathryn</td>
<td>Art specialist</td>
</tr>
<tr>
<td>Mary</td>
<td>5/6 Teacher – Special Forever</td>
</tr>
<tr>
<td>Sarah</td>
<td>5/6 Teacher – Waste Wise</td>
</tr>
<tr>
<td>Fran</td>
<td>Principal</td>
</tr>
<tr>
<td>Helen</td>
<td>3/4 Teacher</td>
</tr>
<tr>
<td>Grace</td>
<td>Temporary/casual teacher</td>
</tr>
</tbody>
</table>

There was an overarching emphasis at the school on the environment, through utilising the places and spaces in the schoolyard as an avenue through which curriculum integration occurred. This could be seen in the participation of staff in programs such as Learnscapes, Waste Wise and Special Forever\(^{14}\).

In addition to this, the art teacher worked with students who volunteered on large-scale art projects, such as murals and paintings, around the school yard. The environmental programs that individual teachers were involved or interested informed their curriculum planning for the year. The Learnscapes were used as a platform from which other environmental education activities were planned. Figure 5.3 provides a mind-map created during the initial stages of writing the case-study, asking the question, “what was this a case of?” and creating a visualisation of the environmental and place focus explored through the case-study and the data generated.

\(^{14}\) Special Forever is an environmental communications program that has been developed through collaboration between Primary Teachers English Association and the Murray Darling Basin Authority. It has a central focus on water education and environmental issues, as well as engaging students with place. Information can be found at [http://www.specialforever.org.au/](http://www.specialforever.org.au/)
My observation of the environmental education practice at Mountain Top Primary School suggested that there was an underlying philosophy of making connections between personal action and a valuing of the natural world – in the wider ‘environment’, school and community. This was overlaid with the playing out of several transitions, on the one hand the leadership, and on the other a transition from the initial momentum gained by the large-scale school adoption of the Learnscape program into something that could continue to be maintained and developed in a way that would re-enthuse all staff. Alongside the Learnscape program, other programs contributed to the teaching and learning environment and place that individual teachers had drawn into their classroom practices. These were Special Forever and Waste Wise, as well as the visual art teacher’s large-scale art projects in the school grounds. I provide an overview of the current situation of the whole-school approach, as well as a discussion of the Learnscape, Special Forever, Waste Wise and visual arts programs below.
Whole school, integrated environmental education

The development of environmental education as an integrated theme across the school was initiated in 2000 when the then principal, Helen, who had left the school at the end of 2007, had sensed that the school community was lacking in morale and was disengaged from the places and spaces around the school and community. This was seen through a lack of care or pride in the community, and in a disregard for the upkeep of the school grounds. At that time the school was performing poorly as well as going through a review process, so Helen introduced Learnscape as a program to facilitate renewal of school and environment. As Mary, a teacher who was at the school during this period, commented: “It was a pretty ratty sort of place. [Learnscape] was a ways and means of getting people together… and making connections. It wasn’t just a way of connecting with school place, but also with each other” (Mary, Yr. 5/6 teacher, MTPS, September, 2008). Helen had been a driving force in the school’s move towards learning through the environment as a key curriculum approach. This included a dedicated ‘Learnscape coordinator’ teaching position, fundraising and working bees with the local community, and numerous funding applications, as well as investigation into and adoption of programs such as Waste Wise, composting and worm farms, and grounds works infrastructure including water tanks and solar panels. In this sense, the introduction of environmental education as a way of learning through the environment enabled both a regeneration of the school grounds as well as the wider school community.

During 2008, when I collected data at the school, the school leadership and the environmental education program were again going through a stage of transition. The appointment of Fran as the school’s principal had led to her providing a new perspective on the school’s environmental education activities. While Fran felt that the environmental education and Learnscape focus was a worthwhile and important curriculum focus for the school, she also believed that it had become “stretched too thin” (Fran, Principal, MTPS, September, 2008) because of attempts to access funding through any environmental or sustainability education funding program that the school was eligible to apply for. Fran felt that there was a need to scale back the width of environmental initiatives and funding, and instead focus on developing a depth of quality through reassessing and revamping the
Learnscapes, and through encouraging staff to understand the curriculum potential. Fran suggested that although the school’s integrated environmental education program had a lot of promise and was an important part of the school’s identity, it needed to become more focussed: “Everything was there it just needed to be brought back to, sort of one point to move forward again as a school” (Fran, Principal, MTPS, September, 2008).

Fran approached the curriculum development at the school as needing, first and foremost, to be based on the needs of the students, and secondly, with the attitude that the requirements of the Victorian Education Learning Standards (VELS) were able to be met through matching content to outcomes, inclusive of a focus on environmental education. This process of the environmental education curriculum decision-making process at Mountain Top Primary School was founded on staff working together in the planning and development of the curriculum. The curriculum plan followed a two-year cycle, aligning with the VELS levels\(^{15}\), and was reviewed at the end of each cycle. While there was recognition amongst the interviewed staff that the VELS curriculum documents did not include environmental education, these staff also spoke about the priority that they felt environmental education should have in the curriculum of the school. Finally, Fran felt that her role – as a new principal committed to continuing the environmental focus of the school’s agenda – was:

> Just to inspire the teachers to keep it going. Because I can’t do it for them, I’ve just got to be all the time, you know, we talk about [the environmental approach] at staff meetings. Or if there’s issues coming up. So that’s my job, to just keep them motivated. And keep them interested in it. Then they can get the kids interested in it (Fran, Principal, MTPS, September, 2008).

Learning through the environment: Learnscapes

In 2002, six years prior to my data generation there, the school had joined the Learnscapes program following the then principal’s vision of the use and importance of the natural and outside environment as a means to improve student wellbeing, academic and social outcomes. As Janet

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\(^{15}\) The levels for the Victorian Essential Learning Standards for primary schools are organised as: Prep (the first year of school) – working towards Level 1; Year 1 and 2 – working towards Level 2; Year 3 and 4 – working towards Level 3; and Year 5 and 6 – working towards Level 4.
stated, “[the principal] thought that … she would introduce the approach of learning through the environment into the school. Just to re-jig the feeling around the school” (Janet, teacher and Learnscapes coordinator, MTPS, September 2008).

The Learnscapes program was a tool in working towards this ‘re-jigging’. The process involved people from the Learnscapes organisation coming into the school to consult with students, staff and parents. Initially there was a planning stage that included workshops and planning sessions with the students at the school, where “every kid in the school drew what they wanted. Made lists of what they wanted. They drew their ideas of a fairy garden … that’s where the ideas came from: where they got a little bit off beam … the ideas were kept – [but] they were redirected a little bit” (Janet, teacher and Learnscapes coordinator, MTPS, September 2008). This consultation process resulted in a plan for the school that had been primarily formed by the students’ ideas:

… it wasn’t parent oriented. The needs of the school were taken into account, the needs of the teachers were taken into account, and the most important people were to be the children … their thoughts and their ideas were the things that really went down (Janet, teacher and Learnscapes coordinator, MTPS, September 2008).

The extensive student consultation of the Learnscapes program meant that the students at the school had a strong voice in how the school grounds were developed. By 2008 most of the learnscapes had been developed, with vague reference made to the future development of three more (image 5.21). The learnscapes already at the school were: the Indigenous Sculpture Garden; the environmental hut (image 5.22); the chook shed (image 5.23); mandala vegetable garden; Kristen’s garden; and the fairy garden. In addition to these, each class had a class garden that they were responsible for (image 5.24).

Image 5.21 An area designated for a future Learnscape (MTPS, September, 2008).
Learnscapes such as the fairy garden, Indigenous sculpture garden, chook shed and mandala vegetable garden had all been strongly student driven through the planning and consultation stage. The school was provided with a Learnscapes map and plan and set up a Learnscapes Committee – a “student-driven task force” (Janet, teacher and Learnscapes coordinator, MTPS, September 2008) – that planned which Learnscapes were to be worked on over the course of the year and what was needed in order to make the plan a reality. The process took about two years from initial consultation to the beginning of work on the first Learnscapes.

Once the Learnscapes plan had been completed, those staff who were more involved in the process of implementing Learnscapes had “worked out that we had to get funding” (Janet, teacher and Learnscapes coordinator, MTPS, September 2008). Local businesses and the local council were canvassed with students involved in much of the process. In addition, funding opportunities from the Department of Education and Training programs and Victorian State Government, as well as environmental and sustainability grants that the school was eligible for, were identified and sought.

After the initial development of a Learnscapes plan, each classroom was given an individual garden bed, with the older year levels also being given the responsibility of a Learnscapes each to care for over the course of a year. According to the teachers, from then on the beginning of each year saw staff deciding which garden bed, as well as which Learnscapes, their class would be responsible for. That class would then be involved in the
preparation, selection and planting, and maintenance of their garden bed, as well as the upkeep of the Learnscape.

In order to support teachers in both their class garden and the continued development and maintenance of each Learnscape, a 0.2 teaching position was created for a Learnscape's coordinator. This position was considered important to the continuation of the program through their supporting other staff to continue to engage with the Learnscape gardens. Janet had come into the role of the Learnscape coordinator four years previously. Over that time, she reflected that there had been changes to the way that the Learnscape coordinator supported the teachers at the school:

[Working on the Learnscape] started off being organised by a Learnscape's teacher and a few kids were involved. Then … when I got to it, I worked one day a week with classes. So the teachers were picking up ideas and things like that. And then we went from – last year – we started, I planned material for people to do, but the classroom teacher did the activities. Having only one teacher working with a grade outside, we found especially with the junior kids, was rather difficult. So the junior grades work with an older grade now [in a buddy system] (Janet, teacher and Learnscape coordinator, MTPS, September 2008).

The Learnscape coordinator role was to take part in planning environmental education curriculum, provide resources and assistance to individual teachers for work in their Learnscape, and ensure that the Learnscape were being utilised as a resource for the whole-school integrated environmental education curriculum.

The involvement of the teaching staff with the environmental education curriculum varied, with some staff integrating environmental themes throughout their day to day teaching practice and other staff focussing on environment only when it fell within the theme of the school’s scope and sequence for their class program. Similarly, the utilisation of the Learnscape varied from teachers integrating Learnscape into their weekly program, while other teachers approached Learnscape as an additional requirement or learning area. Janet felt that:

… Some people use everything I give them, and follow everything right through. Some people use, take on a certain aspect. Like Sarah; she’s taken on the Waste Wise and everything and I think she does a fantastic job. Mary has … the Special Forever type of program and does a lot of the nature study and she also is covering
the energy. See on the program we’re revising at the moment, each grade has at least one theme in the year that ties in with the Learnscapes program. Like energy conservation, water conservation, all that. Year 3/4, Katrina’s doing a good job with the chooks. And Helen, she’s interested in the garden. Glen has taken over the Mandala garden which is the veggie garden. He’s been ill so that hasn’t got as far. The junior teachers follow up with all this, and I think it’s covered reasonably well (Janet, teacher and Learnscapes coordinator, MTPS, September 2008).

During 2008, the use of the Learnscapes for learning had been affected by several factors such as staff illness, the transition to a new principal, and a curriculum revamp. The day to day requirements of schooling meant that, for some year levels, Fran felt that, “we’ve got this resource there, but we’re not using it” (Fran, Principal, MTPS, September 2008).

Special Forever and Waste Wise

The two Year 5/6 teachers at the school, Mary and Sarah, had both integrated environmental and place themes into their teaching programs through Special Forever and Waste Wise, respectively.

Special Forever, an environmental communications program jointly developed by Primary English Teachers Association and the Murray Darling Basin Commission, has been adapted by Mary into her teaching program over the previous 14 years. Initially, Mary became involved in Special Forever “purely because of writing and artwork” (Mary, Yr. 5/6 teacher, MTPS, September 2008), where her motivation to use the local environment was as a medium through which to improve her students’ writing. It was only after her student’s writing reflecting the environmental consciousness of the lessons that they were focussing on, was noticed, that “someone came into the room and realised I was doing great environmental work” (Mary, Yr. 5/6 teacher, MTPS, September 2008). At that time, the class had:

… got into blue-green algae, and alternatives to cleaning – bi carb and vinegar and dah dah dah and we tested it out on lots of windows around the school and that sort of thing (Mary, Yr. 5/6 teacher, MTPS, September 2008).

Often students' writing would be published in the annual Special Forever anthology from Mary’s class, and her own perspective about teaching environment and place had also changed through her involvement in that
time. From being something that could improve writing skills, Mary’s incorporation of environmental and place content into her teaching had shifted to conveying a sense of responsibility and connection:

*It has to go deeper than that doesn’t it, either it is part of you or, yeah. [The students] are our future, they’re future custodians. They have to learn to, we are one of the same – you can’t separate the land from the person – it’s one of the same, and what we do impacts on the land, and we have responsibility. It’s that sense of responsibility, very, very important* (Mary, Yr. 5/6 teacher, MTPS, September, 2008).

The environmental education program at the school also incorporated the *Waste Wise Schools Program*, run by the Year 5/6 class and their teacher Sarah. The *Waste Wise Schools Program*, run by EcoRecycle Victoria and The Gould League, was a whole school program that aimed to support and educate about litter and waste reduction using an integrated, environmental education approach. When Mountain Top Primary School commenced participation in *Waste Wise*, the program had a two-stage accreditation process. The initial stage (‘Becoming a *Waste Wise* School’) included the school committing to the adoption of a range of activities over 12 months; forming a committee, undertaking waste assessments, preparing an action plan, developing and implementing a policy, reviewing and reporting on the policy, setting targets, implementing waste and litter reduction topics into the school’s curriculum, and monitoring and evaluating the program. Upon providing documentation of meeting these commitments, and showing ongoing implementation of the curriculum plan and waste reduction action plan, the school would be awarded ‘Accredited *Waste Wise* School’ status for three years (Armstrong, Sharpley & Malcolm, 2004; Cutter-Mackenzie, 2010).

In 2004, Sarah and her Year 5/6 class had begun the *Waste Wise* accreditation process, with the school receiving their Accredited *Waste Wise* school status in 2006. In the same year, the school was awarded the *Waste Wise* Primary School of the Year (Regional). Over that time, and until data collection, Sarah and her respective Year 5/6 classes had been
involved in incorporating this program into the culture of the school. They introduced a three-bin system (Waste, Recycling, Food scraps, image 5.25) throughout the school, as well as worm farms in many of the classrooms. Students, with assistance from Sarah and Janet, had been involved in writing the school’s waste reduction policy, and working in groups on projects to implement waste reduction strategies throughout the school, including a parent educators group, and a student educators group.

**Visual arts**

The visual arts teacher at Mountain Top, Kathryn, has been pivotal in implementing large, outside art projects for students to participate in. These projects have involved outside spaces in the school grounds, with art works that integrate artworks with a focus on the local natural environment as well as a sense of the local place. Examples of these projects have been the totem poles in the Indigenous Sculpture Garden Learnscape (image 5.26), where a local Indigenous artist as well as an artist in residence worked with students in upper primary, the ‘Owl ball wall’ and the ‘Bird billboards’ (image 5.27), two separate projects where students were involved in researching local owl or bird species, then designed and painted murals. Kathryn had also involved students in artworks involving the chook shed (see image 5.22 on p. 150), and in creating large mosaic wall murals. The results of these art projects were presented around the school grounds, adding brightness and colour to the landscape, as well as a sense of ownership and pride amongst students.

**Overview**

Undertaking research at Mountain Top Primary School provided me with the opportunity to experience a case-study where there was a whole-school
focus on learning through the environment which utilised the school grounds to integrate environmental education across the curriculum. The environmental education practices that I observed at this school also provided a picture showing that the “day-to-day reality of … schools is a messy business” (Westbury, 1999, p. 357). In particular, this everyday-ness showed through in the programs and approaches that various staff engaged in when teaching environmental education, notwithstanding recent changes in school leadership, the changing ways in which place and environmental education was being practised. Often these practices and actions also had moments of disruption, and although related or connected, this was not always smooth. The knowledges that were practised through environmental education spanned the experiential, scientific disciplinary, and practical and creative knowledges.

In this chapter I have provided a background description and context for each of the case-studies separately. In doing this, I have described some of the key activities and approaches that contributed to how environmental education was practised in each of those schools. Although I have discussed the schools individually to this point, the remainder of this chapter addresses some of the similarities and differences that could be seen across the case-studies, leading into an overview of the following core philosophical-empirical chapters of this dissertation.

**Similarities and differences across cases: purposeful and not-so-purposeful sense of place**

The three case-studies that participated in this research each had a variety of ways of practicing environmental education. Some of these practices were common across each of the schools, and some of them were unique to the place and the people involved in each school. In this section, I bring together the case-studies discussed, looking to the similarities and differences in them. First, I consider the similarities and differences in the construction of boundaries across the case-studies. Following this, I discuss the environmental education practices and programs that the schools used, the role that community played in the school’s environmental education practice, and finally touch on the approaches to teaching and learning in each of the schools.
Physically and demographically the schools were diverse. Although each of the schools had the connecting point of being located in rural/regional areas of the Murray-Darling Basin, there were also a number of differences. The case sites were situated across two states (two cases, Flatlands Public School and Riverside Public School in New South Wales, and one case, Mountain Top Public School in Victoria). This provided the opportunity for comparison of practices within the framework of two institutionalised curricula: the NSW Board of Studies K-6 Syllabus, and the Victorian Curriculum and Assessment Authority’s Victorian Essential Learning Statements.

Furthermore, the size of the schools ranged from a small rural school of 33 students, a medium-sized school of 184 students in a small town, to a larger school of 350 students in a regional centre. This also meant that some of the factors impacting the way in which environmental education was practised were in regard to the opportunity for involvement between school and community, the access to land and resources, and the possibilities for curricular ‘indulgences’.

The three case-studies differed in the boundaries that were constructed around them, which in turn had an impact on the ways in which environmental education was explored in each of them. These boundaries ranged from the classroom level, to an integrated whole-school approach, to a school and community partnership. As such, the practices of environmental education at Riverside Public School focussed on the activities and knowledge constituted through classroom practices, while, at Mountain Top Primary School the focus was on the use of the school grounds for a school-wide environmental education approach. Finally, at Flatlands Public School the relationship between the school, community and Environmental Education Centre was integral to that case-study.

The programs that the case-study schools engaged in to practise environmental education were also a point of commonality and difference. For example, Mountain Top Primary School and Flatlands Public School both engaged in the Learnscapes program, although they practised them differently, and Riverside Public School and Flatlands Public School were both involved with Stream Watch and Living Land, the COGs unit of work. There was a focus on visual arts curriculum across all case sites, with
evidence that artworks were a central part of the teaching and learning that fostered, or attempted to foster, a deeper sense of place for the students. This was particularly evident at Riverside Public School, where artworks formed a conceptual connection between various parts of the unit of work, and Mountain Top Primary School, where artworks were a central feature of the school grounds including in many of the Learnscapes. Finally, participation in gardening was a common activity across all three case-studies, with students involved in weeding, mulching, planting, and even propagation on occasion.

Although there was some community involvement at Mountain Top Primary School, mainly in the way of parent volunteers, the school’s environmental and place focussed curriculum was located within the confines of the school grounds. In turn, the Riverside Public School case-study was bounded by the activities within the unit of work being undertaken by the class. As such, much of that case-study was located in specific places within the school, predominantly the classroom, with brief excursions to other locations, such as the river and areas of the school grounds that were utilised for teaching/learning experiences, such as the frog pond.

Finally, although not surprising, given the focus of this research, across all case-studies there was engagement with place as a part of environmental learning. At Flatlands Public School this engagement was usually an explicit and purposefully made connection, while at Riverside Public School the connection to ‘place’ was generally an implied understanding of the interconnections between the student’s local place and other places. Although all of the schools were using place to foster environmental learning, it was only the principal at Flatlands Public School who explicitly tied his environmental education philosophy to the Place-Based Education movement. Two teachers at Mountain Top Primary School were aware of and purposeful in connecting their teaching to place as a central concept for environmental learning; however the environmental education practices across the school, while having an approach that could be broadly defined as place-based education, were not purposefully designed as such. Similarly, although there was much connection with an underlying sense of place and those notions of place that align with a place-consciousness at Riverside Public School, this was often part of the background of the unit of work, or included as a way of developing other ecological understandings.
Place, knowledge and practice in Environmental Education

This brings to a close the description and context of the case-studies that my research was centred on. Through the remainder of this dissertation, I utilise the understandings that I developed through the researching and writing of the case-studies to develop a philosophical-empirical exploration of environmental education practice within the conceptual framework of *place, knowledge and practice*.

Chapter Six, *Place*, looks to the centrality of place in the meaning-making of primary school environmental education. Throughout this chapter, I explore the ways that place can be seen through the case-studies as relational, as experienced, and through action and interaction.

In Chapter Seven, I consider knowledge, meaning-making and curriculum in primary school environmental education practice. Here, I build an argument around the constitution of knowledge for environmental learning which takes into account disciplinary, practical and experiential knowledges, looking to examples from the case studies, as well as wider research.

Finally, in Chapter Eight, *Practice*, I explore the understandings that the principles of practice contribute to environmental education, and particularly, the notion of environmental education as a practice, that is embodied and emplaced.
Chapter Six: Shaping Place, Shaped by Place

The spatial turn in the social sciences in recent years has seen an increase in interest regarding the role that concepts of place and space play as forces that shape our lives (Wyse et al., 2011). Characteristic of this turn is the understanding that human activity and experience is always spatially located, and cannot be easily discussed without some “reference to the places in which we experience our lives and establish our identities” (Gibbs, 2009, p. 2). A spatial rendering in education practice holds as a key concept that “where events unfold is integral to how they take shape” (Warf & Arias, 2009, p. 10).

In this chapter, I explore the concept of place in relation to primary school environmental education practices, looking to specific illustrations from the case-studies. I discuss place as an important concept in environmental education, considering, in particular what it means for place to be conceptualised as the material site where actions and interactions are carried out that generate knowledge and understanding. This chapter extends from the concepts discussed in the literature review in Chapter Two and Three.

Place

The difficulty in understanding place comes from it being a concept both familiar and everyday, while also deeply complex and relational (Massey, 2000). Indeed, as Malpas (1999, p. 21) has suggested, “it is not just our everyday familiarity with the concept that can give rise to difficulties, but also a complexity and breadth of meaning that seems to attach to the term itself”. Although recent years have seen a swell in focus on sense of place in environmental education research, Kudryavtsev, Stedman, and Krasny (2011, p. 229) have argued that this research has shown a “demonstrated lack of attention to theory and empirical studies in the sense of place literature”. The purpose of this chapter is to contribute further to notions of place as a concept for environmental education practice and the generation of knowledge.
According to Edward Relph (2007 p. 105), place and place identity are constituted through three fundamental components: “the static physical setting, the activities, and the meanings”. This connection between setting, activity and identity is also articulated by Wagner, who stated: “Place, person, time and act form an indivisible unity. To be oneself one has to be somewhere definite, do certain things at appropriate times” (1972, p.49; cited in Relph, 2007, p. 103). Place, therefore, can be thought of in terms of material location, the site of social and environmental relations and activities, and the meanings that individuals ascribe to them – be they positive, negative or ambivalent (Vanclay, Higgins & Blackshaw, 2008). Such an interaction enables place to become much more than a dualism of local/global, place/space, and rather of place as relational and “conscious of its links with the wider world” (Massey, 1994, p. 154).

**Place experience and environmental education practice**

Each case-study had characteristics, attributes and activities that were unique to their identities. These identities constituted the ways in which environmental education was practised distinctly in each place, as well as the knowledge and experiences that constituted student understanding of place and environment.

As touched on already, place has been conceptualised as interrelated and interacting with space: components which understood together contribute to how we think about place. One such conceptualisation is Agnew’s (2005) argument that space and place are often depicted as a continuum from generalised space to particularistic place. At one end, the mappable location or site in space is indicative of generalised space; the everyday locale or setting of lived experience forms a midway point; and, the meanings and activities indicating a sense of place can be understood as particularistic place at the other end of the continuum (Agnew, 2005). In an attempt to move away from the common conceptual separation of place and space – which privileges one while dismissing the other, or treats them as interchangeable concepts – Agnew (2005) has positioned that any understanding of place and space needs to recognise the interrelated nature of at least two of these components.
Similarly, in a reprint of his seminal 1976 paper, Relph (2007) has conceived of place as a series of interrelated dialectics made up from three components of place: the material settings, the activities, and the meanings given to place. He goes on to add:

The three fundamental components of place are irreducible one to the other, yet are inseparably interwoven in our experiences of places. In explicating this experience, however, they can be identified as distinctive poles or focuses, and they can be further subdivided within themselves (Relph, 2007, p. 105).

These components, Relph suggested, together constitute place identity when understood as interrelated and interacting. These dialectics of place identity are integral to a sense, or understanding, of the characteristic of a place (Relph, 2007). The remainder of this section will provide an overview of these three concepts identified by Relph (2007) and as discussed in Agnew’s (2005) work, specifically what is meant by the material setting, the social setting, and the activities and meanings given to place. Following this I discuss the interrelation of these concepts in the constitution of place in each of the case studies.

The material setting of place refers to the topography and physical features of the land— the mountains, seascapes, plains, wetlands, desserts—as well as the natural and human created environments—the farmlands, cityscapes, wilderness areas, and forests. Material and topographical features are mappable sites through which activities, experiences and affect are carried out (Agnew, 2005). In this sense, then, the location and material setting of a place offer “its own characteristic possibilities for experiences” (Relph, 2007, p. 105).

Interconnected with material location, is the locale of places— the setting for the social interactions, performances and transformations that contribute to the everyday, lived experiences of place (Agnew, 2005). Just as the material setting of place included the topographical features, built and natural environments, the social setting of place is influenced by historical, cultural and social contexts, interactions and practices. The social setting, then, refers to those activities and functions that could be “distinguished as being creative or passive, as communal or individual,” and through interaction with the material setting and the meanings that are given to a place are important in forming place identities (Relph, 2007, p. 105). The
material features, while forming possibilities for experiences, together with the social contexts, actions and interactions and practices that are carried out or going on in place, are distinctive to a place. Here place, and the relational networks and flows in place, can be as small as a room, or as large as the global.

Finally, the meanings given to a place or a sense of place can be articulated as the relationship between the material and social settings of place, and the meanings that are given to this. Attachment to place and the meanings that are associated with place are formed through a person’s inhabitation and experience of place. Indeed, Kudryavtsev, Stedman, and Krasny (2011, p. 231) have suggested that it is the relationship between place attachment—the “bond between people and places”—and place meanings—the “symbolic meanings ascribed to places”—that together form a sense of place. Furthermore, Relph (2007, p. 105) has established that this attachment or sense of place is not inherent to the material settings, objects and activities in place: rather, “they are a property of human intentions and experiences”.

Sense of place is individual and intersubjective; “connected to community as well as to personal memory and self” (Relph, 2008, p. 314). Further, Relph suggests that experience of and being in place involves the synaesthetic faculty of “sight, hearing, smell, movement, touch, imagination, purpose and anticipation”. While much of the focus for this section is on the participant’s sense of place in regard to their experiences of place at school, it is important to acknowledge that, as Relph (2008, p.314-5) suggests, for some people, as it was for some participants in my research, “place is mostly in the background of life”.

In relation to environmental education, much of the reference to place relates to a sense of place. Sense of place has been attributed to the connection between positive experience in place, place attachment and place meaning, and pro-environmental behaviours and attitudes towards social and environmental responsibility. This is discussed in depth by Kudryavtsev et al. (2011), who suggest that, although there has been a lack of attention paid to the wider sense of place literature in environmental education, an understanding of sense of place contributes much to understandings of environmental learning. Looking to the extensive
research and theory supporting connection between sense of place and pro-environmental behaviours from an environmental psychology perspective, Kudryavtsev et al. (2011) contended that direct, long-term, and positive experiences with place are an important component of developing place attachment. Furthermore, an attachment to and sense of one place has been attributed to a more ready caring for and concern about other places (Comber, Nixon & J. Reid, 2007; B. Green, 2007; Gruenewald, 2003; Lewicki, 1998; Sobel, 1996). As Cameron (2003, p. 22) stated, “experiencing a deeper relationship with one place opens one up to a deeper affiliation with all places, rather than an exclusive sense of place.”

The participants in the case-studies discussed places that were meaningful to them in their school grounds, as well as describing a variety of place-related activities that relayed an attachment to that place. Often the interaction between the meanings that participants gave to place, the material setting of the place, and the activities and practices of environmental education was evident. There was also awareness and cognisance amongst some participants regarding the changes occurring to place through the environmental education activities that had been carried out.

Although it wasn’t an explicitly stated focus, in each of the case-studies there was an evolving ecological gaze or consciousness, which drew on Indigenous Australian meaning-making about place and nature that contributed to student understanding of place and country. Both Mountain Top Primary School and Flatlands Public School had actively engaged local Indigenous artists to work with their students in the production of artworks that taught particular ways of understanding place and learning through an Indigenous and ecological perspective, and I provide examples of this where it was apparent, alongside the general discussion of place in the following section. At Riverside Public School, Indigenous symbols were drawn into the teaching/learning experiences of the River Walk art lessons, and are addressed at a later stage in this chapter.

Amongst other factors, the material setting of each school, including the inside and outside areas of the school, influenced the ways in which environmental education was practised there and the meanings that were given to place. Each of the schools utilised their local place – be it the
school yard, adjacent community land, or local landmark – to foster environmental learning experiences for their students. The following section provides a discussion of the interrelation between the material setting, the everyday, lived experience, and the sense of place of the participants in those schools, looking to understand place as in a reciprocal relationship: and thus the notion of shaping place, shaped by place.

**Flatlands public school**

In this case-study both the school and Environmental Education Centre had distinctive physical features which shaped how environmental education was practised there. The environmental education activities at the school, over the past 15 years, as well as the conservation practices within the local community, had re-formed and transformed the setting. In turn, through participation in the activities that were a part of the co-creating of the material setting, participants had an awareness of the school grounds and Environmental Education Centre as holding meaning for them.

The setting of the school included a large area for the school grounds, particularly given the 33 students at the school, as well as the four hectares of the adjacent nature reserve (figure 6.1). Within this location were a range

![Figure 6.1 Flatlands Public School and Environmental Education Centre - the school grounds are outlined in white, with the EEC outlined in yellow. Scale 1:5000. Image ©2012 Google - DigitalGlobe GeoEye](image)
of spaces that played a role in shaping the activities that were carried out there – from the structured playground, wetland area, Discovery and Learning Centre, and Forestry Nelder, through the variety of gardens, including vegetable garden, native bird habitat and orchard, to the woodlot where students participated in cubby-making.

The social context at Flatlands Public School included strong support from the community, with several regular volunteers at the Environmental Education Centre. Others contributed to the environmental education practices at the school, giving specialist presentations to students or assisting with botanical information about planting, propagating, and the establishment of a seed bank of endemic plant species with Landcare. Through the participation from people within the community, they formed resources for student learning:

*We try to bring in outside [of the school] people that have got positive experiences of things that are happening rather than doom and gloom things. So it’s about bringing in, networking and accessing. There’s TV shows, and parents - I’ve got some fantastic parents as well that are always coming up with interesting things, seasonal things, so I’ll grab them in, come and have a talk to [the students] about that* (Daniel, principal, FPS, March, 2008).

The Kindergarten to Year 2 teacher, Colleen, talked about the increase in community involvement in the school through Flatlands Environmental Education Centre, suggesting that there was a lot more involvement now, with volunteers helping out with plant and fauna conservation, to people wandering through and looking around the Environmental Education Centre. She felt that this, in turn, had led to an increase in community interest in the school:

*I have noticed, well, by the interest of the community through the school because of the park, there are people here all the time now, a lot more now, like parents come and help and are involved in the school more than before and you know they sort of got interested in it with the park and it sort of brings them further over. Yeah the community is right into the school, very involved, not often are there days that go by when there is not somebody from the community doing something here*

*(Colleen, Yr. K-2 teacher, FPS, March 2008)*

The Environmental Education Centre, therefore, was a place with distinctive features that at the same time was a setting through which day-to-day environmental and conservation activities, and environmental
education practices were carried out. Both played a role in shaping the
other, and in shaping the practices, attitudes and habits of those who
participated and visited there. Further, the practices of environmental
education in the school and the Environmental Education Centre also
*spiralled out*\(^6\) to wider audiences then was originally intended or
anticipated. Visitors to the Discovery and Learning Centre for functions
were exposed to a variety of messages about Indigenous flora, fauna and
biodiversity, as well as the environmental losses and the ‘ghosts’\(^{17}\) that had
occurred in that place:

*Community groups hire [the environmental education learning
centre] out. Now, while they're in there what are they going to see?
They're going to see animals, they're going to see stuffed
[taxidermy] animals, they're going to see messages everywhere,
they're going to, you know, people who formally weren't, might have
been a bit sceptical, coming to a beautiful new building, and walking
through landscaped gardens and things. It's a very special place to
do a course or a meeting ... We have a lot of professional
development courses for teachers and schools come and use it
now, and training. It is booked fairly heavily for that, because it's a
unique setting, a unique environment. And while they're there
they're not inside all the time, they're outside appreciating nature*
(Daniel, principal, FPS, March 2008).

\(^6\) This term is in reference to Kemmis’ (2010) discussion of actions as forming,
reforming and transforming practice to become things other than intended. This is
discussed in more depth in Chapter Eight.

\(^{17}\) “The Ghosts of Flatlands” is an introductory orienteering activity that Daniel
(principal, FPS) developed as a way of getting visiting students to observe their
surroundings, read a basic map, and learn about the loss and endangerment of
animal species native to the Flatlands region. In this activity students are provided
with a map of the walking paths in the EEC, an erasable marker, and a laminated
list of animals. Students then need to locate the ‘ghosts’ – hidden cut outs in the
shape of those animals – and mark on the list of animals the map reference where
it was found.
Both adult and student participants identified places within and around the school grounds and Environmental Education Centre that they had a sense of connection to. Students, in particular, described specific features and locations within the school grounds and Environmental Education Centre as being special to them. The reasons why these places were special ranged from their being quiet places, to the particular activities or experiences that they remembered participating in, or places where they enjoyed playing. The students’ sense of place was often spoken of in relation to the activities and practices that formed their experiences of place.

Further to this, the older students, in particular, identified places within the nature reserve and school grounds that they had a connection with through their family and social contexts. This connection was discussed through the activities that they had been involved in, such as gardening, or of objects or activities that they or their family members had been involved in:

*See the box up in the tree there? That’s the nesting box for the gliders. My grandfather helped build some of them* (Mel, Yr. 6, FPS, March, 2008).

Amongst some participants, there was a sense of connection to place that had developed through their actions that had played a direct role in the formation and transformation of the material setting as well as the environmental education practices that were situated through that place. The principal, Daniel, articulated his relationship with place in connection with his role in shaping that place:

*I probably fell in love with this site next door to the school because it’s become part of me. A very strong connection. Because even though it was only a dam I had so much to do with the vision of it and how it was and how it is now. When I pull up in the car, rather than unlocking the school, I sometimes walk that way. And you know that’s when it becomes part of you* (Daniel, principal, FPS, March, 2008, image 6.2).

![Image 6.2 Entering Flatlands EEC from the school with the Environmental Learning Centre on the right (FPS, September, 2008).](image)
Many of the students, especially the younger participants, were less reflective in their discussion of place, not necessarily communicating or able to articulate a specific sense of attachment. Rather, they spoke about what it was that they liked or that was “favourite” about those places; such as spending time in it or because there were interesting objects or features there. For example, Year 4 students, Aiden and Grant were interviewed together and spent much of the interview identifying each of their favourite places. The photo (image 6.3) included here was the place that Aiden was most excited about taking me to, particularly given is had rained overnight and he wanted to see if it had formed a waterfall.

... this is my favourite part ... just because, it’s a kind of waterfall and there’s like all rocks and the ponds and things (Aiden, Yr. 4, FPS, March, 2008, image 6.3).

Here’s another one of my favourite parts. I like the emus (Grant, Yr. 4, FPS, March, 2008).

Further contributing to the notion of place as dynamic and multiply experienced, there were two murals that were painted by a local Indigenous artist. Both of these artworks were representations of dreamtime stories of the country around the school. The students were perceptive about the meanings of the paintings and, especially the older students, able to articulate what the paintings represented and how they related to the country around them.

The mural in the Discovery and Learning Centre of the EEC (image 6.4 and 6.5) showed a representation of the dreamtime story of the creation of the Murray-Darling Basin river system. In this dreamtime story the Rainbow
Serpent crawled across the flat land of Australia to shape the rivers and mountains, billabongs and lakes. The mural shows the river serpent and the billabongs, full of life, left by the Rainbow Serpent. Incorporated into the painted billabongs are the fish tanks, holding yabbies, a catfish and turtles.

Image 6.5 The Rainbow Serpent mural and fish tanks (FPS, March, 2008).

A second mural in the yard of the school, on the sports shed wall (image 6.6) tells a story, “from an aboriginal dreamtime perspective” (Daniel, principal, FPS, March, 2008), about the activities that students participate in, combined with a story of the traditional owners of the land: “how they probably would have used it … how they connected with this place” (Daniel, principal, FPS, March, 2008). The mural shows children being taught to hunt kangaroos, sitting in front of a teacher, learning the didgeridoo and playing – practical, theoretical, creative and imaginative aspects of dwelling in place. The mountain depicted on the right side is representative of a local range of flat-topped mountains that are “a place of immense significance to local Indigenous people – flat-topped mountains are like footprints of the
great spirit that created the land" (Cameron, parent and local scientist, FPS, March, 2008).

The interaction of the material setting, the social setting, and the meanings given to place at Flatlands Public School were interacting and interrelated components that played a role in shaping place and the experiences of place of the students and teachers there.

Riverside Public School

Of the case-study schools, Riverside Public School had the smallest area for school grounds, while also having the highest student population (350 students; figure 6.2). Half of the grounds were dedicated to structured spaces – the buildings, covered pathways and various gardens used as fill-in spaces between these. The large sports oval at the back of the school provided a large, open space, but with much of this area reserved for sporting activities. The trees along the back fence provided students with some play areas, however it was closely monitored by teachers because of its closeness to the school perimeter. Another example of the interaction between the material and social settings on the activities and experiences of place.

In contrast to this was the work of the environmental club in transforming, through their activities, the spaces between buildings and along walkways. Further, these activities in the material setting of the school grounds were also beginning to influence some aspects of the school’s curriculum.
practice. For example, the Year 6 ‘Environments’ unit of work entailed one of the action plan groups of students being involved in the creation of a frog pond and native garden as their focus for the action plan (image 6.7).

The students at Riverside were involved in several place-related activities through their ‘Environments’ unit of work that saw them engaged in the material setting of the school and the wider community. This included the teacher developed River Walk artworks and lessons, and the lessons accompanying the Stream Watch water quality monitoring. In these examples, students participated in activities that developed a consciousness of the features and material places in their community, as well as conservation and water quality concerns that were relevant to their community. Further the frog pond, energy and water action groups also saw students involved in developing action plans for the school’s environmental impact.

Of the Year 6 students who participated in interviews at Riverside Public School, and particularly those who had been involved in building the frog-pond and native garden or were active in the environment club, many expressed that their creation of gardens was a “really nice place for the environment of the school” (Bree, Yr. 6, RPS, July 2008) and would contribute to “help the environment” (Joseph, Yr. 6, RPS, July 2008). More specifically, the students indicated that their work in creating the frog pond provided a nice addition to the school landscape as well as having potential usefulness for learning activities – such as the Year 3 bug survey that was part of the middle primary curriculum, where they could now “go to the frog pond and see all the bugs and things” (Brad, Yr. 6, RPS, July 2008). Students also felt that their garden had value for the natural environment in providing habitat and encouragement for an ecosystem that would support frogs. In relation to the conceptual discussion of place, evident in student
discussion was an interplay of the actions and practices that were a part of the locale of the school, forming and transforming the material setting of the school. Although not as evident as the other two case-studies, where sense of place was a focal point of data generation, as well as consciously fostered through those schools approaches to environmental education, the students who had been involved in building the frog pond and the environment club gardens felt that participating in those activities had meaning for the school, the environmental activities at the school, and the school grounds. In contrast to this, however, were three students who felt that other students in the school would possibly not benefit much from the garden:

R: Do you think that other kids at school are interested in the frog pond?
Zack: Not really
Joseph: Yeah, but when the frogs come I reckon they'll be excited.
R: Why do you think they're not interested?
Brad: Well, it's like out of bounds and they can't really see it, so they're not really aware of it
Bree: Yeah, and they have to have a teacher with them to be able to go in that area?

(Focus group interview one, Yr. 6, RPS, July, 2008)

The lack of free access to the frog pond supported Malone and Tranter’s (2003a) finding that garden spaces created for environmental learning in primary school grounds were often out of bounds and inaccessible to students outside of formal lesson times. Again, these practices of environmental education, and the students’ experience of them, was an interplay among the activities going on within the material setting of the school, in turn impacting students' sense of place and meaning that they give to school ground places as space for ecological and environmental learning.

Mountain Top Primary School

Mountain Top Primary School’s grounds were relatively large, given the 184 students that attended and a location close to the town centre (figure 6.3). A large sports oval was generally reserved for physical education activities; however due to the school’s participation in the Learnscapes program, a number of gardens and designated spaces around the school
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had been developed for the specific purpose of encouraging student interaction and engagement with those outside spaces.

The material setting and features of the school provided opportunity also for the school to be a site for social interaction, activity and practice. An example of this was the involvement of several community members and parents with expertise in environmental science contributing to students’ environmental learning. For example, a parent of students at the school was trained and employed as an environmental scientist, and would volunteer to assist in environmental science-related activities, such as aspects of the Learnscapes development, and once-a-year programs like National Tree Day. As Mary commented, the value of utilising this support and expertise for student learning experiences meant that the learning became more meaningful to students:

*What works well is keeping it integrated, inviting people in from the community to support your program of work. You heard the kids on that video "Oh, Marge"; like she's mum. She's the scientist. So it's having those people and inviting the parents in to help and to help work in with us, and learn with us. So they're the high-impact*

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[Figure 6.3 Mountain Top school grounds, scale 1:5000. Image ©2012 Google – Cnes/Spot image, DigitalGlobe, GeoEye.

http://treeday.planetark.org/](http://treeday.planetark.org/)
success stories really [that provide learning experiences with] as meaningful as possible a purpose (Mary, Yr. 5/6 teacher, MTPS, September 2008).

The students at Mountain Top Public School identified a number of places, typically specific Learnscapes, within the school grounds that were special to them. Mostly the places that they identified as special or fun were the places that they spent time in during recess and lunch breaks and that they felt they had a history and ownership over. These were places such as the fairy garden, the Indigenous garden, and the bushes which students had developed into cubbies.

Many of the student participants spoke about the Fairy Tree (image 6.8), one of the Learnscapes at Mountain Top Primary School, with what could be described as almost a sense of reverence. With particular mention of the tree and its relevance to the school's history, it was clear that this tree was an important part of the students' school-identity. Further, students would point out aspects of the fairy garden to which they or a sibling had contributed, such as the stepping stones or the mural, showing that they felt a sense of ownership and pride in it.

Joanne: And this is our fairy tree that's been growing for, like, hundreds of years
Matthew: Hundreds.
Joanne: And it's been here since, like, the first tree built when the school, like, planted when the school was actually built.
Matthew: Here's the stepping stones; and this is my one here

(Matthew and Joanne, Yr. 6, MTPS, September, 2008, figure 6:11)

An element of the school that stood out, both through the spoken and photographed stories of the students,
and the aesthetic experience of moving through the school, was the number of artworks throughout the schoolyard. After working with an artist-in-residence and students to develop ‘totem poles’ for the Indigenous garden Learnscape two years previously, Kathryn, the art specialist, said that she suddenly realised that there were areas throughout the school where artworks could be used to “reflect different parts of the environment” (Kathryn, Art teacher, MTPS, September, 2008).

As such, the students at the school were often involved in artworks that were then used for place making – murals, stepping stones, paintings and sculptures decorated the school grounds. Although initial plans for the artworks were developed and constructed by Kathryn, the research, design and practical aspects of them were completed by the students, sometimes with the whole class taking part and sometimes with selected student volunteers. Student-participants were eager to point out and describe those artworks that they, their friend, or a sibling had taken part in creating.

See all these tiles here, our class and Mr Trotter’s class made all of these … And like the collage: it’s done well – I’m just going to say that (Braydon, Yr. 6, MTPS, September, 2008, image 10).

Image 6.10 Stepping stone in the Fairy Garden (photo taken by Lauren, Yr. 6, MTPS, September, 2008)

Joanne: Everybody put some part into this, some people done some designs for it, some people helped with the pebbling.

Matthew: See the owl in the tree, see the flying glider. That's mine.

(Matthew and Joanne, Yr. 6, MTPS, September, 2008)

The Indigenous garden at Mountain Top Primary School featured three ‘totem’ poles; brightly coloured pine poles depicting a number of images (see image 6.11). These poles were developed in collaboration between students in Year 5/6, an artist in residence and a local Indigenous artist.
Students worked collaboratively to design the illustrations on the poles, with the two rear poles representing the local flora and fauna, and the pole at the front depicting scenes from the local area, including farmland and the town's lake.

Alongside the design and creation of these totem poles came classroom lessons about Indigenous plants and animals, art lessons that focussed on students identifying a connection to place, and connection with the local community in the form of guest speakers about conservation and local Indigenous culture.

Mary also spoke in detail about the impact that participating in place-making activities through the development of Learnscapes had on the students who finished Year 6 the previous year. Those students belonged to the cohort that began in Prep at the same time that the school began the environmental program. At the end of 2007, as they were preparing to finish at the school, Mary had noticed many of them visiting those places that they had been involved in creating, participated in place-related activities (gardening, artworks etc.) and playing in. In particular, these students spent their final weeks at the school re-visiting these places, touching artworks they had been involved in creating and reminiscing with each other.

Mary:  *This is what I saw them do. Put their hands on that.*
R:  *And were they handprints that they had made?*
Mary:  *Yeah, when they were prep or year one. And I saw them they went [puts hand over hand print on mural] 'oh my goodness I have got big haven't I?'

(Mary, Yr. 5/6 teacher, MTPS, September, 2008, image 6.12)
At Mountain Top Primary School, the Learnscapes program, in particular, was an educational activity that involved the transformation of specific places, and was also central to the environmental education practice of the school. As such, the school grounds at Mountain Top provided a clear picture of the features of particular material settings, the meanings given to them by students, and the activities and practices carried out as interwoven with understanding and transformation of place.

The discussion above has provided descriptions of the interrelated and interwoven understanding of place and space as present in the materiality, sociality and affective experiences and meanings given to place in each of the case-studies. A reciprocal relationship also exists between place, in the sense discussed above, and the practices and activities of environmental education that are enabled or constrained through that place. For example, in Flatlands the influence of community, the topography, history, specific landscape features, and built and natural environment in that place have all contributed to the development of the Environmental Education Centre, and subsequently the school’s involvement with it. At Riverside, the school’s environment club has developed a number of the in-between spaces in the school grounds into gardens that, for them at least, have significance, and in turn have had an effect on some of the curriculum decisions in the ‘Environments’ unit of work. Finally, at Mountain Top, the participation in the Learnscapes, Special Forever and Waste Wise programs, and the enthusiastic engagement of several of the teachers with the concept of
learning through the environment’ have influenced the way that environmental education is carried out there. In turn, these practices, amongst others, have had a significant force in shaping the characteristics and identity of that place, as well as being shaped by it.

Although these were emerging, rather than explicitly developed, activities in each of the case-studies drew on perspectives of place that also came from other than a Western dominant cultural perspective. This facilitated a beginning ecological gaze that takes an Indigenous sense of place into account. With emphasis on the ecological (hi)story of that place – the plants, animals and people, the dreamtime stories – coming through to different degrees in each of the case-studies, it is developing in students not only a consciousness of place, but a consciousness that is responsive to and facilitated through Indigenous perspectives.

I have attempted to provide examples of place and space as interrelated concepts (Agnew, 2005). In particular, I have looked to the “where of social life and environmental transformation” (Agnew, 2005, p. 89) in the environmental education practices of the schools and the communities within which they are located, as well as some of the activities and practices of place that they were engaged in. I turn now to understanding place from a relation perspective, informed by a cultural geography perspective.

Relational place

Influential in much postmodern geographical thinking about space and place, Doreen Massey has contended that conceptualisation of place and space should incorporate understandings of space as concurrently: a “product of interrelations; as constituted through interactions, from the immensity of the global to the intimately tiny”; as existing within a sphere of diversity, coexistence and plurality; and as “always under construction” (Massey, 2005, p. 9). Importantly, then, place is comprised of each living and non-living thing that “has come from somewhere and is going somewhere” forming temporal and spatial bundles that have “distinctive histories that have been changed by every encounter” (Wyse et al., 2011, p. 2). Place, then, can be seen as the “simultaneity of stories-so-far”, 

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inseparable from time and essential to being and identity (Massey, 2005, p. 9; Wyse et al., 2011).

While a relational understanding of the nature of place acknowledges the interactions and movements within and through places, there is also a disruption of place as “not a totally coherent and interrelated system of interconnections” (Massey, 1999, p. 280). Massey (1999, pp. 283-284) goes on to claim that space:

... is the sphere of the meeting up (or not) of multiple trajectories, the sphere where they co-exist, affect each other, maybe come into conflict. It is the sphere both of their independence (co-existence) and of their interrelation. Subjects/objects are constructed through the space of those interrelations. ... [B]ecause it is the product of relations, relations which are active practices, material and embedded, practices which have to be carried out, space is always in a process of becoming. It is always being made .... It is always, therefore, also in a sense unfinished. There are always connections yet to be made, juxtapositions yet to flower into interaction (or not), potential links which may never be established.

Place, therefore, is never static but is a product and producer of the ongoing carrying out of actions and practices. Such activities and practices are carried out through movement and action, of objects and bodies, human and more-than-human, that interact and shape places – and in turn place shapes interaction and practice. Therefore, within and through these practices, networks of relationships form for both human and non-human agential nature, and stretch beyond the physical location. It is this intersection between activity, material site and knowledge where teachers and students become:

... agents in the natural world, for example, in the reproduction of the species of plants they are working with. They have become agents in changing the geology of the creekscape by restoring an ecology in ways that changes the flows of rainwater runoff. They have left their mark on the physical world (Kemmis & Mutton, 2012, p. 196, italics added)

Watson (2003, p. 145) has advocated that understanding place as relationally performed enables the notion of place as an “emergent effect of a complex mix of relations incorporating human subjects and agential nonhuman nature”. Although each of the case-studies could be understood as situated in place, allowing for particular human performances because of its located-ness, looking to the relations, flows and networks occurring
through those places provide a deeper sense of place. For example, the performance of place within the Flatlands Environmental Education Centre was evident through the stories and histories told about that place, the ongoing performances of that place as a school where schooling practices were carried out, as well as the interactions (living and non-living) that have resulted in material change in that place.

The remainder of this section provides examples of the flows, mobility and interaction that resulted in embedded material changes in the sites of the case-studies. First, I discuss the inclusion of native gardens in each of the case sites is shown as an example of place as a relationally performed practice – constituted through people and activities over time and in material sites. A second example provides a discussion of the relational lessons communicated through a map on the wall at Riverside Public School. And finally, I conclude this section with a discussion of the place flows and networks in the Flatlands case-study, emphasising the transient, interconnected and interacting nature of that place. All of these examples show how “place is not only local, specific and static” but can be seen as “an emergent effect of globally distributed relationships, and as an actor in those relationships” (Watson, 2003, p. 157).

**Native gardens**

An example of place as relationally performed can be seen through the inclusion of native gardens in the case sites (image 6.13). These gardens illustrated the natural and co-created aspects of both the local and the global in those places. Although the photographs below are of places physically located within the case sites, they are also an example of globally distributed relations, flows and networks. For example, the collective knowledge of community members, Landcare members and other ‘experts’ about that immediate place and also of other places show both local and global relations and networks. These knowledges contributed to understandings about local plant species, regeneration and endangerment, but also within the context of more globally dispersed understandings about ecological damage and biodiversity. The thought processes, decisions and actions that were then taken in response to these knowledges resulted in physical changes to each of those places, and to
the experiences – the lessons, memories and movements – of the students, teachers, community and visitors to these places.

To provide an illustration of this, the wording on the sign in the top photograph, “Restoration area for local plant communities – Flatlands Hill”, entails implied and hidden messages, providing information about that place relating to direct conservation efforts in other places. The message also conveys a multilayered sense of loss and destruction as well as regeneration – a loss of biodiversity and destruction of a place that has over time resulted in a specific need for endemic species regeneration and conservation efforts. Further, different human actors have played a multitude of roles in bringing about the regeneration of native plants in the places that these photos were taken – the research and inquiry in natural and botanical sciences that have demonstrated the impacts of loss of biodiversity and species endangerment and loss, the influence of this on decisions made in global, national, and organisational (i.e. Landcare) contexts, which in turn have given priority to the importance of native and endemic plant species and biodiversity over other plant species. Over time and through relations, networks and flows, these decisions have manifested through the influence of particular people within the Flatlands community, such as Susan and Amanda, who were driving forces in the Landcare group undertaking biodiversity audits of remnant roadside verges, and the subsequent propagation of endemic species of plants in the immediate locality. More broadly, across the community in each of the case-study schools, there were networks of people with diverse and particular knowledges or access to knowledge.
that through conversations, understandings and discussions prioritised native plants.

The physical manifestation of the flows of knowledge and relational networks resulted in actions, such as the propagation and tending of seedlings and ultimately the planting of a garden bed specifically for the regeneration of local plants in each of those schools. At Flatlands, a committee decision and the resulting actions, involved the choice of particular words for the making of and placement of the sign; “Restoration area for local plant communities – Flatlands Hill”. Following the actions accorded through these networks of relations and the knowledge flows that have resulted in this particular garden bed, there has been a continued construction of relations and networks through visitors, community members and school students’ consciousness of the garden bed. From this, then, is the potential influence – positive, negative or ambivalent – on the actions and decisions made in other places regarding the regeneration of bushland, conservation, and biodiversity.

**Rivers**

A map of Australia pinned to the wall in the classroom of Riverside Public School demonstrated the interconnections of the students’ local river within the wider context of the Murray-Darling Basin, and the mouth of the Murray River at the Coorong. The map (figure 6.4, inset) was typical of any number of Australian maps hanging in classrooms and schools. This map, however, had a number of added annotations providing information and contexts specific to the ‘Environments’ unit of work; on the top right-hand side of the map is pinned a sheet of paper, saying “Australia is the driest inhabited continent, making water very valuable. Conflict exists within the community on how to use this valuable resource”; each of the seas and oceans around the map have been written in large print on pieces of card and stuck onto the map; a number of river mouths have been circled and named in purple felt-tip pen. In addition to this, the map features an arrow (figure 6.4, main), pointing to a place in south-east Australia – the approximate location of the Riverside community. Along the tail of this arrow reads the words “YOU ARE HERE”, obviously and clearly providing the viewer with a sense of the location of the place that they are in within the wider context of Australia. Leading away from the point of this arrow is a black, squiggling line, trailing
north, northwest, and then southwest across South Eastern Australia, following the Macquarie, Darling and Murray rivers, and finally coming to an end at the Coorong.

![Map of Australia showing the Coorong and surrounding areas.]

Figure 6.4 ‘You are here’, magnification of classroom display image in Riverside Public School (main), and the full display (inset) (RPS, May, 2008)

This classroom map and the lessons that made use of it as a resource illustrated the interrelationship between knowing and being in one’s own place (“you are here”). This can lead to understanding how one’s place and actions within that place can have an impact on, as well as be impacted by, other places – and the human and non-human entities within that place. By emphasising the interrelationship between one’s location in a geographically mappable place and other places – in this example, by showing connection between the students’ lived place and the Coorong – students are taught about actions where they are and the ecological damage being afforded to The Coorong and the Murray River. Furthermore, related classroom lessons exposed them to practical knowledge about achievable actions that they could make to reduce such damage.

**Place flows and networks**

The final example of relational place that I highlight here is seen through the actions and interactions at the Flatlands Environmental Education
Centre and Public School. Here, the school and Environmental Education Centre are more explicitly involved in globally distributed flows of knowledge and practice than the other case-studies. The school and Environmental Education Centre had connections with schools and organisations in the local region as well as nationally. Further, international connections with schools and organisations had been made over the past 10 years as word of the work and awards of the school and Environmental Education Centre became more widely known. The activities and practices in that place brought about material changes in the school, such as the gardening activities, the community, through the development of the nature reserve (the EEC), the local region, such as the changes made to other schools after observing what Flatlands was able to do. Regional, national and international networks had been formed through organisations such as Landcare, as well as Daniel’s study tour of schools and institutions in Sweden and the United Kingdom, and their reciprocating visits. The effects of these changes go both ways, as Massey (1999) points out, and are not necessarily coherent interactions but in a constant state of becoming and always unfinished.

The discussion of teachers and community members in the Flatlands case-study suggest their awareness of these flows and what they believe to be the impact of their actions and practices in place on the actions and practices in other places. Discussed first are the changes and effects that Daniel and Julia, the gardening teacher, have stimulated through visiting and sharing with schools in the region, demonstrating the links between the NSW syllabus and environmental education practice within the school and community areas that they have available to them:

*Plus there’s the spin off too, where other people have come to have a look and said “oh gee, we have a patch of land by our school or behind the hall or the river flat area so we can do the same thing”* (John, EEC committee president, FPS, March, 2008).

*[Daniel and I] are meeting up with this other school, to give them ideas. I’m no expert, but I will just tell them what I have found out and what we are trying to do at our school. And that just means that there is another school out there going to do that with their kids, and it’s just getting them back to nature* (Julia, gardening teacher, FPS, March 2008).
Furthermore, the school and Environmental Education Centre has been host to principals, teachers and students from schools in the region, and even state-wide, who have influenced actions and practices in Flatlands. In turn, the practices and embodied experience that these people have of Flatlands school and Environmental Education Centre has influenced practices in other places.

Through the relational networks and flows of place and practice, the Environmental Education Centre has significantly benefitted the school and community, while also playing a role in creating and developing a unique identity for the community:

I know the benefits to the school, the community, the region; and it’s helped us survive. A lot of small schools have really struggled around the country and we’ve been one that’s been able to hold our own and probably even grow a bit (Daniel, principal, FPS, March, 2008).

The relational nature of place, and the flows and networks performed in and through places, have been explored through several examples from the case-studies in relation to the environmental education practices and activities that are carried out in them. Here, I have emphasised the relational, distributive understandings of place as they inform an understanding of environmental education practice, demonstrated through some of the activities and meaning-making from the case-study schools. In other words, the networks, relations and flows of knowledge, action and practice that have shaped one place, play a role in the shaping of other places.

Furthermore, there are instances where students are involved in relational learning about place, where students are not simply learning about their immediate location, but the impacts and effects of what goes on in one place having consequences for other places. Finally, in looking to the relational nature of place, there are actions within the schools that are shaping place, and places, through environmental learning which involves the students, but of equal importance also involves learning for staff and adults in the case-studies.
I discuss now notions of sense of place and participation in place-related activities that formed student and adult engagement with place in the case-studies.

**Participation in place-related activities**

A sense of place, according to Agnew (2005, p. 89), refers to the identification or belonging of a person, shown through their activities and participation in “place-related affairs”. Cameron (2003, p. 22) furthermore, provides a discussion of sense of place, suggesting that:

> To put ‘sense of’ in front of a word is to bring attention to the individual experience, so that a sense of place refers to the ways in which people experience the intertwining of meanings, activities and a particular landscape, as well as to the felt sense of belonging to a place that emerges from those experiences. The word ‘sense’ does not refer simply to the physical senses, but to the felt sense of a place and the intuitive imaginative sensing that is active when one is attuned to and receptive towards one’s surroundings.

In each of the schools, students were involved in different forms of place-making activities. Three common activities that were observed in each of the schools were gardening and artworks that focused on place, with cubbies and imaginary play featuring in the Flatlands and Mountaintop schools. The nature of these activities as place-making can be seen through the involvement of students participating in activities where they are interacting with place through physical, creative, imaginary and reflective activities – all of which involved experiences in and embodied engagement with the natural world.

**Gardening**

From a tradition spanning Rousseau, Dewey, and Montessori, gardening in schools has often been considered important in the practical and experiential approaches to caring for the environment. In recent years in Australia, programs such as the Stephanie Alexander Kitchen Garden Program have become popular, as have the incorporation of unaffiliated garden projects as part of the school curriculum, and an increase in research about school gardening (Blair, 2009; M. Green, 2007; Miller, 2007; Skinner & Chi, 2011; Somerville & M. Green, 2011; there has also been a

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special edition on children and youth gardening in *Applied Environmental Education and Communication, 2007, 6(1)*.

Suggesting that experiences through school gardening provide efficient and effective ways for students to learn across many subject areas, Blair (2009) has also propounded the benefits that the ecological complexity from a garden can bring to the school grounds:

Gardens are intensely local. Everything except possibly the purchased plants and seeds are part of the natural local environment. The clouds, rain, and sun, the seasonal cycle, the soil and its myriad organisms, the insects, arachnids, birds, reptiles, and mammals that visit the garden teach about place. Even if some of the weeds, insects, and birds are not native to a place, these immigrant flora and fauna are as locally adapted as the children themselves (Blair, 2009, p. 17).

The case schools provided students with opportunities to participate in gardening activities. At Flatlands school, a dedicated gardening teacher took small groups of students to undertake gardening and garden maintenance work around the school grounds and the Environmental Education Centre. The Learnscapes coordinator at Mountain Top encouraged the classroom teachers to involved students on a weekly basis in their class garden and Learnscape. Finally, the environmental club at Riverside involved a group of predominantly Year 5 and Year 6 volunteers who would work during lunch and recess times on the building and upkeep of garden beds around the school.

Although specific gardening practices in each of the schools involved, for the most part, digging, mulching and weeding, with planting at appropriate times, the interviewed students that participated in these activities were generally enthusiastic about their participation. Furthermore, student participants often referred to their work in a particular garden with a tangible sense of pride and ownership.

Through tending and growing plants in their place, students were becoming aware of food production, natural cycles seasons, flowering plants, and of the role that plant, animals and insects play in healthy ecosystems. Some of these gardening activities were grounded in formal science learning activities, such as the detailed observation of changes to specific plants undertaken periodically with Mary’s Year 5/6 class at Mountain Top (image}
6.14), while other activities were informal or incidental – the pleasure of walking slowly through a garden with butterflies and moths fluttering around (Mary, Yr. 5/6 teacher, MTPS, September, 2008).

An analysis of my observation of student participation in gardening activities has suggested that these activities provided opportunities for teacher and student to forge a different relationship. Here, the relationship and talk was less formal and controlled by the teacher, and while the physical work of weeding, mulching or planting occupied the hands, it opened up possibilities for teacher and students – adult and child – to talk and discuss various related and unrelated topics.

In the example below, from an observation of the gardening class at Flatlands, the teacher guided the students in undertaking a weeding activity, while also allowing them freedom to explore some of the unplanned aspects of the task such as finding worms and engaging them in conversation:

Teacher: we’re going to start weeding. With these little grasses, you need a trowel and you need to dig down deep and get it out okay? Did you guys help me weed this garden bed last time? [yes] Oh we’ve got to do a bit more. See how it’s grown with just a little bit of rain… now just crouch down, don’t bend your back. …… … Now remember guys if you’ve got a metal trowel you’ve got to watch out for the irrigation. Take a bucket up there [Child A] and Harry.
Harry: Now that is deep. All the way. Oh yes, I’ve found a worm. A worm! [no response]

Harry: A Worm! [no response, others talking]

Harry: [louder] A Worm!

T: Oh really? Wow!

Matt: I can pull these out with my hands

Child A: Oh really?

Matt: Yep

T: Oh, no. You can pull them out with your hands but we want you to use the trowel so that you get down deeper and get all the roots

Matt: ‘Cos otherwise they’ll just sprout again

T: Yes, they’ll sprout again, that’s exactly right. That’s why you dig down deeper.

[Discussion about the weather in Townsville, where the teacher previously lived and a student had just visited]

Harry: Did you know that in Panama there’s not even spring, summer, autumn or winter?

T: So do they just have summer?

Harry: They only have half the year rainy and the other half dry. And one time it rained.

T: Do you want to swap sides because I’ve got long pants on? You must have had an interesting time in Panama, Harry…

(Year 3/4 gardening class observation, FPS, March, 2008, image 6.15 & 6.16)

While the conversation always returned to the task at hand, strategies for removing weeds, in between this the discussion ranged from the weekend footy, family holidays, and Easter eggs amongst other topics. These discussions were generally student-led and often made connections between the weeding activity that students were undertaking, to memories and reflection on other times and places where students had been in contact with nature – holidays, bushwalks, backyard gardens, bird spotting, spiders under the bed, and so on.

Figure 6.56 Aiden showing an old wasp nest he had found during gardening class (Yr. 4, FPS, March, 2008)
As well as learning encompassing some environmental and ecological knowledge, the gardening activities saw the teacher moving from a role of authority to a role in which they were participating alongside the students – engaging them and being engaged in conversation. This activity provided students with valuable formal and informal learning opportunities in place, and through the act of place-making and participation.

Despite the many possibilities for learning that school gardening can provide in learning place and environment, Blair (2009) has warned that successful incorporation of school gardens into the curriculum also require support and infrastructure to support teachers, where “[t]eachers are the mainstay of school gardening. However, gardens require embedded support mechanisms that lighten the teacher’s burden” (Blair, 2009, p. 35).

Although there were several teachers at Mountain Top Public School that continued to encourage their students’ participation in gardening activities, I gained a sense that the engagement of some of the teachers had waned, something also recognised by Fran. During the interview, she reflected on her thoughts of the environmental program when she had commenced her time at the school:

… some of it I felt wasn’t getting done properly. Because it was just too much … ’Cos it’s ok to have this program, and this program, and this award, but you’ve actually got to be doing it. That’s, you know, you can have everything, every tag under the sun, but if it’s not getting done then it’s not worth, you know. So we’ve had a real push this last six months to be getting back on track with our waste wise and getting our garden beds back up and running and getting kids involved and, in the planting and everything. So that’s, it’s coming back on track I feel (Fran, principal, MTPS, September, 2008).

**Creating artworks**

Each of the schools involved students in place-making activities through participation in artworks. Here, artistic and creative activities were used to learn and to encourage reflection about place. One example of this was the art project, ‘Connection with a Special Place’, that was part of a unit of work for the Year 5/6 students at Mountain Top Public School, run concurrently with the Artist-In-Residence program. Along with the Special Places art project that students worked on individually or in pairs, the artist involved
worked with students to create ‘totem poles’ in the Indigenous Sculpture Garden (image 6.16).

While students were rotated to work with the artist, the remainder of the class worked on their individual art project with Kathryn, their art teacher. The task required them to do a drawing, painting or sculpture in order to express their connection with a special place. As Kathryn explained:

The thinking I was asking them to do was [reading from sheet] “reflect on a space, piece of land, or place that you love to visit that’s in or near Mountain Top Primary School. This is a place that you feel you have a special bond or connection with; it may be that you really enjoy activities you do there. For example, riding a motor bike, horse riding, fishing, it may be that you’ve spotted animals in the bush there, like rock wallabies or gang gangs down at the gorge, maybe that you enjoy the peacefulness and the beauty of the surroundings” [finish reading]. So they actually had to target a local spot that was special to them. And then they had to, they were given a variety of different materials to use and they had to express their connection with this place. It was an extremely loud, messy, chaotic few weeks of doing this project, but they came, they could choose to work by themselves or in pairs … Some of the models and art work that came out at the end, it was really fabulous and just
great to get them to then talk about their project and share it (Kathryn, visual arts teacher, MTPS, September, 2008).

As part of the planning process of this task, students were also required to write a paragraph about their “favourite place”. In work samples collected from this activity, students described their special places, ranging from camping spots to nearby nature reserves, such as the local lake or gorge, and the natural and built features of the community. A multitude of reasons were expressed as to why those places were special, from the experiences students had of those places, to the beauty of the surroundings, animals

![Figure 6.6 Connection with a special place art project - student plan and description of their special place (Yr. 5/6 student work sample, MTPS, document collected September, 2008)](image-url)
and plants seen, or the people they had spent time with in that place (figure 6.6).

In a second example of art used to facilitate reflection about place, students at Riverside Public School used artworks to represent the 500m walk from the school to the river. This task, already discussed in Chapter Five, required students to develop a representation of the class’ walk to the local river, making use of landmarks and features and symbolic representations of movement influenced by Indigenous Australian art. The representation of place and movement was created through a variety of media including photographs, printing, painting, etching and colour washing.

Students created a series of three artworks that were then presented together to show the landscape features encountered along the walk. Image 6.17, below, shows (l to r) an etching of a dead tree that had a wasps’ nest in it, footsteps and a print of the front gate leading into the school.

Image 6.17 River Walk artwork showing (l-r) an etching of a tree with wasps, a print of footsteps, and a print of the school’s front gate (Yr. 6 student work sample, RPS, June, 2008).

The two art activities discussed both involved reflection and representation of place. This parallels Somerville’s (2006c) discussion of a framework for an enabling place pedagogy as involving, in part, the communication of relationship to place through stories and representation (see also Somerville, 2007b). These art activities involved, in one instance, reflection on local place (Riverside), and in the other, on a place that was personally special (Mountain Top). The learning activities that involved the Riverside students walking to the local river, participating in water quality monitoring

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activities, as well as explicit observation and representation, through photographs, of students’ community, also enabled students to become aware of their actions as impacting that place. As stories and representations communicate relationship to place it becomes important to be conscious of one’s role as place-maker, and as “participant … in the socio-political process of place making” (Gruenewald, 2003, p. 627).

As Somerville (2007b) suggests, the mutual constitution of landscape, people and stories occur through place. An awareness that is also central to the work of Special Forever (Comber, Nixon & Reid, 2007). The Mountain Top Primary School art activity is an example of students becoming aware of place as something with which they have a relationship, and that this relationship can be communicated through multiple representations, in these case-studies, through writing, artwork and storytelling.

**Cubbies**

*Today was especially valuable when all the kids started doing their winter recess activity of cubby making in the woodlot (now that the temperature is below 20°C and there is less risk of brown snakes). After hearing the older kids talking about cubbies in their interviews it was great to see them in action. The younger kids were also having a ball with some incredibly imaginative play going on in their cubby – they were so caught up in their game that the initial excitement of wanting me to photograph them was soon superseded by their play scenario and the collecting of cicada shells (Research journal, FPS, March, 2008).*

A third example of students involved in place-related activities was seen through the construction of and imaginative play in tree cubbies at Flatlands Public School and Mountain Top Primary School. As Kola-Olusanya (2005) established, the role of imagination and free-play in children’s lives is central to their investigation of the world:

Play is another important way children freely engage in learning … Play allows children to investigate the world on their own terms, and for their own purposes (Kola-Olusanya, 2005, p. 299).

Derr (2006), in recognising that children shape their experiences with place, has suggested that place experiences involving fort-making (cubby huts) generate experiences of imagination, escape, safety, and creativity.
Within the case-study schools that I observed, the students at Flatlands Public School, and a group of girls in Year 4 at Mountain Top were engaged reasonably consistently in cubby making and imaginative play during their recess and lunch breaks. My observation of their respective play and cubby-making, as well as the conversations about cubbies and cubby-making during interviews, suggested that cubbies were an important part of their experience at the school, and were a tool that stimulated their imaginative play. In turn, this imaginative play mirrored and enabled them to act out various social interactions and situations, particularly fantasy role-play, relationship dilemmas and acting grown-up.

Through their cubby-making and play I observed students at Flatlands as they acted out emerging, evolving and changing stories, where complex rules, plotlines, hierarchies and characters were negotiated. The play across all Year levels at Flatlands included representations of fairy tale and fantasy world scenarios, with the cubbies symbolising either places of refuge or imprisonment:

*Child 1: Jason! You're the cowboy; you have to ride there.*  
*Child 2: No! I'm the protector – Grrrrr! [Refuses to move from guarding the front of the cubby]*  
(K-2 students’ conversation, lunchtime observation, FPS, March, 2008).

The four Year 6 students who were interviewed at Flatlands Public School spoke extensively about their cubby huts in their interviews. They also took a number of photographs of trees and branches where they had made cubbies (image 6.18). While we were there, these places evoked those students’ memories of stories about games and injuries that had happened while playing in their cubbies:

*Peter:* We could show [Rebecca] the pine trees; we usually make cubbies up there.  
*Mel:* Yeah, we get to collect sticks and stuff and make cubbies. One year, the Year 6’s and some of the Year 5’s, they made this big hut sort of thing out of all these big sticks that had fallen over and stuff, it was huge and it was really good. And they just made it…

![Image 6.18 'We usually make cubbies up there' (photo taken by Mel, Yr. 6, FPS, March, 2008)](image)
Peter: They had a pine cone war

Mel: Oh yeah, I remember that. Scott invented a pine cone war. Scott’s like, sort of, a horse and army person. They had two teams, I think it was … Well whatever it was, they threw pinecones at everyone. Then it got banned and they got into trouble.

(Peter and Mel, Yr. 6, FPS, March, 2008).

David Sobel (1996) advocates the use of cubbies and forts in children’s unstructured nature play as a way of enabling children to develop an understanding and empathy with the place that they are in, as well as form attachment and care for the structures and places they are building. There was evidence amongst the Year 6 students interviewed, who were often nostalgic about their past cubbies and also showed a sense of ownership and shared history with those cubby places in the school grounds, of this type of attachment to their cubbies. These students were also very aware of the ‘territories’ that belonged to specific Year levels for making cubbies, and were proud that now they were in Year 6 they would get to make cubbies in the Year 6 space.

At Mountain Top Primary School, Year 4 student Renee excitedly explained the shops and enterprise system that she and her group of friends had set up amongst some tea-tree shrubs in the grounds of the school. Here, the students had collected and processed a range of natural materials to sell that included onion weed bulbs and flowers, the berries off a nearby bush, moss, rocks, and a variety of flowers from plants in the gardens, with the nuts from a nearby tree providing the group with a currency.

The cubby-shops enabled the students involved to imagine more grown-up interactions and social situations, with the group even creating communication forms and business cards. In addition to this, Renee shared the particular processes and tricks allowing them to ‘mass produce’ certain materials to sell:

This is like our walky-talky thing. We sit here and we talk through it like this. And we’ve got business cards. Our [shop] is called ‘Knocks and Crannies’. … And we’ve got a big, we used to have a big pile of onions, but they’ve gone. This is just a little pile of them. And these are the berries that we pick. And these are our special flowers. And in the middle of them – I’ll just get a stick – you stick it through there and you get these little things out of it, just here. This is our mop, and these are all our berry bushes (Renee, Yr. 4, MTPS, September, 2008, images 6.19-6.21).
The value of cubby play, through designing, constructing, imagining and play in cubbies, allowed the students to experience the embodied and material natural world. They were involved in interacting and through inquiry and curiosity making meaning about plants, materials, insects and animals that also inhabited their cubby areas. In addition, the cubby play was social play and often involved teamwork, negotiation, shared imagination and the exploration of different ways of acting in the social worlds that they have individually and collectively been exposed to. At Flatlands Public School, the teachers did not intervene with the students’ free play and informal learning (aside from the necessary supervision for health and safety and duty of care reasons).

Both Kola-Olusanya (2005) and Malone and Tranter (2003b), amongst others, have argued that the value of free-play, in the form of cubby-making and imaginary nature place, enables environmental learning where “through the discovery process, children learn about what constitutes their environment, and what is needed to be done to maintain it” (Kola-Olusanya, 2005, p. 299). On the whole, my observations of student engagement with cubby-making and free-play at Flatlands, and the Year 4 students who had ‘set up shop’ in the bushes, supported conclusions, such as Kola-Olusanya’s (2005, p. 299), that “[t]hrough their exploration and experience of the social, physical and natural environment, children become familiar with patterns and systems of life” (image 6.22).
Through participating in place-making activities, such as the examples used above, students were being exposed to a number of skills and new knowledges about their places, such as: concepts of food production and ways of living that are more ecologically sustainable; Indigenous Australian cultures, representation and reflection on place; landscape and place-meaning; and the intuitive and embodied knowledges that come through active and embodied participation in cubby-making and imaginary play. Through participating in place-making activities, students were formally and informally learning about place and affect. For example, the feelings evoked through harvesting vegetables they had grown from seed, reflections on what particular places might mean to them and why, the imagination and games from free-play in place. Through students’ active and embodied participation in place they were learning to be responsive to that place and reflective about the importance of place for themselves.

Conclusion

The purpose of this chapter has been to provide a discussion of place as a concept that is significant to the practising of environmental education. In particular I have explored understandings of place as experienced through the interaction of the material site, social settings, and meanings given to a place, as well as being relational through the flows of knowledge and practice. I have interpreted these concepts and understandings of place using examples and illustrations from the case studies, as well as discussed the experiences of place and environmental education activity for the students in the case-studies through their participation in place-related activities.

Further, the places that were used to engage students in learning in the case-studies had shaped the curriculum practices in the schools, just as the
curriculum practices shaped place, and this was reciprocal and relational. The significance of place was more than simply an engagement with the local, although this was also an important part of the schools’ environmental education practices. There was an emerging consciousness amongst the teachers that actions in place had impacts on other places.

The following chapter explores knowledge in environmental education practice.
Chapter Seven: Knowledge, Curriculum and Mobilising Understanding

Inherently political, the organisation and selection of knowledge for teaching and learning involves judgements on “what and whose knowledge is of most worth, and the scope and sequence of this knowledge” as it is organised for teaching and learning (Petrina, 2004, p. 82). The selection of knowledge for schools, then, becomes partial to those knowledges and disciplines, and the perspectives of those people who hold power within those disciplines that are privileged or dominant within a society or culture. The domination of environmental science and natural resource management perspectives in the field of environmental education during its inception and early development is one such example of this (see, for example Roth, 1969; Stapp et al., 1969).

In this chapter I explore primary school environmental education curriculum as a mobilisation of understanding into action. Initially, I provide a background discussion of the process of selecting knowledge for teaching and learning in the historical constitution of curriculum in environmental education. I look to the historical constitution and classification of knowledge and consider what an understanding of praxis and phrōnesis contributes to environmental education curriculum responsive to place. I discuss the selection and transformation of knowledge for teaching and learning through Australian environmental education curriculum, specifically looking to the states that the case-studies were located in, NSW and Victoria. Following this, I provide specific examples of the response of the case-study schools to the mobilisation of knowledge into action. I conclude with the suggestion that understanding environmental education as an eclectic curriculum praxis is needed when considering the everyday messiness and negotiation in the practice of schooling.

Curriculum

Curriculum encompasses the knowledge and meaning-making21 that occurs through the intended, enacted and hidden learning and teaching.

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21 Throughout this chapter, I take ‘knowledge’ to mean the content or understandings to be transmitted through teaching and learning, and ‘meaning-
that occurs in schooling – with the focus of this dissertation being the context of environmental and place-responsive education and knowledge within primary schooling. Shirley Grundy (1998, p. 27) suggests that although curriculum is often conceptualised as an object – the subject-matter that is “given, transmitted or passed on to students” through syllabus, policies and teacher programs – it is necessary to consider the interrelations and interactions that occur in the practicing of curriculum. Curriculum action is constructed through the “dynamic interaction” between four commonplaces – teachers, students, subject-matter and milieu (Grundy, 1998, p. 30). As Grundy contends, curriculum as action cannot be understood without recognising the interactions between these commonplaces:

It is not sufficient to talk, for instance, about the curriculum as subject-matter, for we know that what students learn will depend upon how the teacher teaches, the context in which the teaching occurs and, importantly, upon what the students want or are able to learn. Similarly, it does not make sense to speak of teaching without at the same time considering what will be taught, to whom, and in what circumstances. But if we think of pedagogy as the dynamic interaction of each of these commonplaces, we begin to have a more useful understanding of what the curriculum is (Grundy, 1998, p. 30).

When curriculum is pedagogical, teachers play a central role in the development and practice of curriculum and students become actively involved in the construction of curriculum. This co-construction in the process of curriculum influences “the shape and nature of the curriculum as it is constructed through the pedagogical actions of the teacher” (Grundy, 1998, p. 35). In the action and practice of curriculum, the syllabus, programs, and policies– the subject-matter – have roles to play that have varying levels of influence on the knowledges selected by teachers in developing curriculum practices. These knowledges are transformed through (and transform) the process of meaning-making by teacher and student in the realisation of curriculum. It is the constitution of subject-making to refer to the processes and practices in which students make this knowledge meaningful.

22The emphasis of the discussion of curriculum within this chapter focuses on the way that knowledge and meaning-making are organised for environmental and place responsive teaching and learning. However, there needs to be an acknowledgement here of the interrelation between knowledge and identity, indeed that knowledge is not static and that, as knowledges change, grow, are forgotten, or develop, identity also is changed. Similarly, one cannot have teaching without learning (be it intended or other), or learning without teaching; even in situations where whomever is teaching may be unaware of that role.
matter in environmental education and its transformation into practice that is the focus of this chapter.

**The constitution of knowledge in the curriculum**

While the subject-matter that is taught in the curriculum will always be dependent on how it is taught and how it is learnt, questions of what should be taught, how it should be taught and who should be taught are fundamental in theorising and practicing curriculum, and to varying extents are beholden by interested groups within and outside of the work undertaken by a classroom teacher.

Alongside the teaching and learning that takes place within the curriculum of a school or classroom is the “selection and formation of knowledge” for teaching and learning – the development of subject-matter. Political, social, cultural and institutional implications and effects are involved in the process of selecting and trans/forming these knowledges, as Zongyi Deng and Allan Luke (2008, p. 67) state:

> In theory and practice, then, curriculum entails the normative selection, classification, and framing of knowledge from the archive of human knowledge. That is, all curriculum by definition constitutes a “selective tradition” ... of cultural canon and memory, scientific truth, method and knowledge, and aesthetic artefacts and performance.

Within the selection and formation of knowledge for teaching and learning, there are, Walter Doyle (1988, p. 179) suggests, “situational forces that shape curriculum and hold it in place in the classroom”. In particular, he contends that these forces can be thought of as three levels of curriculum making – the institutional, the programmatic and the classroom levels:

> At the institutional level, the curriculum as a whole expresses a conception or a paradigm of what schooling should be with respect to a society, and content is selected and defined in the service of this expression. Similarly, at the intermediate levels between the institution and the classroom, curriculum writing (in the form of textbooks, guides, and the like) involves the transforming of content with the intention of making it suitable for use by teachers and students ... Finally, to teach is to simplify content to make it accessible to novices (Doyle, 1992, p. 507).

Here, Doyle’s institutional and programmatic levels of curriculum can be related to Grundy’s (1998) curriculum subject-matter – the guides,
programs and syllabus that prescribe knowledge and understanding to be given to students. Whilst Doyle suggests that the practice of teaching is to make knowledge accessible to students through simplifying these knowledges, Grundy discusses the pedagogical action of curriculum, whereby the teacher and the learner are co-constructors of meaning-making.

The process of selecting knowledge for teaching and learning is not neutral, particularly when there are governmental regulations placed on the inclusion of curriculum subject-matter. Bernstein (1971, p. 47) argues that it is educational knowledge, realised through curriculum practices, that “is a major regulator of the structure of experience”. Related to Grundy’s work on curriculum as subject-matter and pedagogy, Bernstein suggests that, from a pedagogical point of view, teachers have power when they have a strong level of control over the “selection, organisation and pacing of the knowledge”. However, when the distinctions between content areas are strongly bounded by discipline, the power of the teacher, and the control over knowledge selected for teaching, is reduced, reducing the role of the teacher into that of a technician passing knowledge onto students (see Carr & Kemmis, 1986; Grundy, 1987). In turn, when the disciplinary boundaries are reduced and there is an integration of knowledges from across disciplines or subjects, the teacher has more control over the selection and formation of knowledge, and a stronger role to play in the development of curriculum as an educational professional (Carr & Kemmis, 1986; Grundy, 1987; Kemmis & Smith, 2008).

The development of the goals and objectives for environmental education in the 1970s saw a growing recognition of the need for an interdisciplinary approach to environmental education (A. Gough, 2008). This can also be seen through the constitution of environmental education curriculum in Australia, where environmental education and education for sustainability policies or curriculum statements are promoted as cross-curricular rather than as a “school subject” or key learning area. Intentional or not, the lack of institutionalised time-table space in primary school curriculum may contribute to the implementation of environmental education being more dependent on the commitment, knowledge and interests of individual teachers or schools (Cutter-Mackenzie & Smith, 2003). Furthermore, in practice, environmental education curriculum is often compartmentalised as
environmental science content taught within the science subject area, with environmental issues or concerns taught through the social studies subject area (Fleer, 2002).

The compartmentalisation of environmental education knowledge is problematic, given the need for an interdisciplinary and interrelated nature of environment, society and culture in contributing and addressing the world’s environmental issues. Fleer claims that, “the Western framing of learning has created science education and environmental education as two different fields of study in all parts of Australia” (Fleer, 2002, p. 149), something that Annette Gough (2009) calls to be redressed in a reconceptualization of science education. The need for an interdisciplinary approach to environmental education is called for by Fleer, who suggests that the teaching of environmental issues “without a complementary programme in science to help children to understand how environmental problems manifest themselves … may well confuse many of the ideas being presented” (Fleer, 2002, p. 149).

When environmental education content is relegated to either the social studies or science subject areas of schooling, this constructs environmental education in particular ways, in turn limiting the possibility for environmental teaching and learning. On one level, the incorporation of environmental education curriculum into the science subject area enables a focus on teaching and learning about the environment. This can occur through learning experiences that are grounded in environmental science facts and concepts and encourages students to have a “basic understanding of how natural systems work and the impact of human activities upon them” (Fien & Tilbury, 1996, p. 16). Integrated through the social studies subject area, covering environmental issues and concerns, environmental education can lead to students utilising understandings of how natural systems work in order to make informed decisions and responses to the more-than-human world, important in forming attitudes towards, and actions within, the environment. This ideally leads to a consciousness of and responsiveness to environment and place, mobilising understanding and care into actions.

Cutter-Mackenzie and Smith (2003, p. 504) have claimed that eco-literacy allows a focus on the “complex understanding of the various philosophies
which lead to ecological sustainability” through the development of complex knowledge that encompasses:

… “how people and societies relate to each other and to natural systems, and how they might do so sustainably”. In other words, knowing how the world works, and therein knowing how to preserve and maintain the environment (Cutter-Mackenzie & Smith, 2003, p. 502)

Ecological literacy, therefore, emphasises knowledge and beliefs about the complex dynamic of environmental problems and social and natural interactions. Thus, it promotes the synthesis of ecological perspectives in an interdisciplinary sense – for example, the ecological perspective in science, politics, economics, history and society (Orr, 1992). Indeed, beyond the disciplinary boundaries of knowledge and curriculum, Orr suggests that ecological literacy is “driven by a sense of wonder, the sheer delight in being alive in a beautiful, mysterious, bountiful world” (Orr, 1992, p.86). In Orr’s understanding of ecological literacy, the experienced, performed, aesthetic, affective, and placed dimensions, amongst others, of the interrelation between the human and more-than-human world are privileged. The task for those involved in curriculum development and practice, then, is to co-construct curriculum that builds on these connections, understandings, and practices to develop not only knowledge, beliefs and actions for environmental sustainability, but sustainable knowledge and action that is conscious of and responsive to environment and place, and to the ‘aliveness’ of life situated in the local (loved) environment.

There are examples of programs that utilise and construct understandings of environment and place through alternative disciplines. The Special Forever program, in the Murray Darling Basin in south-eastern regional Australia, is one example. Here, the curricular focus is on the “environment as an object of literacy” through place (Green, Cormack & Nixon, 2007, p. 78). Within the context of their local community, students communicate about environment and place through the medium of writing and artworks (Comber et al., 2007). Here, the decision to engage in environmental learning through literacy, rather than science, was deliberate:

Changing the vehicle for the discussion of sustainability from science to English classes … enabled it to be discussed as a sociocultural issue and to be considered holistically, rather than a series of isolated technical problems. Significant emotional and
values issues related to quality of life, the degradation of natural and cultural resources, and the future can be discussed (Eastburn, 2001, p. 10).

There are other examples of programs that engage in an understanding of environment and place outside of school subject disciplines. These include: the Stephanie Alexander Kitchen Garden Foundation, which promotes gardening and cooking for health and wellbeing, predominantly through the Health and Physical Education key learning area; Learnscapes, with its emphasis on the creation of outside landscapes for learning; and the Australian Sustainable School’s Initiative (AuSSI), which promotes sustainable resource use, management of school grounds, and curriculum development through auditing, measuring and creating action plans for improving the sustainability of a school; as well as numerous locally situated small-scale projects. These programs provide an approach to environmental education that can address multiple disciplines (such as the engagement of students in food production practices, i.e. gardening, which include aspects of healthy eating, diversity, and sustainability rather than simply being consumers of food products). However, with the exception of Special Forever which purposefully engages with interconnection between literacy, place and the environment, the focus of many programs are still somewhat one-dimensional.

While the tensions in the field in relation to environmental education’s standing as either an inter/multi/trans-disciplinary orientation in the curriculum or stand-alone subject are ongoing, such a focus shifts attention away from the disservice to students and teachers when (environmental) education is reduced to a prescribed curriculum that fails to adequately address the depth, complexity and interdisciplinarity of ecology, nature, place, culture, politics, society – of life. Such a position attempts to move beyond the either/or boundaries of environmental education curriculum, and suggests instead that, given the diverse and evolving contexts for learning and learners, there is necessity for both approaches to be valued and included as important aspects of the (environmental) education curriculum.

It is to the discussion of knowledge and meaning-making that I now turn, and the role that these play in the teaching and learning of environment and place through environmental education. I also consider the relationships
that act upon the selection and transformation of knowledge for teaching, through the privileging of particular disciplinary and subject-matter knowledges.

**Knowledge, meaning-making, and curriculum**

Teachers are always deeply involved in curriculum work, be that at the level of selecting, forming or transforming, negotiating, designing or developing, enacting and practicing. Knowledge is an important element of curriculum, addressing the ‘what’ of what is selected to be taught. The classification of human knowledge, decisions and debates about what knowledge is classified, and how it is classified into discipline areas and school subjects are both historically and socially constructed, and always in a state of change and development. Deng and Luke (2008) draw on Aristotle (300-400 BCE) and Auguste Comte (19th century) as having both proposed classifications of knowledge that have significant influence over ways that (Western) society constructs and privileges what is worthwhile knowledge.

In 300-400 BCE, Aristotle argued for the organisation of disciplines into theoretical, practical and productive, based on the premise that “different domains of human inquiry yielded distinctive truths, affiliated ways of knowing, procedures of inquiry, and representational codes” (Deng & Luke, 2008, p. 680). In the 19th Century, Auguste Comte developed a positivist, hierarchical classification scheme that prioritised mathematics, followed by physics, chemistry, biology, and social sciences (Deng & Luke, 2008). This organisation of knowledge, according to Deng and Luke (2008, p. 68), is still “deeply embedded in contemporary discourse on subject matter” and can still be seen in the constitution of key learning areas and school subjects and syllabus.

Arguing that there is “a need to look at alternative classifications of knowledge that relocate and revalue knowledge in the practical, informal and experiential in terms of human experience”, Deng and Luke (2008, p. 68) outline those conceptions of knowledge from theorists over the past century that have emphasised knowledge in doing and experiencing alongside more propositional theoretical knowledge. From this, they specify three conceptions of knowledge that “constitute analytically distinctive, though not practically separate, modes of human knowing” – disciplinary,
practical and experiential (Deng & Luke, 2008, p. 69). These conceptions are addressed below.

Disciplinary ways of knowing are represented through the formal, academic, canonical knowledge that are often applied to particular intellectual disciplines where knowledge can be understood as facts, ideas and concepts – such as in mathematics, physics, and natural sciences (Deng & Luke, 2008). This knowledge was what Aristotle termed “episteme”, the “formal knowledge for the purposes of understanding and explaining the world” (Deng & Luke, 2008, p. 69). Here, knowledge is “formulated and verified through the logical and discursive procedures of discourse communities”, whereby institutionally rationalised ways of legitimising and classifying the world leads to the hierarchical ranking, categorising and ordering of knowledge that is testable and able to be validated (Deng & Luke, 2008, p. 69).

Practical knowledge encompasses knowledge of procedures that leads to knowing what to do in practices and actions. Practical knowledge leads to practices that are based on deliberative action, judgement and decision. Aristotle termed this conception of practical knowledge phrōnesis – “practice wisdom centred upon the contingent world of action” (Deng & Luke, 2008). Phrōnesis can be seen in those knowledges that become known through ‘doing’, such as embodied and intuitive knowledge and learning (Flyvbjerg, 2001). As B. Green (2009a, p. 4) discusses, phrōnesis is “that which issues from and in praxis, from the situated activity of practices, from practice-ing”. Examples of phrōnesis in social science can be seen in conceptions around embodied knowing (Somerville, 2006b), habitus (Bourdieu, 1992; Noble & Watkins, 2003), and intuition (Burkitt, 2002; Flyvbjerg, 2001).

In understanding practical knowledge there is less concern with testing and validating knowledge, as in disciplinary knowledge, and more emphasis on the practical wisdom that comes through everyday actions. As Deng and Luke (2008, p. 69) suggest, “all practices, no matter how apparently habituated and mundane, taken together constitute particular … coherent systems of exchange and value”. Practice effects and interplays with the creation of understandings and skills that are performed and flow through
everyday life – through action/practice we come to know, and through knowing we are able to act (practise) (Thrift & Dewsbury, 2000).

Experiential knowledge, according to Deng and Luke (2008), refers to ways of knowing that focus on making sense of everyday phenomena through social, cognitive and practical elements. This type of knowing is located in the everydayness of experience, where:

… knowledge cannot be separated from the knower and affiliated forms of meaning, both theoretically and practically construed … knowledge is an ongoing construction of meaning by social actors in relationships of exchange with their biosocial environments (Deng & Luke, 2008, p. 69).

This experiential conception of knowledge is similar to Dewey’s social constructivist and experiential learning theories, which advocated the belief that knowledge emerges from those situations where learners have drawn meaning and importance from (see Armitage, 2003; Dewey, 1910; Raill-Jayanandhan, 2009). It is this belief that aspects of place-based education are often founded on; that the provision of local contexts for learning enables learners to construct meaning through concrete experiences where they are able to perceive what they are being taught as important and relevant to their lives, and that takes into account their social and ecological milieu (see, for example, Gruenewald & Smith, 2008; Sobel, 1996). There is, however, danger in the uncritical use of experience in environmental education and Payne (2006a, p. 28) argues against educational experiences in nature and place that does not consider the:

… different “natures” and places of real and direct environmental learning experiences … Some questions rarely asked in EE include: What is an environmental learning experience in, about, with, or for “nature” and its various “versions”? Whose and what experience is being experienced — the learner’s, the teacher’s, the curriculum author’s, the policy maker’s?

Through conceiving knowledge as experiential, the experiences that occur outside of a classroom become significantly meaningful and significantly curricular. The traditional (inside) classroom shifts from being the space in which teaching and learning occurs to becoming acknowledged as only one part of the curriculum in action. This leads to the possibility that disciplinary knowledge and meaning-making can occur through action/practice and experience, and gives rise to the critical use of classroom space as
indoors-outdoors, with the associated knowledges, values and experiences that come from seeing value in the local, situated, sensual and embodied.

**Phrōnesis, praxis and experience**

Whilst *phrōnesis* has been discussed in the above section in relation to knowledge in practice and actions, Flyvbjerg (2001, p. 70) discusses the practice of *phrōnesis* as the “point of departure for praxis”. *Praxis* therefore is action that is guided by deliberative judgement:

… praxis is not just thinking about action (which is to be guided by phrōnesis), but a form of doing that constitutes right conduct … To do the right thing (praxis) in uncertain circumstances, when we are faced by perplexity or puzzles about what one should do in any particular circumstances, requires deliberation – consideration of what one is really doing in this situation, and what kinds of consequences will follow for different people if one decides to do one thing rather than another (Kemmis & Smith, 2008, p. 16).

Relating to Aristotle’s emphasis on the importance of context in *phrōnesis*, and praxis as being the practical action that is guided by *phrōnesis*, experience then is an important element in knowledge and meaning-making. Furthermore, as Aristotle claimed, theoretical understanding and wisdom does not necessarily develop practical wisdom: “The reason for this is that [phrōnesis] also involves knowledge of particular facts, which become known from experience” (Nic. Ethics 1142a12 in Flyvbjerg, 2001, p. 72). Aristotle’s use of practical judgement (*phrōnesis*) refers to a “true and reasoned disposition toward action with regard to things good and bad for men [sic]” (Nic. Ethics., 1140b, cited in: Grundy, 1987, p. 62). Kemmis and Smith (2008, p. 15) suggest that whilst the guiding aim of *phrōnesis* is to inform conduct that is good or right, the idea of ‘good’ or ‘right’ conduct in *phrōnesis* does not mean simply following social norms, rules or conventions, rather it is “something bigger – doing what will later be seen to have been good in the light of its historical consequences, and ‘good’ both for the individuals concerned and for the good of humankind”. Additionally, as Burkitt (2002, p. 222) suggests, *phrōnesis* is “in itself a work that creates the sense of a fulfilled life … moral activities we do simply because we recognise them as noble or worthwhile. … the point of the good life is simply the living it, not what we will get out of it”. 
Knowledge can be construed and constituted in multiple ways, with ways of knowing through doing and experiencing that are alternative, but not opposite to the theoretical and discipline based knowledges so often privileged in Western society. This is not to say that dominant and privileged ways of knowing don't bring value to curriculum, rather that meaning-making through experience and practice also has an important role to play in the constitution of environmental education.

Experiences and activity develop understanding and knowledge differently to that only through the theoretical. However, situating reflection of experiences and actions in theoretical knowledge can further enhance understandings of practices and practical wisdom. There is value in developing a strong, disciplinary-theoretical content knowledge through which experience of place and environment can be reflected upon in order to develop wise (informed) practices and actions for the good of the world. Further, knowledge and meaning-making in environmental education practice needs to acknowledge the multiple nature of understanding, whereby knowledge that is theoretical, practical, and grounded in personal experience is significant for informed and committed action that exercises deliberate judgement for the good of the world.

**Worthwhile knowledge**

As discussed above, Comte's classification of disciplines privileged knowledge from theoretical disciplines, such as pure mathematics, physics and chemistry, over biological and social science disciplines (Deng & Luke, 2008). This classification of disciplinary knowledge, and the value given to these disciplines, is still “deeply embedded in contemporary discourse on subject matter” (Deng & Luke, 2008, p. 68) and can be seen in the privileging of certain disciplines as school subjects and the level of integration between discipline areas in the constitution of key learning areas (i.e. the mathematics KLA in the NSW syllabus focuses on mathematics skills and concepts such as measurement, algebra, geometry, and numeracy, whilst the Human Society and Its Environment KLA contains an amalgam of geographical sciences, environment studies, history, economics, and political and legal studies discipline areas). Moreover, a privileging of subject matter can be seen through the amount of time recommended to be given to subjects, at the institutional, programmatic and classroom levels, and the level of expected integration within and
across school subjects (Apple, 1975; Bernstein, 1971; Doyle, 1992; Meighan & Siraj-Blatchford, 1997). This is evident in the NSW Department of Education and Training recommendations that “approximately 50% of time is allocated for English and Mathematics and 40% of time for the other KLAs and sport” (NSW DET, 2006, p. 1). Through the constitution and reconstitution of these discourses on school subjects and subject matter, there is a process of socialisation into particular ways of knowing, and classifying knowledge and subject matter (Bernstein, 1971).

**Environmental education curriculum developments in Australia (New South Wales and Victoria)**

In Australia, the environmental education movement has largely mirrored the international movement, while also having some distinctly Australian characteristics (A. Gough, 2011). The environmental education goals, objectives and guiding principles endorsed in the Belgrade Charter and the Tbilisi Intergovernmental Conference have provided the basis for the development of national and state environmental education policy. In addition, the environmental education framework of education in, about and for the environment proposed by Lucas (1972, 1979), is still commonly advocated as “a popular way of organising the experiences within an environmental education program” in state and national environmental education policy (Australian Government Department of the Environment and Heritage, 2005, p. 6; see also Fien, 1993a, 1993c; Fien & Corcoran, 1996; Gough, 1997a; Huckle, 1983; New South Wales Council on Environmental Education, 2002; NSW DET, 1989, 2001).

On the national scale, a collaborative effort supported by the Australian Education Council, in 1989, set out to reduce the differences between state and territory curricula and optimise the use of curriculum resources, resulting in the Common and Agreed National Goals for Schooling in Australia, also known as the Hobart Declaration (A. Gough, 1997a). The Hobart Declaration (1989) included ten agreed goals for all Australian schools. Of these ten goals, one goal was dedicated to environmental education, namely to “achieve an understanding of, and concern for, balanced development and the global environment” (AEC, 1994, p.43). As Annette Gough (1997b, p. 52) maintains, these goals “were formulated at a time when the environment was high on the political agenda”, resulting in environmental education being included as a cross-curriculum study. Of the
eight broad learning areas identified in the *Hobart Declaration*, environmental education principles were included in *Studies of Society and Environment* and *Science*, with minor inclusions of environmental education principles in *Technology* and *Health and Physical Education*.

While the *Hobart Declaration* recognized the importance of including environmental education curriculum at the national level, the states and territories had already begun developing environmental education policies from the mid-1970s. Indeed, in 1976 the Queensland education department was the first Australian state department to release a statement on environmental education. This was later followed by an environmental education policy statement in 1988 and a curriculum guide in 1993. Tasmania released its statement on environmental education, also in 1976, but has not released any other environmental education policies or curriculum guides. The Western Australian directorate released its environmental education policy in 1977 and again in 1990. New South Wales (NSW) did not release a draft policy until 1983, later releasing an environmental education curriculum statement in 1989 and the *Environmental Education Policy for Schools* in 2001. South Australia released its environmental education policy in 1987. In 2001 the *Environmental Education Policy for Schools* (New South Wales Council on Environmental Education, 2001) was released and mandated for all government schools in NSW, from Kindergarten to year 12. The Victorian Environmental Education Curriculum Centre released an environmental education policy in 1983; however it was not until 1990 that the ministerial policy in environmental education was released. By 1994, all states and territories in Australia had at least a curriculum statement for environmental education with the Australian Capital Territory Department of Education releasing a curriculum statement and the Northern Territory Department of Education releasing an environmental education policy in that year.

In 1999, the Adelaide Declaration further recognised the role and importance of environmental education and education for sustainability in schooling whereby the declaration included goal 1.7: “When students leave school, they should have an understanding of, and concern for, stewardship of the natural environment, and the knowledge to contribute to ecologically sustainable development” (MCEECDYA, 2009, national goal 1.7). Building on such a goal, the first decade of the 21st century saw a
series of national documents that helped to define the field as it further evolved and coalesced with education for sustainability (DEH, 2005; DEWHA, 2009; DEWHA, 2010; Environment Australia, 2000).

The development of a national action plan for environmental education (Environment Australia, 2000), saw calls for environmental education to: “involve everyone”; “be lifelong”; “be holistic and about connections”; “be practical”; and, “be in harmony with social and economic goals and accorded equal priority” (Environment Australia, 2000, pp. 3-4). The National Action Plan for Environmental Education developed through consultation with various stakeholders and environmental educators purported to move away from an emphasis on awareness and instead toward “providing people with the knowledge, values and skills to actually make a difference to the protection and conservation of Australia’s environment” (Environment Australia, p. 5).

A second national statement that contributed to the broader curriculum and policy contexts within which the case-study schools were operating, was the Australian Government Department of the Environment and Heritage (2005) document titled, *Educating for a Sustainable Future: A National Statement on Environmental Education for Schools*. Adopted throughout this document was the term ‘environmental education for sustainability’, further cleaving together environmental education with education for sustainability, at least on a policy front. In particular, this document advocated whole school approaches to environmental education for sustainability and emphasised the value of building relationships with local community and making connection with a school’s physical surroundings. The recommendations in this document can be seen as having an underlying connection to place-based and place-conscious environmental education approaches in relation to engagement with local community. However, it also lacks an explicit and critical engagement with place that explores the role of curriculum in developing understandings of domination, discrimination and exploitation in the relationships between the ecological, political and social, or of the relationships that involve restoration and responsibility through re-inhabitation (Gruenewald, 2003a). Given that the case-study schools were similarly disengaged from the politics of place, *decolonization* and *re inhabitation*, it is unsurprising that the national
environmental education curriculum climate that informed school policy and practice did not also willingly engage with it.

Despite the “global vitality” in environmental education research in recent years, Payne (2006a, p. 25) contends that this “has not necessarily been matched in curriculum theories of or for [environmental education] in English-speaking, industrial, and advanced countries”. The status and development of place-conscious environmental education curriculum in schools and teacher education in Australia is yet to be established, although there is some research work done on place-based education (such as the Special Forever program in the Murray Darling Basin, see Comber et al., 2007) and place pedagogies (see Somerville 2008; Somerville & M. Green, 2011; Somerville, Power, & de Cartret, 2009). Additionally, while research looking to place-consciousness in Australian environmental education is becoming more prevalent, specific theorising of this for curriculum and practice is developing. As such, the aim of this dissertation is to enter into these debates, and provide further theorising on place-conscious environmental education curriculum.

The constitution of school subjects and key learning areas are socially and historically constructed through theoretical and disciplinary discourses, with school subjects across Australia often reflecting traditional academic disciplines. Yates and Collins (2010) suggest that this is related to the political/bureaucratic movement by all states in Australia to agree on the scope of eight Key Learning Areas in the early 1990’s. Yates and Collins suggest that this division of knowledge for learning into Key Learning Areas:

... appeared to reflect a naïve conviction at the political level that knowledge could be treated as facts and skills (Williams, 2005, p.12) which could be divided into fairly arbitrary heaps. There was no acknowledgement at the political level that, outside science, English and mathematics (revered in Australia, in true positivist style, as the one important theoretical undergirding of all other knowledges), there were different kinds of knowledge which needed … to be approached in different ways through their own inherent logics (Yates & Collins, 2010, p. 91).

As Yates and Collins (2010) point out, the relegation of knowledge into key learning areas (KLA) means that some KLAs maintain their disciplinary basis, whilst other KLAs are the amalgamation of loosely related areas without a strong knowledge-base. This can be seen in the current process
of development of the Australian Curriculum\textsuperscript{23}, with mathematics, English, history, science, and geography, maintaining strong disciplinary distinctions, whilst other key learning areas from the Melbourne Declaration (MCEETYA, 2008) forming within an amalgam of less strongly related knowledge-bases.

Discourses within the draft Australian curriculum documents strongly emphasise the enabling power of the curriculum as subject-matter in engaging students, with the teachers’ role described as supporting this process (Grundy, 1998; National Curriculum Board, 2009a, 2009b, 2009c, 2009d, 2009e). There is little recognition in the draft Australian curriculum documents of the complex interplay of teaching, learning, subject-matter and milieu in the everyday lived curriculum, or even that teachers play a role in curriculum beyond that of a technician passing on and assessing the attainment of the institutionally selected, theoretical knowledge (Grundy, 1998).

Sustainability discourses in state-mandated curriculum documents are becoming more mainstream. However, the use of ‘sustainability’, as opposed to education for sustainability or sustainability education, with its historical and disciplinary significance to environmental education, is becoming increasingly convoluted and slippery to define. The national curriculum cross-curricular perspective on sustainability is defined as a “commitment to sustainable patterns of living” (National Curriculum Board, 2009a, p. 13), a somewhat vague and ambiguous statement, something further reinforced through reference in the current draft suggesting the inclusion of sustainability themes “where appropriate”.

Within the national English curriculum, a commitment to sustainable living appears to focus on students gaining knowledge of interpreting and identifying persuasion, bias and attempts to influence in texts. In the History curriculum, students are expected to gain knowledge of how sustainable patterns of living have played a role in human societies. The mathematics

\textsuperscript{23} At the time of writing the F-10 English, mathematics, history and science Australian Curriculum documents were being implemented, the Geography curriculum documents ready for implementation, the arts, health and physical education, technologies and languages curriculum documents in various stages of writing and consultation, and the civics and citizenship and economics and business curriculum documents not yet written (ACARA, n.d, last accessed 13-12-2012).
curriculum document mentions only that a commitment to sustainability can provide “engaging and rich contexts for mathematics learning” (ACARA, 2010a, p. 6), although no content descriptions are identified as having sustainability cross-curriculum perspectives. At the stage of writing this dissertation, only half of the draft curriculum documents have been released, with science appearing to be the domain of environmental knowledge. The science curriculum draws on sustainable themes predominantly through the natural science strands, with some focus on social and environmental issues:

Sustainability as a social and environmental issue to which science can contribute, and the human responsibility to contribute to sustainability, is incorporated in the Science as a Human Endeavour strand. Important skills associated with contributing to sustainability, such as researching, systems modelling, using scientific evidence to evaluate claims and to argue ideas are incorporated within the Science Inquiry skills strand (ACARA, 2010b, p. 6).

The risk in this approach to curriculum is that it maintains a fragmentation between social and environmental knowledge through reinforcing disciplinary divides. Although sustainability is positioned as being cross-curricular, the knowledges identified as contributing to this theme are drawn from separate disciplines, rather than addressed as a field in itself which contributes to and draws knowledge from a variety of other fields. The disciplines are historically constituted ways of organising (and privileging) human knowledge, constructions which may prove to be inadequate given the scope and complexity of the socio-ecological and the environment in crisis.

In New South Wales, the Department of Education and Training has an environmental education policy which has mandatory adoption for all K-12 government schools (New South Wales Council on Environmental Education, 2001). The Environmental Education Policy for Schools recognises environmental education as life-long, multi-disciplinary in approach and, as per the Tbilisi Declaration of 1977, outlines the importance of environmental education in developing awareness, knowledge, understanding, and attitudes (NSW DET, 2001) – although, interestingly, the policy leaves out “participation” from the Tbilisi Declaration list, instead including evaluation skills. The Department of Education Policy on Environmental Education introduces the use of a school environmental management plan that incorporates the three areas of curriculum, the
management of resources, and the management of school grounds in environmental education. It is in these areas that the policy refers to outdoor lessons and participation in school decision making around changes to school grounds and resources use. The focus in the school environmental management plans are predominantly on management of grounds and resources.

The Victorian Department of Education and Early Childhood Development has considerably different expectations of schools in relation to environmental education. Through Sustainability Victoria, ResourceSmart Australian Sustainable Schools Initiative Victoria (AuSSI Vic) is a joint program offered by the Department of Education and Early Childhood Development and the Department of Sustainability and Environment in Victoria. ResourceSmart AuSSI (Vic) offers schools a framework to “bring together sustainability educators, facilitators and organisations” (Sustainability Victoria, 2012, para. 2). The broader Australian Sustainable Schools Initiative (AuSSI) was launched nationally in 2004, following a pilot in NSW and Victoria. The national program is based on an action learning cycle that commences with a commitment by the school to becoming more sustainable, followed by: baseline audits and data collection on resource use, management of grounds, and teaching and learning; development and implementation of an action plan and goals based on these audits; and critical reflection and evaluation (Department of Sustainability Environment Water Population and Communities, 2010). The ResourceSmart AuSSI (Vic) framework uses a certification process where schools work towards attaining a five-star certification through decreasing resource use and increasing habitat and biodiversity through the successful completion of five modules, community engagement, and integrated environmental practices and curriculum. In contrast to the mandated environmental education policy and school environmental management plans of the New South Wales Department of Education and Training, the Victorian ResourceSmart AuSSI (Vic) program is an opt-in system, with schools able to register their interest in participating in the 5Star Sustainability Certification (Sustainability Victoria, 2012). The curriculum documents, policies, initiatives and programs discussed here have contributed to the policy climate within which the case-study schools have practised, providing both impetus and constraint to environmental education practice. The knowledge privileged through these curriculum documents and policies emphasises environmental understanding that comes through the management of resources and school grounds. These knowledges are based largely on
science concepts and understandings – such as the volume of paper used and the environmental impact of paper use, or of identifying and counting numbers of bird species and investigating how these can be increased. There is an emphasis on science disciplinary knowledge about the environment, and the role of humans in its management, that tends to exclude those knowledges that can be used for meaning-making through experience, embodiment, intuition, action and practice. There is also an emphasis on the slogan “enough for all, forever” as epitomising the end goals of sustainability. This is problematic, in part through the continuance of neo-managerial discourse about the environment, but also, as Foster claims, any attempts at making deals between the present and the future is effectively overshadowed by the needs and interests of people in the present:

Sustainability is not a deal, compromise or balance cannily struck between the interests and needs of the present and those of the future. All such deals are pseudo-deals, lacking warrant in principle and in practice liable to subversion by bad faith. Rather, sustainability is living the present in ways which – so far as we can tell, and given some luck – will allow us to go on, indefinitely, negotiating an unpredictably emergent reality (Foster, 2008, p. 156).

Consideration, therefore, needs to be taken of the curriculum fragmentation that occurs when knowledge and meaning-making in environmental education are constructed through predominantly science and social studies subject areas in schooling, and when environmental learning is filtered through managerial and sustainability discourses. Questions need to be asked of those knowledges that are de-privileged or excluded through the prescribed curriculum, both within subject area boundaries, as well as across school subjects. Alternative ways of constructing environmental education curriculum that recognise the value of practical and experiential knowledge – informing actions and drawing on experiences – also utilise knowledge from disciplines, such as mathematics, English, art, music, drama and dance, that can use environmental meaning-making to blur the boundaries of disciplines and school subjects (Bernstein, 1971). Here, responsiveness to and consciousness of places can play an important role in blurring the boundaries between disciplinary, practical and experiential ways of knowing, and provide ways of thinking about the environment that provides alternatives, and problematise, neo-managerial and sustainability discourses.
Environmental education as curriculum praxis

As discussed at the beginning of this chapter, curriculum is often approached as an object of knowledge to be transmitted, with curriculum synonymous to a syllabus which sets out objectives of knowledge that students receive (Grundy, 1998). A second conceptualisation of curriculum focuses on the action of curriculum, whereby the objects (syllabus, program) are just one resource in the practice of teaching and learning, and the curriculum involves the interaction between teacher, learner, subject-matter and milieu. Students and teachers are co-constructors of the curriculum and integration, rather than subject specific learning, features students encouraged to participate in making meaning through interpretation and critical thinking about the world around them (Grundy, 1998). Curriculum, from this perspective, is practice guided by deliberative, informed judgements (*phrōnesis*) for the good of the earth – curriculum *praxis* (Grundy, 1987; Kemmis & Smith, 2008).

I would contend that curriculum *praxis* in environmental education involves a change through learning that leads to action and practice – notably, that is responsive to environment and place and is based on reflection, critique and shared understanding. Mobilising an understanding about the environment, developed through experiences in the more-than-human world, can foster attachment and care for place, with this in turn disposing one towards practical action for the ‘good of the world’. Knowledge that is developed through practical action and experience in the environment, alongside meaning-making that has come from more disciplinary knowledge, leads to practices of learning and teaching in the outside-classroom as having the same value as learning and teaching inside the classroom. Here, the ‘classroom’ place occurs inside-outside – and in such a way that place is intrinsically involved in the teaching and learning. Indeed, Somerville & M. Green (2011, p. 30) have suggested that “subjectivities in place are being formed differently compared to how they might be formed in the classroom. Through their engagement with place, children are becoming different learners in the world, knowing their world differently”.

Chapter Seven: Knowledge
Cormack, Green and Reid (2008, p. 86), in their discussion of Special Forever, describe an environmental and place-responsive curriculum as hoping to engender schooling where the;

... child is seen as the ‘seed’ out of which the future citizen grows, hopefully one for whom the state of the environment is a first-order and pressing issue of concern. In this way it is hoped that a predisposition to eco-citizenship is inculcated in the work of primary schooling.

Similarly, Martusewicz and Edmundson (2005, p. 71) talk about a “pedagogy of responsibility”, which recognises that to be educated means “we must learn how to engage with others to consider questions of how to live on this planet, how to live just and sustainable lives without destroying the immensely diverse system that makes life possible”. Such a pedagogy of responsibility, as (Reid, 2007, p. 126) claims, is “intellectually challenging and environmentally sustainable” and contributes to the development of an eco-ethical consciousness – a consciousness that accepts and values diversity, “including the natural world and its non-human elements” (Reid, 2007, p. 125). When teachers and students engage in place in ways that encourage, recognise and emphasise locally situated actions and practices in fostering responsibility for a regenerated environment, then “students are working towards a pedagogy of responsibility in this sense of eco-ethical justice” (J. Reid, 2007, p. 127; see also Edmundson, 2004).

Curriculum praxis recognises that learners and teacher work as subjects within the curriculum process as negotiators, transformers and collaborators – participating in meaning-making and transforming understanding into action. The curriculum as a negotiation between teacher and students allows the classroom to become a setting that is a “jointly enacted composition that grows and changes as it proceeds” (Boomer et al. 1992, p. 32). As the subjectivities of teachers and learners are changed through successful learning and teaching that connects with, reflects on and acts on education that is responsive to environment and place, the possibilities for responsible and committed actions are also changed, shaping and transforming teacher and learner capacities for eco-ethical consciousness (Reid, 2007).

The emphasis on practical reflection and committed action for the good of the world, in a praxis approach to environmental education curriculum, means that knowledge, meaning-making and pedagogy have as an end
goal powerful learning that results in subjective changes – in attitudes, dispositions, actions, and understanding – with regard to living in the world with an eco-ethical consciousness. With successful teaching and learning that encourages a dialogical relationship, a critical and reflective engagement with the discourses and ideologies, and a commitment to action, comes a change in the capacity for connection with, understanding about, and practices for the ‘good’ of the world. Pragmatically, however, it is also necessary to recognise that curriculum is practiced within the context of situational, institutional and practical restraints and forces that face teachers, students and schools.

With learning and teaching understood as occurring in and through places, what is learnt, how it is learnt, and where it is learnt become important in conceiving the classroom as a place for teaching and learning that go beyond the walls of the school building – and beyond even the boundary of the school, into the community. Here, knowledge and meaning-making are constituted through disciplinary understandings as well as experiences and practices in place. For example, the science disciplinary knowledge involved in learning about ecosystems and biodiversity in national parks, and monoculture in forestry plantations, complements social studies disciplinary understanding of political, ecological, economic and social implications of the logging industry and parks and recreation tourism that impact the local town. Further to these disciplinary understandings, are those knowledges that come from “blurring the boundaries” – the excitement and anticipation of story-telling or role-playing in the cubby huts at the back of the school, the camping excursion with classmates, the embodied experience of revegetating local degraded bushland from propagated Indigenous species, and of scavenging for and then using bush materials to sell to friends in your cubby-shop or create artworks from. These experiences can begin to develop explicit awareness about places, nature and the more-than-human world as something that is appreciated, sensed, sociable and bodily, rather than an abstract and decontextualised sense of ecosystems distilled to a cycle of ‘producer, consumer and decomposer’ (ecosystems lesson observation, yr. 5/6 MTPS, September, 2008). Further, a deeper engagement and consciousness of place/s in the curriculum can lead to negotiation of the intersections and interrelations between experiential, disciplinary, and practical knowledges.
Evident in each of the case-studies were curriculum practices that used an integration of knowledge for meaning-making through subject-matter, experience and action that fostered through on-going relationship with place. Lesson observations of two case-studies demonstrate curriculum practices that offered an interplay between curriculum, practice and place. These lesson observations are discussed in the context of, in the first example, the powerful learning that can come from informal and unplanned opportunities that develop student consciousness of environment and place, and in the second example, of the value that a dialogical engagement between teacher and students brings to the connection of abstract understanding to local experience and action.

Writing stories

During the recess break, Miranda, the Yr. 3-6 teacher at Flatlands Public School, wondered out loud what she could do for her literacy lesson in the next session. Knowing that she had programed for story writing, she discussed with the other teaching staff, Colleen (Yr. K-2), Daniel (principal) and Emily (aide/EEC assistant) some of the themes that she could use to focus the story writing lesson, eventually deciding to draw on Emily and Daniel as experts to talk to her class about yabbies.

The lesson was introduced to students, with discussion on writing a story about “a day in the life of a yabby (at Flatlands EEC dam)”. Lesson content included strategies for writing stories, discussion around incorporating a recount style into story writing. Students were also asked to share what they knew about yabbies. Here, Emily, a part time teaching aide, who also worked in natural resource management at the CMA, was called into the classroom to talk about yabbies from her environmental science background. Following this, the interactive whiteboard was utilised to look at several websites about yabbies and students were encouraged to make notes on technical terms, scientific name, habitat, food sources, life cycle, appearance, and behaviours that they were to draw on in writing their story. When Daniel came into the classroom on an errand, he also answered questions about yabbies in the Flatlands EEC wetlands. At this point, Liam raised his hand and asked Miranda if he and Hamish could check the yabby nets in Flatlands EEC and bring some yabbies into the classroom for the other students to see.
After the students had time to collect information about yabbies and look at pictures, they were given explicit instructions on what they were expected to complete within the lesson; a handwritten draft, typing of an edited version commenced on the computer, and, if completed, a drawing to accompany their edited, printed story. Students set to work, studiously engaged in their writing task, at times using the internet on the Smartboard or looking at reference books supplied.

As Hamish and Liam returned with three yabbies in their bucket, students collectively expressed amazement at one particularly large yabby (“Whoa!” “Cool!”) (image 7.1 bottom). As students began to move out of seats to get a better look at the yabbies, Miranda refocussed students on their work, stating that she would bring the yabbies around for students to look at whilst in their seats. As she walked around with the yabbies, she named the physical characteristics that the class had been reading about online – the blue-green shell, a missing claw and leg, antennae, walking legs (image 7.1 top). Although students had begun talking, conversations were about the look of the yabbies, the way the large yabby had held its claws in a defensive position, imaginings about how one yabby had lost its claw.

The remainder of the class time was spent in a hum of activity. Students were drafting their handwritten stories with the help of Miranda, other students were typing their stories, or doing a free-hand drawing of their

**I'm A Yabby**

Hi. I'm Smorgus Bongundy. I'm 200mm long, male with a green body, along with a tinge of blue on my legs and one of my nipples. The other nipple got chopped off by my brother when I was three. He nearly chopped the other one off because I ate his awesome detritus but luckily Dad came in. I only have one brother because all the other eggs were eaten by a duck but our mum got away. My brother's name is Marcus. He has green fungus growing on his back but I'm not as lucky, my fungus is pink. We are both twins and are the biggest in our class. Marcus is a lot smarter than me, but I'm pretty stupid. Our dad has totally insecure claws 8 centimetres long and is the biggest in our class. His fungus is massive and so is our mum's. His body is 13 centimetres long. Marcus had a girlfriend but they got into a fight and he dropped her head off. For some reason the girls never ask me out. Maybe I'm too good looking even if I say so myself.

Image 7.1 Miranda showing a yabby to her Yr. 3-6 class (top); the bucket of yabbies collected by Hamish and Liam (bottom) (FPS, March, 2008)

Image 7.3 'I'm A Yabby', an excerpt of Peter's published story (Yr. 6 student work sample, FPS, March, 2008)

Image 7.3 Harry's yabby with leaf detritus (Yr. 3 student work sample, FPS, March, 2008)
yabby to accompany their final edit (images 7.2 and 7.3). As the class came to an end, with assurance that those students who hadn’t typed their stories would get the opportunity to do so later in the week, Hamish and Liam returned the yabbies to their dam.

(Yr. 3-6 story-writing observation, FPS, March, 2008)

There are three key points about this observation in the context of the discussion about knowledge and curriculum in environmental education in this chapter. First, was the teacher’s planning of specific lesson content evolving out of discussion with other staff. Here was an example of teachers operating as collaborative curriculum workers. Although Miranda had already developed a teaching program that aligned with state curriculum documents, the enactment of the curriculum led to collaboration in the moment of preparation and also through the teaching of the lesson, making use of the strengths and knowledge of other staff members.

Second, there was a disciplinary integration of intended, formal knowledge across the English and science disciplinary areas, with incorporation also of technology and creative arts disciplinary knowledge, although these were not an explicit focus of the teaching. The intention of the lesson was to develop student understanding and practice of using recount for story writing; however, through the enactment of the curriculum and the teachers’ planning and collaboration, this intention evolved to also incorporate a range of science discipline-based knowledge about yabbies.

Third, was the informal and unplanned opportunity for powerful learning the transformed the students learning through the collection and showing of the yabbies during the class. Here was an example of curriculum practice that evolved and developed through its practicing, leading to the learning experience of students shifting from text and image based content, to their experiencing of yabbies ‘in the flesh’. This also enabled students to understand and practise using the technical terms and explanations regarding the description of a yabby’s shell and the varying colours of shells, the difference in size, what a missing claw looked like, and see a yabby holding a defensive position when threatened. Further, this provided an explicit example of students as themselves contributors to and co-constructors within the curriculum.
The second lesson observation provides an understanding of the value that dialogical relationship has in developing student understanding in environmental education.

Healthy and unhealthy catchments

In a flurry of activity and movement students are off into their reading groups, and I sit to watch the guided reading session with Trudy. Once the group of six students have quietened down, Trudy pulls out a poster of a catchment (image 7.4), showing the grey side first. She begins by asking students if they can identify what is happening in that catchment and what some of the “poor practices” are.

Image 7.4 Bad catchment (l) /good catchment (r) - poster resource used during observed lesson to demonstrate good and bad practices in catchments. [images © http://www.waterwatch.adelaide.net.au/uploads/file/interactive/cc/index.htm]

Students look at the picture and start to call out the various problems that they can see in the picture. Trudy hooks into one of the student’s responses, immediately responding with her own question: “What’s wrong with willow trees? Is it a problem they lose their leaves?”. This leads into a to-ing and fro-ing of ideas and thoughts, questions and answers, as Trudy encourages the students to think about why the first problem identified, willow trees, are a problem in the catchment. The conversation identifies willow trees as contributing to excess nutrients in the water, promoting
weed growth and affecting the water flow, in turn having an impact on what can live in the water. As Trudy identifies that students need more explanation to make particular connections, or develop their understanding, she elaborates:

It would also affect the oxygen levels, and smother and create less and less dissolved oxygen in the water and it makes it hard for anything to live in that, apart from the slimy water weed. So you’re right, adding these nutrients. It’s not just the trees doing that though, but you’re absolutely right the willows can be a problem. The willows can also sucker and stop the flow … remember down at the river in Riverside, remember when they were covering the river and nothing could get through, you couldn’t canoe down there and fauna couldn’t get through and it was certainly stopping the flow. They’re very easy to sucker.

The lesson moves on, with prompts from Trudy for answers (“What issues would that create?”, “What’s the problem with the cow being there?”, “What do these types of examples create?”) and encouragement to use technical terms (“What do detergents have in them? What’s that word?”), as well as providing the occasional contrary argument (“but a farmer’s got to plough …”). The problems and implications identified through the dialogue are the willow trees, pollution, farming practices, erosion and stormwater pollution.

Once students begin to get off track – and show a bit too much of an interest in pooh – Trudy changes sides on the poster. Immediately students start with comments of, “Cool”, “Oh that one’s got …”, “He hasn’t put it as high”, “They’ve taken the log out”, and the observant: “The one thing no one’s said is that it’s coloured”.

Again, Trudy questions and prompts as well as elaborates concepts, while students answer her questions, observing the good practices in this picture in contrast to the previous side:

T And what then does that provide? When you put in native vegetation?
St 1 Um, it means you get native birds coming and making homes.
T And what do we call that?
St 2 Animal homes?
T What do we call animal homes?
St 1 Habitat.
T Habitat. As you pointed out here, it’s not as damaged a river bank as on the other side. Amber pointed out that they’ve created a buffer zone to protect the river bank, what have they done that with?
St 3 Um, with trees
T There’s a lot more planting, what do we call that?
St 3 Revegetation
T Good. They’ve revegetated along the bank, stabilised it. What else have they done? By stabilising it, with revegetation, they have?
St 4 They’ve like revegetated the bank
Students identify a range of improved practices including the removal of willow trees, removal of rubbish and pollution, revegetation, fences stopping cows and farmers from eroding the bank, car washing in the grass, dog pooh being picked up, a pollution trap on the stormwater drain, a weir and reeds. They also identify some of the impacts of these practices such as more birds, cleaner water, and erosion free river banks.

The guided reading session ends with Trudy providing the students with a worksheet. The worksheet is titled Healthy Water on one side and Unhealthy Water on the other side. Each side provides a slightly different version of a poem, contextualised to the local river.

Trudy talks the students through what they need to do on the worksheets – draw the scene that the person in the poem is looking at, then in a table list as many good/bad actions that humans have done to improve/damage the river and the impact of those actions (image 7.5 & 7.6).

**Healthy Water**

I had this unreal dream last night. I was standing by the River in fifty years time. It was great! The river was healthy, people were swimming, fishing and all were having fun....

I had an unreal dream last night. I was standing by the River in about fifty years time. It was great. People were laughing and fishing and all were having fun. I felt a little hand grab mine.  
“How did they let the river get like this Grandpa?” he asked.
I told him when I was a little boy people tried to get us to do some simple things to help protect our waterways, it just grew from there.
“I’m really glad they did Grandpa”, he said.
So was I, yep so was I.

List as many good actions you can think of that humans have done to the river to improve it and make it so healthy.

<table>
<thead>
<tr>
<th>Action</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fenced off dock from river</td>
<td>Stop poisons from causing weed growth and turbidity</td>
</tr>
<tr>
<td>planted dog poo near the river</td>
<td>The people can not dive the environment</td>
</tr>
<tr>
<td>fish near trees around the river</td>
<td>There’s no floating and no floating waste, causing harm</td>
</tr>
<tr>
<td>Pulling out and not taking weeds</td>
<td>Solving parts of the river</td>
</tr>
<tr>
<td>Building more reeds</td>
<td>Health is becoming better</td>
</tr>
</tbody>
</table>

Image 7.5 Healthy Water (Yr. 6 student work sample, RPS, May, 2008).

The students grab a worksheet and there is another flurry of movement and bodies as they move back to their seats. The guided reading session is ended and I move to the back of the class to see what other groups are working on.
In this example, the students were provided with a resource representing some of the content that they had been learning over the previous five weeks. The planned curriculum activity provided students with an opportunity for practical reflection on actions that were unhealthy for a catchment, and those actions that were healthy for a catchment. Through the teacher’s enactment of the curriculum students were enabled to engage in a dialogue whereby they had the capacity to make connections between knowledges in regards to ecological and social understanding, as well as potential actions and practices that they could be involved in. In addition, there were several examples where the teacher drew on local situations and events that students had seen or been to. Trudy reinforced and reviewed a number of technical terms throughout the lesson, also drawing on connections between those things and a healthy environment, as well as connection to learning experiences that the students had been involved in the previous year. Finally, the worksheet enabled students to critically reflect on actions and practices that could be taken to improve the health of the catchment, contextualised to their local river and looking to the impact of present actions on likely futures.
Mobilising understanding into action with eclectic curriculum practice

The examples above look to practices of curriculum which engage with environment and place, through a dynamic interplay between disciplinary and content knowledge about specific ecological concepts, the ecological experiences of students’ lived places, and practical learning experiences in place. Here, both formal and informal learning experiences are important for student making-meaning about and responding to environment and place.

The translation of curriculum objects into the practised curriculum, however, means that the advocating of curriculum praxis in environmental education needs also to take into account the context of the situational, institutional and practical restraints and forces that face teachers and schools – both in the ways that curriculum is formed, transformed, and negotiated at the institutional, programmatic and classroom levels, as well as with the content and meaning-making involved in the politically and socially charged subject matter of environmental education. There is a need for the inclusion of environmental education/education for sustainability in the school curriculum in such a way that students learn to be responsive to environment and place and develop eco-social understandings. While there are changes occurring in the institutionalised environmental education curriculum, Westbury suggests that approaching curriculum change within the “messy business” of “the day-to-day reality” of schools needs to recognise the common sense practicalities of change in schooling;

… change is inevitably incremental with real wins few and far between; and the public wishes and expectations that circle around schools as sites that carry the norms and expectations of the social institution of schooling loom large (Westbury, 1999, p. 357).

Within this setting, the role of environmental education, with its often purported ideal as an agent for social change or transformation, becomes nearly impossible and quite possibly destined to fail. There have certainly been studies documenting the failure of environmental education to create the necessary moral transformation for an ecologically literate citizenry, which Ferriera (2007) suggests is in response to the transformative goals of a field that has an ideal of social change that is essentially unachievable. Instead, she suggests that it is the shift away from a focus on moral
transformation and instead toward changes in the practices, personas, and habits of people where environmental education is able to become successful (Ferriera, 2007). Taken within the context of accountability and standardisation in institutionalised schooling, where disciplinary knowledge is privileged and prioritised, an interdisciplinary environmental education, emphasising (local) knowledge through experience and action, becomes a field on the margins.

Helfenbein (2010) raises the pertinent issue of how the curriculum of a school affects the lived experiences of the children, teachers and parents at that school. The inclusion of environmental education curriculum in the case schools, along with privileging multiple ways of knowing, local places, embodied experiences, and mobilising understandings into practical action, can be seen to have a positive effect on the responses to the environmental and place consciousness of students, teachers and the wider community in general. At times the environmental education emphasis, particularly at Flatlands Public School and Mountain Top Primary School, becomes the normal background for schooling and curriculum, as can be seen in the example of the literacy lesson at Flatlands Public School. It is this level of integration of environmental education, where understanding and meaning-making about environment and place has become a part of the schools’ practice that is made possible through the resources and spaces available to them. In turn, the practicing of environmental education through school and community places has led to curriculum changes where experience and action is valued.

Here, I would like to propose that in practice a strategic or purposeful approach to curriculum, using a variety of diverse approaches and ways of making-meaning, can work for learning in environmental education curriculum, particularly when taken in the context of the reality of day to day life in the “tangled web of practices” of schooling (Helfenbein, 2010, p. 308). I suggest the term ‘eclectic’ to represent the practical and pragmatic melding of diverse approaches to curriculum in environmental education as homage to the complexities of everyday curriculum demands within schooling, which a teacher then transforms, negotiates and ultimately enacts. In order to meet, challenge, resist and transform the many institutional and programmatic curriculum demands placed on them, a
strategically eclectic approach to curriculum is necessary for teachers and can be seen in the approaches to curriculum within the case-study schools.

The teachers who participated in this research were negotiating curriculum on a number of levels to arrive at settlements and strategic gains – practicing a range of teaching approaches that represent the complexity of curriculum in environmental education practice, in part enacting curriculum praxis in environmental education. These schools have made their best effort to mobilise understanding and action in environmental education through an eclectic approach to curriculum that incorporates state-mandated curriculum approaches which differ significantly in their expectations of the schools, standardisation and accountability, along with personal philosophy of learning, teaching and relationship to environment and place.

Conclusion

The case-study schools operated within the context of a curriculum agenda that impacts on, and is impacted by, the curriculum practices in the school and the ways that the curriculum is transformed to incorporate understandings about the environment into actions. The case-study schools, and particularly evident in my data generation at Flatlands Public School and Mountain Top Primary School, had utilised the community place and the school place as a resource for environmental and place responsive decision-making and policies at those schools, despite the different state government education systems within which they were operating.

I have discussed here a broad understanding of curriculum as multi-faceted as well as a particular focus on the constitution of knowledge for subject-matter in the curriculum. In particular, I suggest that there are many forces shaping the selection and formation of knowledge for the classroom and that the historical constitution of knowledge for environmental education has happened through a compartmentalisation of science or social science knowledges. Deng and Luke’s (2008) argument for an alternative classification of knowledge is also appropriate for an environmental education curriculum which takes praxis into account. In this sense, then, the cross-curricular sustainability of the new Australian Curriculum is a weak attempt to organise sustainability as an amalgam of various fields of
knowledges. Instead an alternative classification, where the diversity of socio-ecological knowledges are drawn from the disciplinary, practical, informal and experiential, inform a deliberative judgement and committed action for the good of the world.

Each of the case schools demonstrated, to varying degrees, elements of a curriculum *praxis*, whilst at the same time meeting the requirements of the prescribed curriculum. Taking into account the interactions between teachers, students, community, and knowledge, the practice of a diverse mixture – a strategic eclecticism – in approaches to curriculum, shaped by the context in which it is practised, is practical and achievable. Through embracing integrated environmental education concepts as whole-school approaches, both Flatlands Public School and Mountain Top Primary School had begun the process of reflection and planning for committed action, providing learning and teaching experiences for students that encouraged them to respond to and be conscious of environment and place. As well as evidence of a *praxis* approach to curriculum in their practices, these schools were operating within state government schooling systems that are increasingly outcome- and capability-oriented. The teachers at the case schools were both part of their respective systems and obliged to meet the requirements of the relevant syllabus and standards within it, whilst at the same time taking the flexibility of approach to mobilise into action a curriculum conscious of and responsive to environment and place.

In the following chapter, I develop a sense of environmental education as a practice, or set of practices, of actions and performance that are embodied and emplaced. Here, I look also to habituation and routinisation in the development of environmental subjectivity through environmental education that provides embodied experiences conscious of and responsive to place.
Chapter Eight: Practice-ing and performing place and environmental education

My focus in this chapter is to consider, from a practice-theoretical perspective, environmental education as an array of activities constituted through every-day, embodied happenings. The practice-turn in social theory originated in the late 1970s and early 1980s through the collection of diverse writing from theorists that have sought, in varying ways, to understand the social where individual agency was liberated from “the constrictions of structuralist and systemic models while avoiding the trap of methodological individualism” (Postill, 2010, p. 8). Through this came an understanding of the human body as the “nexus of people’s practical engagements with the world” (Postill, 2010, p. 8). In this sense, then, practice theories attempt to both theorise and problematise the social:

... it reminds us of the role and significance of theory and theorizing in attempts to understand matters such as professional practice, while nonetheless encouraging us to keep in mind the risks and dangers of such activity, and of the need to be “suspicious of ‘theories’ that deliver general explanations of social life as it is” ... (B. Green, 2009, p. 1)

Through this chapter, I discuss a practice-theoretical perspective as a way to provide environmental education with a theory that embraces practice and activity as central to the everyday intelligibility of a consciousness of and responsiveness to the (social and ‘natural’) world. This has at its basis three core, inseparable, ideas: first, that practice offers an account of activity – it involves an actual ‘doing-ness’ and happening – that is grounded in what people say and do, and is dialogical, orchestrated and co-produced (B. Green, 2009). Second, that practice theory offers an account of practising; of bodily activities – ‘doings’ and ‘sayings’ – forming practices through their repetition and integration – and thus interconnected with ideas of habit, routine and habitation, and the formation of habitus. And third, that practice is performed, that it is bodily, physical, material and interactive, involving choreographies of bodies and material objects. Each of these ideas brings to environmental education an integral understanding of it as complex, open-ended and practised; of environmental education as involving “arrays of activity’ in which the human body is the nexus” (Postill, 2010, p. 10).
The discussion in this chapter looks to environmental education as a practice through the conceptualisation of orchestrated *doings* and *sayings* (Schatzki, 1996, 2002, 2010). The activities forming environmental education practice draw on language resources and activities which, through repetition, performance and bodily experience, lead to a practising of environment and place.

**A theory of social practices**

Practice theory has been described, variously, as a loose collection of theories; a “family of not necessarily coherent ideas” (Hopwood, 2010, p. 1), and a “somewhat awkward formulation” (B. Green, 2009, p. 1). Coming into being out of various attempts by theorists to provide alternatives to, and to problematise, more classical and modernist social theory, theories of social practice are typically informed by the philosophical traditions of Wittgenstein and Heidegger, and have been further developed through fields such as philosophy (Schatzki, Merleau-Ponty, Taylor, Dreyfus), geography (Thrift) social theory (Bourdieu, Giddens), cultural theory (Foucault, Lyotard), science theory (Latour) and education (Kemmis, Green), to name a few. Although a practice-theoretical perspective of the social presented by these theorists are diverse, pluralistic and show flexible understandings, they share “the idea that practices are the site where understanding is structured and intelligibility ... articulated” (Schatzki, 1996, p. 12). The discussion throughout this chapter looks to the theories of practice that the writings of Schatzki, Thrift, Bourdieu, Kemmis and Green articulate, and what these perspectives can contribute to understanding environmental education.

In a response to what have been found to be deeply problematic modernist and reductive understandings of science, the social, and the political, practice theorists have sought to understand practices as a central social phenomenon. Complex, yet with open-ended possibilities (Hopwood, 2010), social practices have been variously conceptualised as interconnected, intersecting, overlapping and relational (Claycomb & Mulberry, 2007; B. Green, 2009; Kemmis, 2010; Schatzki, 1996, 2002, 2010; Thrift, 2008; Turner, 2007), with emphasis on embodiment, emplacement, and the “ongoing-ness of everyday life” (B. Green, 2009, p. 4). As Schatzki (1996, pp. 11, 17) suggests:
practices are not only pivotal objects of analysis in an account of contemporary Western Society, but also the central social phenomenon by reference to which other social entities such as actions, institutions, and structures are to be understood. Practices discussed by practice theorists establish a sociality that always interconnects, constrains and enables the ‘particles’ of social life throughout their motion.

A discussion of practice is therefore an account of the actions that constitute the everyday goings on in life, framed through time and space. Practices are performed through individual actions, yet collectively and historically constituted. Actions which, once performed, cannot be undone, and instead re-form and transform practices:

Action and practice likewise ‘escape our control’ in a shared world and history. As they are ‘loosed upon the world’ (Yeats 1921,19), spiralling ‘out’ from us in space and ‘down’ through time, action and practice become things less and more and different than we intended, desired, anticipated, expected or hoped (Kemmis, 2010, p. 12).

Schatzki (1996, 2002, 2010) has drawn on the philosophies of both Wittgenstein and Heidegger in his writings on the social dimensions of practices, with particular emphasis on practice as arrays of activity that are embodied, materially mediated, and contextualised through time-space. Schatzki (1996) suggests that practices are the point of connection between the realms of individual activity and sociality, both of which, in turn, are the results of practices. He identifies three understandings of practice:

1. in the sense of practising – through repeated carrying out for learning or the improvement of a skill or ability.

2. as the “organised nexus of actions ... [where] the doings and sayings composing them hang together” (Schatzki, 2002, p.77), linked through practical understandings, rules and principles, and teleoaffective structures, and general understandings that form the organisation of a practice.

3. as action (do-ing) performed within a practice.

All three of these notions of practice have at them the central understanding that practices are action, and more specifically, the do-ing of actions (B. Green, 2009; Schatzki, 1996). B. Green (2009, p. 5) further
emphasises the notion of activity, a sense of ‘doing-ness’, as central to conceptualisations of practice:

... practice in this light consists of speech (what people say) plus the activity of the body, or bodies, in interaction (what people do, more often than not together) – a play of voices and bodies. In this view, practice is inherently dialogical, an orchestrated interplay, and indeed a matter of co-production.

The concept of practices as speech and bodily activity builds on Schatzki’s (1996, p. 41) naming of actions that form practices as ‘doings’ and ‘sayings’, and therefore, that it is the “bodily doings and sayings, and bodily sensations and feelings, [that] are the medium in which life and mind/action are present in the world”. For Schatzki, bodies are a manifestation of the instance and the moment of life, the signifier of attitudes and positions (dispositions), and finally are instruments in which the performance and execution of actions are constituted (Schatzki, 1996, p. 43). Fundamental to a practice-theoretical perspective is the understanding of practice as an articulation of action: the performing of bodily activities and speech activities, interlinked, and intelligible as being a practice of something:

Each of the linked doings and sayings constituting a practice is only in being performed. Practice in the sense of do-ing, as a result, actualises and sustains practices in the sense of nexuses of doings. For this reason, a general analysis of practices qua spatiotemporal entities must embrace an account of practice qua do-ing; in more standard language, it must offer an account of action (Schatzki, 1996, p. 90).

Further to this, Schatzki (1996, p. 89) suggests that practices are “temporally unfolding and spatially dispersed”, at the intersection of doings and sayings, with three areas of linkage:

(1) through understandings, for example, of what to say and do; (2) through explicit rules, principles, precepts, and instructions; and (3) through what I will call ‘teleaffective’ structures embracing ends, projects, tasks, purposes, beliefs, emotions, and moods (Schatzki, 1996, p. 89).

Practices, then, are linked through understandings of the “roles and significance” of particular knowledges, as rule-referenced (rather than rule-governed), and always purposive (B. Green, 2009, p. 5). In addition to these understandings of what practices pertain to, B. Green adds the importance of understanding practice as embodied and emplaced: “account
must be taken not only of the body, and the body in interaction with other bodies, but also of where it is located” (B. Green, 2009, p. 5).

Linked *doings* and *sayings* that are recognizable as a practice of teaching are understood to be teaching practice because of the contexts in which they are performed (generally speaking the dedicated space in which the practice of teaching is known to happen – i.e. classroom, school, garden) and against the background of an understanding of the actions that constitute teaching (typically actions of pedagogy and curriculum, behaviour management, and so on). In other words, the understanding that is carried through the practice of teaching provides a background for which *doings* and *sayings* in teaching practice are intelligible. Further to this, the situation in which a practice happens provides understanding of it as a practice of something – practices open spaces (Thrift, 1999).

When a setting or site is understood as a place in which a practice is performed, it becomes a place in which that practice becomes intelligible. For example, schools and classrooms are understood as places in which teaching (and learning) is performed, so therefore a classroom is understood as the situation of the practice of teaching and learning. As practices of environmental education teaching and learning become understood as situated both inside classrooms and outside in the school grounds and local communities, these places – gardens, nature reserves, community spaces – become intelligible for teaching and learning in environmental education.

**Integrative and dispersed practices**

In his discussion of a theory of social practices, Schatzki (2002, p. 77) describes social practices as the “organized nexuses of actions”, where linked collections of *doings* and *sayings* hang together. He contends that social life consists of two distinct, yet interwoven, ways of practicing, namely integrative practices and dispersed practices. Integrative practices are “complex entities joining multiple actions, projects, ends, and emotions”, while dispersed practices “centre around a single type of action”, are generally rule-free and don’t typically have a *teleoafffective structure* (Schatzki, 1996, pp. 98-99). Examples of dispersed practices are: describing, ordering, following a rule, explaining, imagining. The
performance of a dispersed practice involves, using the example of describing, an understanding of how to 'do' the act of describing, as well as how to identify the act of describing when someone else is doing it, and knowing the appropriate responses and prompts as somebody describes something to you (Schatzki, 1996; Warde, 2005).

Integrative practices are more complex and found in the domains of social life. Examples of integrative practices include: teaching practices, voting practices, business practices, and recreational practices. Integrative practices are "collections of linked doings and sayings" with "explicit rules, principles and precepts, and instructions; and teleoaffactive structures comprising hierarchies of ends, tasks, projects, beliefs, emotions, moods, and the like" (Schatzki, 2002, p. 98). They are not assemblages of dispersed practices; however, where dispersed practices meet integrative practices in social life they are woven together, in conflict and cohesion, and through their incorporation dispersed practices may be transformed (Schatzki, 2002, p. 88).

Teaching, as an example of an integrative practice, consists of collections of doings and sayings which are intelligible as the practice of teaching. This includes doings and sayings involved in the planning, preparation and delivery of lessons, alongside the understanding of the rules and principles that identify those passages of time as a lesson, and the structures given to an understanding of a lesson as meeting particular ends and tasks of teaching. Furthermore, speech and language acts, as well as particular bodily activities, can be understood within an integrative practice of teaching, with expectations from those within and outside of the practice comprising of how a teacher 'should' look and sound like, the language they use, and the ways that they move (B. Green, 2009; J. Reid, 2011).

Building on Schatzki's conceptualisation of the organisation of practices as linked collections of doings and sayings, Kemmis and Grootenboer (2008; see also Kemmis & Mutton, 2012; Kemmis & Smith, 2008) have suggested that 'relatings' – the relationships between people, and between people and the natural world – together with doings and sayings, form 'bundles' of practices. Particular or distinctive practices, such as teaching, or

24 Although Kemmis and Grootenboer (2008) and Kemmis and Mutton (2012) have conceived relatings as a separate and distinct form of action to doings and sayings, I do not include relatings, as such, throughout my discussion of practice theories.

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environmental education, are therefore “held in place by preconditions that enable and constrain some kinds of action at the expense of others” (Kemmis & Mutton, 2012, p. 188). These preconditions they call ‘practice architectures’, identifying them as “orders and arrangements that enable and constrain practice, respectively, in semantic space, physical space-time and social space” (for a more detailed discussion of practice architectures, see Kemmis & Grootenboer, 2008; Kemmis & Mutton, 2012, p. 188; Kemmis & Smith, 2008; Kemmis, Wilkinson, Hardy & Edwards-Groves, 2010). Environmental education, for example, could be construed as forming one such distinctive bundle, with speech, bodily activities, and relationships constituting it as a practice. Kemmis and Mutton (2012, p. 188), therefore, have suggested that changing practices in environmental education:

... requires not only changing the awareness, understanding, concerns and skills of individual participants in the practices, but also changing the practice architectures that hold existing practices in place. Put bluntly, changing existing practices ... means changing not only what individuals think and how they act but also the discourses through which people understand their world ... changing existing material-economic conditions ... and changing the social-political relationships between people and between people and other living and non-living things in the world ... Put in our terms, this means that EFs must necessarily be directed towards transforming both unsustainable collective social practices and the practice architectures that hold those practices in place.

I now turn to a discussion of practices in environmental education, to further consider doing and saying actions that hang together in constituting environmental education practice, specifically within the context of the case-studies.

**Environmental education practice**

A practice-theoretical perspective contributes to understanding environmental education within the context of the diversity of doings and sayings that hang together forming practice. The bundles of doings and sayings that formed environmental education practices in the case-studies showed an array of activities common across the three contexts, as well as those that were unique to each of the contexts in which they were situated.

here. While I find the idea of relatings to be a compelling addition to Schatzki’s doings and sayings, at this moment I conceive of relatings as formed through doing actions and saying actions.
Importantly, environmental education as practised in each of the case-studies formed, re-formed and trans-formed place, as well as being formed, reformed and transforming of place. Appendix 6 provides an outline of the organised array of activities that formed the environmental education practices in each of the case-studies, drawn from observations, interviews and conversations, and documents generated during fieldwork. I provide here a brief description of the organised arrays of activity that formed environmental education practices in each of the case-studies.

At Flatlands Public School, the arrays of activity that formed an environmental education practice involved physically moving through and acting in outside spaces. More specifically, outside spaces and places were utilised to engage students in meaning making about conservation and environmental awareness. Here, the pedagogical approach and belief of the principal was informed by concepts of nature experience and place-making from books such as Richard Louv’s (2008) Last Child in the Woods, and David Sobel’s (1996) Beyond Ecophobia. Environmental education practices at this school emphasised meaning-making and participation through the local environment by taking into account the issues, contexts and concerns of the community and region (such as water, drought and biodiversity). There was an emphasis on providing students at the school, as well as those attending the Environmental Education Centre, with positive, fun and routine/ongoing experience in nature. Pedagogical approaches were predominantly based on inquiry, inquisitiveness and exploration in learning. Further to this were particular teaching practices that enabled students to engage in incidental and informal environmental learning – such as providing opportunity and autonomy for students to build and play in cubby huts without teacher interference (outside of general safety precautions), and dedicated gardening classes where students were involved in gardening activities that were based on minimally structured learning.

In the second case-study, environmental education in the Year 6 class at Riverside Public School was practised within the structure of the school’s curriculum scope and sequence, specifically, the term-long ‘Environments’ unit of work, timetabled through school lessons. The central part of this was the ‘COGs’ unit of work, Living Land, which had been adapted by the teacher to include the online simulation, Murder under the Microscope, as
well as water quality monitoring with the local CMA. The term-long focus on environment was largely taught through classroom-based teaching and learning, although students were taken on an excursion to the local river for Stream Watch, and one some of the group-work involved in developing the action plans involved auditing and grounds surveys, and the creation of a garden. The activities involved in the environmental education practice at Riverside engaged students in meaning-making about the environment through the knowledge and skills developed through the science and the HSIE KLAs. These included undertaking research and writing reports about Australian native animals and plants, environmental problems and degradation. Alongside an emphasis on learning science-disciplinary knowledges about the environment, activities also included art-making and place and environment representations through symbols and dance.

Finally, the environmental education practice at Mountain Top Primary School was influenced by the pedagogical and philosophical approach that the former principal had introduced. The integration of environmental education across the school has subsequently been maintained through the personal interest of several staff members. The arrays of activity that informed the environmental education practice at this school included the adoption and adaptation of several environmental education programs, namely Learnscapes, Waste Wise and Special Forever. This also involved a dedication of curriculum resources and time given over to the carrying out of these programs out. The teaching of these programs occurred through class-time activities, such as one Year 5/6 class’s involvement and interest in the ongoing implementation of the waste wise program with Sarah, the development of the other Year 5/6 students’ literacy skills and understandings through engagement with place and environment with Mary, and the support, opportunities and resources provided to students and teachers for working in their class garden by Janet. Further to this, were the art-making activities that students’ experienced through their visual art classes with Kathryn, where themes of environment and place were commonly engaged with.

Several interesting points can be seen through looking at the practice of environmental education within these schools.
First, these schools were involved in practices of place as well as practices in place. While they drew on different ways of making meaning through place, the arrays of activities forming environmental education practices in each school had a predominant focus on knowledge and understanding of natural systems and scientific processes, with considerable focus on developing student understanding of environmental problems relevant to students’ place and context – generally water conservation and local biodiversity. In this context, where there was an emphasis on environmental problems (such as awareness of water and catchment, biodiversity, and rubbish and waste), many activities occurred through student experience and participation in solutions and monitoring, alongside the development of scientific literacy and understanding.

Second, despite the commonalities, place and environment were practised distinctly in these schools, with the varying practices drawn from the interconnected doings and sayings of individuals, community and institution in each case-study. Student experiences of place were therefore seen through doings that have developed through intentional and unintended decisions of individual teachers, working both together and with other individuals outside of the school. In turn, these doings were enabled and constrained through the practices of institutional and school policy, individual and collective beliefs, and philosophies about the practice-ing of environmental education, and so practised differently in different places and institutional contexts.

Third, the practice of environmental education in each of the case schools consisted of activities that drew on a variety of resources. Many of these activities had similarities across the cases, formed from similar ideological, philosophical or epistemological beliefs about what constituted knowledge and experience in environmental education, and the pedagogies that best supported these. Differences in environmental education activities were also related to the accessibility of resources in each place; the ready access to wetlands in the Environmental Education Centre at Flatlands and the convenient access to the river by Riverside had implications for emphases of curriculum and meaning-making in each of those places. Here, resources in place, and of place, such as the Environmental Education Centre at Flatlands and the Indigenous sculpture garden at
Mountain Top were examples of rich resources that enabled particular environmental education practices and meaning-making to happen.

An integrative practice of environmental education could be seen within the case-studies in the collected *doings* and *sayings*, rules and principles, general and practical understandings, and teleoaffective structures that together were intelligible as a practice of environmental education (Schatzki, 1996). For example, the collected *doings* and *sayings* included language resources, through which discourses of environmentalism, sustainability, place, and pedagogy came through, and activities, such as place-making, meaning-making, conservation, teaching and experience were carried out. The rules, principles and precepts included approaches to discipline specific teaching and knowledges, the integration of themes or topics through key learning areas, and philosophies that reflected intent to minimise the impact of various social and cultural activities and behaviours on the world. Practical understandings could be categorised several groupings: 1) knowledges that have come through human interaction and study of the environment, such as awareness and care of plants and animals, and knowledge of natural systems and processes; 2) knowledge of practical activities for environmental care and self-sufficiency, such as gardening, resource use, and consumption; and 3) knowledges of how to teach particular understandings, skills and actions that promote environmental and place consciousness, regeneration and sustainability. Finally, general understandings and teleoaffective regimes in the case-studies included ‘regimes’ of environmentalism, place awareness, schooling, learning through experiences in the natural world, and place-making, and teleoaffective structures of teaching awareness and consciousness of environment and place, actions and behaviours, connection to local places, and a consciousness of the other-than-human-world.

Across each of the case-studies, arrays of activity forming environmental education practices were at once integrative while also being one example of many practices within the site. The practising of environmental education in each site had both similarities and differences to the other sites. Similarities that were apparent included: particular knowledges that were incorporated in environmental teaching and learning; approaches to students’ learning that were constructivist, involving inquiry and research as
well as practical experiences in the natural world; the role that local natural places and community played in knowledge and learning; the state and national environmental education and curriculum programs that the schools participated in; and, some degree of disciplinary integration in environmental meaning-making, particularly a privileging of science disciplinary learning.

Differences were also apparent, with the following providing a list of the differences that had significant impacts on the ways in which environmental education was practised: the level of disciplinary integration; networks with schools and communities beyond the immediate locality; the beliefs and approaches of the wider school and the level of institutional support for environmental learning and place-making; the beliefs and approaches of individual teachers about environmental education.

The lived experiences of students' schooling (and teachers' teaching) and the many integrative practices which were woven together in the everyday site of schooling provided conflict, cohesion and transformation of practices through their incorporation. As such, there were divergences in the collected doings and sayings, rules and principles, general and practical understandings, and teleoaffective structures that together formed the integrative environmental education practice at those schools. For example, at Mountain Top Primary School several teachers were more purposeful and intentional in engaging students through language resources and activities that involved place-consciousness, place-making and environmental meaning-making – in a sense, environmental education was something that was done. Other teachers at the school, however, drew on a stronger emphasis on learning about decontextualised facts and knowledges about the environment rather than through experience and activity in the environment – in this sense, environmental education was something to be learned. However, the fluidity of practice meant that these were not set differences, rather that there were degrees in which students and teachers were involved in actively doing environmental education alongside being engaged in more abstract learning.

I now turn to a discussion of the role that the body and place play on the practice of environmental education and learning. Further to this, I turn to a consideration of habituation and performance in the development of
environmental subjectivities through place, knowledge and practice in the case-studies.

**Embodied and emplaced practice**

The importance of place and context in understanding social practice has been often discussed (Casey, 2001a, 2001b; B. Green, 2009; Hopwood, 2010; Saltmarsh, 2009; Schatzki, 2010; Thrift, 1999; Watson, 2003), with the effect of place acknowledged in relations and interconnections between humans, the more-than human, and the material, rather than simply the site in which the social world is situated (Watson, 2003):

A focus on practices undermines the tacit understanding of place that exists under representationalist perspectives. From a representationalist perspective, place is an effect of the projection of social relations and cultural constructions on to material reality. The focus on embodied and embedded practices that a dwelling approach entails, on the other hand, reveals place as an emergent effect of the engagement between a human subject and materiality of a site (Watson, 2003, p. 149).

It is often claimed that the goal of environmental education is to develop informed and active citizens, who care for and advocate the natural environment; created through the development of knowledge about the environment carried through into environmentally sustainable changes in behaviour (to name a few: Boyes & Stanisstreet, 2011; Connell, 2006; Cutter & Smith, 2001; Fien, 1993a, 1993b; Hargreaves, 2008; Hungerford & Volk, 1990; Tilbury, 2004). Although criticised as overly deterministic and behaviourist in its approach to education and environmental education, it can also be coupled with a tendency toward privileging disciplinary knowledge grounded in more traditional, environmental-science based understandings. Thus, inquiry and research in environmental education has a tendency to see education as a vehicle for solving society’s environmental problems.

Problematic, however, is the totalising notion of the (social) world that it portrays; that a ‘solution’ to the ‘environmental crisis’ is premised on the idea that if only enough people had enough information then they would act in a rational way, and society, not to mention the environment, could be ‘saved’. A critique of this suggests that such an approach is often found in justifications for environmental education where “rational” behaviour is
assumed to follow from human actors pursuing their more or less enlightened self-interests in maximising utilities and amenities or satisfying preferences" (N. Gough, 1999, p. 36). This approach also privileges particular forms of knowledge, generally those from the natural sciences and ecology, and carries with it assumptions that the dissemination of knowledge results in people choosing rational actions and behaviours. Instead, Noel Gough (1999) suggests that actions in response to environmental problems and crises are likely dependent upon a person’s subjectivities25 and sense “of themselves as social agents” (N. Gough, 1999, p. 36).

This approach to environmental education, where it is something to be learnt about rather than a practice actively done, becomes problematic. In one sense, learning can be ineffectual, leading to a paralysis and hopelessness about the value of individual actions and agency (N. Gough, 1999). In another sense, it reinforces modernist, rational-scientific and dichotomous understandings of the social and natural world, critiqued by many as a contributing cause of much environmental and social injustice and degradation (Alba, González-Gaudiano, Lankshear & Peters, 2000; Bowers, 2001; A. Gough, 1997; N. Gough, 1999; Gruenewald, 2004; McKenzie, Hart, Bai & Jickling, 2009).

Practice theories, through understanding the social as in-the-moment being formed, re-formed and transformed through the (re)interpretations of the carriers of practice, shows acceptance of the agential nature and dispersed interrelations of people (and the agential more-than-human) lives that ‘hang together’ through practices (Reckwitz, 2002; Schatzki, 2002). This understanding also carries with it the awareness that practices, and specifically here practices of and in education, curriculum, and knowledge, are always creating, always in a state of becoming, changing and ending. As such, the actuality of a specific teaching program, constructed as an answer to a determined social/political issue, such as the green movement, also becomes problematic as the carriers of curriculum practices (teachers and learners) will, through their very involvement, cause changes that reform and transform the knowledges taught and learnt through the enactment of that curriculum. As Schatzki (2010, p. 3) points out, “an

25 Understood as the ways that a “person gives meaning to themselves, others, and the world” (Davies & Banks, 1992, p.2)
experience or activity is an objective matter that (can) unfold independently of the experiences and action of people other than the person who has or performs it”.

An example of the re-formation and transformation of unfolding practices can be seen in the experiences of the Learnscapes program at both Flatlands Public School and Mountain Top Primary School. Both of these schools have been involved in the Learnscapes program for an extended period of time – Flatlands Public School became a trial Learnscapes school in 1998, and Mountain Top Primary School became involved in Learnscapes in 2000. For both schools, the implementation of the program, initial processes and support made available was the same. The subsequent unfolding and ongoing ‘carrying out’ of Learnscapes in each of the case sites has become unique to the place, the curriculum, and the individual and collective practices of those participating in it.

To be more specific, the Learnscapes process involved the development of an implementation plan and school grounds landscape map developed through consultation with students, staff and community members. Both schools have made changes to the initial plan and landscape ‘map’ developed through Learnscapes, and make different uses of the map and plan for school ground planning. In general, staff at Mountain Top Primary School spoke of ways that the Learnscapes map provided them with a way in which to frame and pursue environmental education activities and a means in which to continue those practices:

*In the implementing of it we stuck pretty much to the plan, except the chook house – we moved that ... we were told off by the Learnscapes people when they came back to have a look, ‘cause they do come and look because we choose the plans. We moved the fairy garden to the other side of the fairy tree because the hill started to erode too much ... We still haven’t got everything done, but most of it’s because of funding. But anytime we are applying for grants, the map and the philosophy and everything that’s on the map was ... we went to that to write our submissions for monies (Janet, Learnscapes coordinator, MTPS, September, 2008).*

In a second example at Mountain Top Primary School, Year 5/6 teacher, Mary, spoke of her use of the school Learnscapes map as a resource for teaching her current year of students about the history and development of the Indigenous sculpture garden, as these students were too young to have been involved in the consultation phase of Learnscapes:
So the first of our students came thorough as preps, they’re now in year seven ... So that’s 6 years – they were the first of the lot to have input into this plan ... And completely involved in environmental education for them. That’s why, with [the current students], we have to continually revisit the past, in order to move forward. ... This plan is purely about developing learning spaces. That’s all it is. There’s a lot more to environmental education than just creating spaces, as you well know. But you have to create the environment first, those scapes, in order for the learning to take place in those spaces ... I’ve had to go back and give the history and point out to the children well we’re looking after that, but do we understand what’s out there to begin with (Mary, Yr. 5/6 teacher, MTPS, September, 2008).

A different unfolding of the practice of Learnscapes can be seen at Flatlands Public School, where staff spoke of participation in Learnscapes as providing an avenue to become more involved in environmental education. The Learnscapes map that was developed through participation in the program was spoken of as a means of providing a way of thinking about places that opened up ways of practising education and environment which drew connection with the community. There was also a perception that rigidly following the Learnscapes philosophy and planning would be constraining to that school’s practice of environmental education:

Some things we did without a formal plan; some things were ad hoc, some just happened. ‘Cos I was always a person that didn’t spend too much time planning things. We’d knock it down to start and get it done, rather than procrastinating for months about consulting and doing all this visioning stuff. I mean you do some of that, but otherwise nothing ever gets done. Because you’ve got to get momentum going, and you can lose so much momentum by having a fantastic plan and then you know because of other strains it doesn’t happen (Daniel, principal, FPS, March, 2008).

Provided here are three examples that show differences in the unfolding of a practice; in this case, the implementation of the Learnscapes program. Reflected in these accounts are the re-formations and transformations of environmental education and teaching practices over time, across places, and through different people and communities. Personal, professional, place and community contexts are evident in each of the distinct ways that Learnscapes become a part of the environmental education practice at these schools, and is re-formed and transformed in the case sites and in individual performances.

Daniel’s discussion of much of the process of Learnscapes involved using terms such a ‘procrastination’, ‘visioning stuff’, and ‘losing momentum’,
whereby he privileges actions that ‘get it done’. In this case, the school’s participation in the program became a catalyst for wider school and community involvement in environmental education. His performance in this program was consistent with his beliefs about creating interest, momentum and hands-on experiences for the students, and was reflected in his discussion of his teaching philosophy and beliefs about the ongoing environmental education practices at that school.

Alternative to this was Janet’s practice of Learnscapes, where the Learnscapes program provided a focal point for mobilising teaching/learning actions and performances about environment and place. Finally, Mary’s performance of teaching and learning involved making use of the Learnscapes map as a resource to develop current students’ understandings of the history of environment and place. The examples here show the varied practices to do with Learnscapes, unfolded through performances of and within place that were independent from, and at different times contrary, resistant, or complementary to, the original ‘intention’ of the program.

Here, I have provided a discussion and overview of the practices that form environmental education in each of the case schools, looking to ways that this informs differences in the practising of environmental and place-consciousness. Through the remainder of this chapter, I discuss the centrality of the body for practice theories, specifically considering the formation of eco-ethical subjectivities through routine, performed and habitual practices in (natural) places, and what an understanding of embodiment might contribute to environmental education practice.

**Practising (in) environment and place**

In an overview and discussion of the foundations of practice theory, Postill (2010, p. 11) summarises that “practice theory is a body of work about the body”, with various contributions to practice theory building on notions of habit, routine and *habitus* (Bourdieu, 1992; Reckwitz, 2002). In particular, concepts of habit, routine and *habitus* provide a way of theorising environmental subjectivities as forming over time and through repeated and ongoing experience, and the corresponding role that environmental education plays in this.
Noble and Watkins (2003, p. 522) provide a useful starting point for thinking about *habitus*, in relation to the discussion in this chapter, describing it as the “dispositions that internalize our social location and which orient our actions ... [manifest through] our actions, our modes of appearance and through a bodily *hexis* or bodily bearing – posture, manners, ways of speaking” which form the outward expression and embodiment of social location, class, gender, and ethnicity. Notions of habit and *habitus* in social theory are seen initially in the philosophy of Aristotle and (later) Baruch Spinoza, Marcel Mauss, John Dewey and Pierre Bourdieu. These theories have contributed to the development of understanding bodily actions as spontaneously and automatically carried out through routine, disposition and habit (Bourdieu, 1992; Burkitt, 2002; Noble & Watkins, 2003) that, although individual, are produced and constituted through the collective (Turner, 2007).

Bourdieu’s work on *habitus* is often considered the most theoretically developed of the theories of habitus. He provided a definition of *habitus* as related to character and disposition, and distinguished between understanding character as natural and instinctive and *habitus* as acquired characteristics produced through social and life conditions (Bourdieu, 2005, p. 45). Although Bourdieu’s work on *habitus* is often discussed in relation to his theory of practice, alternative understandings, such as those from an Aristotelian, Spinozan or Deweyan perspective, position habit and *habitus* as central to human understanding of self. In response to social theories that prescribed to an overtly rationalist understanding of action and practice, Burkitt (2002) has highlighted the contribution of Dewey (and foundationally, Aristotle) to these concepts, arguing that the formation of a fully-developed understanding of the self must include the habitual as well as the reflexive aspects. He cites Camic (1986, p.1046, cited in Burkitt, 2002, p. 230) as using the term ‘habit’ to mean:

... [the] durable and generalised disposition that suffuses a person's actions throughout an entire domain of life or, in the extreme interest, throughout all of life – in which case the term comes to mean the whole manner, turned, cast, or mould of the personality.

While some social science notions of habit consider it to mean unthinking and unchanging routine, Mauss and Dewey, through an Aristotelian tradition, have built more flexibility and changeability into the term. Here, practical reason is considered an element of *habitus*, with habits,
Mauss suggested that the Latin word *habitus* should be used rather than habit, differentiating between acquiring an ability or intellect (*habitus*) and routine action (habit). Here, Burkitt (2002) argues that ability "suggests the possibility of doing something, of acting in ways that are creative and not wholly predetermined". Further to this, he suggests the notion of *habitus* as an acquisition of particular ways of being, predisposing individuals towards particular forms of practical actions in a given situation. Through *habitus* we base the actions that we feel are appropriate for the situations in which we find ourselves, and in this way *habitus* is formative of our character and how we regard ourselves. It could be claimed, then, that environmental education can play a significant role in the formation of an eco-sense of *habitus* that shows responsiveness, consciousness and ethical awareness of the interconnected relationship between human and the more-than-human.

In arguing that the *habitus* forms the basis of character, there is recognition that habitual dispositions are embodied throughout life, albeit through forming, reforming and transforming the *habitus* based on experiences and training. Often there is emphasis on training in habitual ways of acting in given situations being formed through the early years of life. Aristotle, for example, contended that moral virtue is embodied through techniques of the body and habitual dispositions from the earliest years of a child’s life (Burkitt, 2002).

Through bodily dispositions people have the ability and capability to make decisions and act on them in given situations, that could be deemed as good or bad, and that these bodily dispositions can be formed or constituted through training and experience (Burkitt, 2002). Repeated and ongoing experiences clearly play an important role in the production of habituation:

… the feedback mechanisms of experience that produce habituation are personal, or individual, but at the same time bound up with learning an idiom, something “social”, and experiencing the world, something “thingy” (Turner, 2007, p. 114).

The role that training and experience plays in the development of an eco-sense of *habitus* is highlighted by Karol and Gale (2004a). They argue that
an environmentally unsustainable *habitus* is formed through cultural and social capitals, and as the product of human history which has viewed the environment as a resource, rather than a finely balanced interconnected and interrelated system of living and non-living entities. Such an unsustainable *habitus* results in the continued dichotomy between environment and humanity, carried through education and experiences that reproduce the dichotomy: “[f]or sustainability to become an accepted part of family life, many changes are required in education, in cultures and the capitalist doxa of our society” (Karol & Gale, 2004a, p. 4; see also A. Gough, 1997).

The formation or constitution of environmental sensibility, therefore, involves understanding ways that meaningful changes can be made in actions and practices and the role that education practice can play in the formation of *habitus* (Burkitt, 2002). Not unlike Kemmis and Mutton’s (2012) argument calling for the need for changes of the ‘architecture’s that hold practices in place, Burkitt suggests that it is not simply a matter of being conscious of or thinking rationally which results in successful change, but that:

… we must aim for the changing of the *habitus* itself, and this can only be done through changing the social institutions through which it is instilled in us. This is what rational, critical thought must aim at, rather than mounting an intellectual critique alone and then leaving it at that. … We therefore need to work towards intelligently controlled *habitus*, but we do this primarily by changing social institutions, whereupon change also then occurs in individual activity (Burkitt, 2002, p. 229).

**Developing environmental subjectivities**

The practice of environmental education at Flatlands Public School involved pedagogical actions that provided both individual and institutional led opportunities for the formation and constitution of an eco-sense of *habitus*. The practices of environmental education involved both formal learning experiences (through programed units of work and themes, inclusive of lessons about environmental systems and processes, environmental issues and concerns, and creative and expressive skills relating to the environment) and informal learning opportunities (gardening classes, cubby huts and play, assisting and guiding visitors).
Chapter Eight: Practice

The practising of environmental education as action and activity meant that, alongside an intentional focus on place and environment in the school’s formal curriculum, it also enabled an embodiment and habituation through experiences and co-creation of natural places. In turn, the consciousness of environment and place through both informal and formal experience played a role in the formation of students’ environmental subjectivities. Students at this school demonstrated a variety of knowledges about ecological systems and relationships that were common to their school and EEC, while at the same time being actively involved in conservation and regeneration, play and ‘getting their hands dirty’. There was a sense in students that their school and community place, and their interaction with the natural environment, was important, ‘different’, and to be respected.

Bodily dispositions of students that were interviewed and observed at this school showed, amongst other things, a curiosity, inquiry and engagement about learning experiences outside the formally structured classroom. Students also showed a respectfulness in attitude toward the more-than-human world; dispositions seen through student movement through place and interaction with the more-than-human world that portrayed confidence, knowingness, interest, and a generally common-sense absence of fear based on appropriate knowledge, for example, in regard to spiders, snakes, bugs and insects. These dispositions, showing an environmental consciousness and responsiveness to natural places, were carried through into the actions, acts and language of students, staff and community participants at both the school and Environmental Education Centre.

Further to this, environmental subjectivities of students from Flatlands Public School were often apparent through the language and discourses about the environment and place, in contrast to that of the Year 3/4 students visiting the Environmental Education Centre from Cityscape Public School26. There was a tangible difference in the two groups, particularly in regards to students’ awareness and consciousness, movements and dispositions toward the world around them.

26 The Year 3/4 class from Cityscape Public School visited the Flatlands Environmental Education Centre as an excursion at the culmination of their term’s unit of work on native animals. Cityscape Public School is a large primary school located in the regional city near Flatlands.
The movements and conversations of those students that had participated in a routinisation of experiences and familiarity with places through their day-to-day schooling showed a higher level of calmness and awareness, perhaps even comfortableness, in relation to place and environment. I observed a number of instances where Flatlands Public School students were deeply aware of the more-than-human world as they moved through place. Student participants would point out to me changes that they had noticed in particular plants, stop and investigate as they heard rustles in the grass beside the walking track, and identify birds that they saw and heard. During a recess break, one morning, several students presented a (long) stick with a live large spider on it to the staff at the school – prompting an inquiry into identifying the spider – afterwards returning it carefully to the place where it had been found. On the whole, these children were conscious of, curious and inquisitive about their place and the plants, animals and objects that they shared it with. Daniel, through formal and informal learning activities, encouraged students to inquire and be inquisitive.

In contrast to this, as I walked around the Environmental Education Centre with groups of the Cityscape Public School students undertaking the Ghosts orienteering activity, students were excitedly running the pathways, climbing rocks and steps, calling, yelling and shrieking loudly. These students were excited, almost frenetic, as they ran about the Environmental Education Centre. As I observed them, I found that many missed the clues that they were hunting because they were only aware of and looking in front of them – not looking up or to the side of the path, where the clues were located. In discussing the use of the Environmental Education Centre by the students from Cityscape Public School, Daniel commented that he often found students that were new or had not visited for a while had to be taught how to look at the world around them: “children are not good at looking up or looking down. I found that children will tend to look ahead. They don’t use their skills to look around” (Daniel, principal, FPS, March, 2008). While the Cityscape Public School students did eventually settle into the new place they were in and began to notice more about the living and nonliving things that formed that place, there was a noticeable difference in their reactions to and discussions about the living things that they encountered to the students at Flatlands Public School.
In this example, students at Flatlands Public School, through ongoing and repeated experiences and learning, can be understood to be forming an environmental sensibility conscious of place and environment. The integrative practices of environmental education that involving activities where students learn to inquire, observe, and value the natural world, which students experience through their schooling, are formative of an eco-sense of habitus.

**Habituation, habitus and the performance of environment and place**

For any animal, the environmental conditions of development are liable to be shaped by the activities of predecessors ... the same goes for human beings. Human children, like the young of many other species, grow up in environments furnished by the work of previous generations, and as they do so they come literally to carry the forms of their dwelling in their bodies – in specific skills and dispositions (Ingold, 2000, p. 186, cited in Anderson & Harrison, 2010, p. 8)

In this section, I move onto discussing the formation of consciousness through the actions performed in (environmental) place. **Habitus**, as outlined above, can provide a departure point for thinking about actions and practices that are responsive to place and environment through the formation of environmental consciousness, through experience that is ongoing, consistent, routinised and habitual. As mentioned in the previous section, Karol and Gale (2004b) highlight the role that training and education plays in the formation of a person’s environmentally-sustainable habitus, and contend that this is necessary in the achievement of environmental sustainability in society.

I also contended that environmental education practice involving being in place through embodied and habitual ways contribute to the formation of a habitus that is conscious of and responsive to place and environment. In this section I extend on this notion further, by drawing on the performance of embodied actions and the relation of this to the consciousness involved in the performance of an integrative environmental education practice. My focus here is to consider ways that environmental education practice is performed through a consciousness of environment and place at these schools, and to also highlight that the performance of environmental education – ideal, emergent and imperfect – through practice, knowledge and place at the case schools, is a “continuous happening at the core of
human life qua stream of activity and reminds us that existence is a happening taking the form of ceaseless performing and carrying out” (Schatzki, 1996, p. 90).

Bodily performance, seen through the repertoires of bodily actions that are often spontaneously or automatically carried out, connect with ways of knowing and interpreting, emotions and aims, and are “unceasingly instrumental in the achievement of a person’s ends” (Schatzki, 1996, p. 45). This understanding of embodiment and the bodily actions and activities of a practice are often produced from dispositions (habits) that are self-perpetuating and reproduce the conditions in which they come from, although similarly capable of adapting to and being sensitive of the situations of action. Consciousness forms through experience that is ongoing and practised, and through this comes an automatic and intuitive level of awareness (Flyvbjerg, 2001; Noble & Watkins, 2003). This process of consciousness becoming automatic, intuitive – unconscious even – occurs through the ongoing performance of do-ings that become habituated:

... *habitus* cannot develop except via habituation. Performativity is based on iteration (Butler 1990); to be able to do something ‘reliably’ and ‘naturally’, one has to do it again and again. Habitation, moreover, allows us to account for how conscious behaviour can become unconscious. There is no doubt that much of what we do remains unconscious, yet throughout the training process we have the capacity to reflect upon our practical sense. Competence is achieved, however, when we return much of the bodily process to the realm of the unconscious. We conceive of this relation as a dialectic of bringing behaviour to consciousness in order to alter it, and then habituation that behaviour: a dialectic of remembering’ and ‘forgetting’ ... We cannot think about all the actions we need to undertake, otherwise we would not get around to acting ... Much action needs to be spontaneous and repetitive to liberate our higher capabilities (Noble & Watkins, 2003, pp. 535-536).

Dewey is seen by Burkitt (2002) as one of the few sociologists who has talked about the implications of habit when theorising the self. Through Dewey’s ideas, we are able to understand the conditions in which the self becomes reflective of itself, where “habit breaks down or when habits clash and the self is forced to reflexively monitor itself and the context in which it is acting in order to meaningfully reconstruct with others both self and situation” (Burkitt, 2002, p. 220). Further to this, is the understanding of aspects of the self that are habitual, form the basis of character, are often
non-reflective, and which can lead to "certain actions in particular contexts that we are aware of performing and yet we don't know why we perform them" (Burkitt, 2002, p. 220). In essence, then, *habitus* is performative and an account of action.

Bodily performance, *habitus* and practice are inextricably linked, with Burkitt suggesting that the performance of practice is formed through the same consciousness formative of habitus, and therefore also forming of those “selves who engage in these performances” (Burkitt, 2002, p. 23). The understanding that bodily performance and embodiment are both animated through social conventions, while in turn ritualising and reproducing those same conventions as practice, shows how “[i]n this sense, the *habitus* is formed, but it is also formative” (Butler, 1999, p. 116). Further to this, Schatzki disputes conceptualising *habitus* as the cause of the actions that people perform within practices, rather through bodily schemes of actions, the “actions that habitus selects thus make sense given the situation and also given the objective conditions and practices familiar to and inhabited by the actor” (Schatzki, 1996, p. 139).

**Body-mind and performance**

Taking a post-Cartesian belief in the inseparability of mind and body, an understanding of practices as centred in *doings* and *sayings* accepts that “bodily *doings* and *sayings*, and bodily sensations and feelings, are the medium in which life and mind/action are present in the world” (Schatzki, 1996, p. 41). As such, people are bodily and mental agents that carry multiple practices, which, although interconnected, unfolding and complex, may not necessarily be coordinated. Therefore, through their bodily behaviours individuals show the routines and understandings, knowledges and desires of the meaning they make from the world and human society: “[a] practice is thus a routinized way in which bodies are moved, objects are handled, subjects are treated, things are described and the world is understood” (Reckwitz, 2002, p. 250).

The body, and understanding of the inseparability of mind-body, are central to practice theory. Here bodily movement, behaviours, and speech acts, actualised through the nexus of *sayings* and *doings* that are performed as actions in the world, underlie the formation/construction of habits,
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pre/dispositions, life conditions and subjectivities (Schatzki, 1996). Schatzki suggests that there are three conditions in which the body acts upon and in the world: One, through the manifestation of mental conditions where “instantaneous, moment-to-moment, ebbs and flows” of people’s existence “are made present in the world through bodily activities and feelings”; two, through the signification that occurs with the bodily holding of attitudes and positions where others could then expect particular performances of behaviour, routine and habit in certain circumstances; and three, through bodily performances that act as an instrument in effecting and constituting the performance of other actions (Schatzki, 1996, pp. 43-44).

Taking up Schatzki’s discussion of the body acting upon the world, the teacher-participants within each of the case schools could be seen as performing relationship to environment and place, portraying a complexity of bodily attitudes and positions, expectations of particular performances. Trudy, the Year 6 teacher at Riverside Public School, through her bodily actions (doings and sayings) performed attitudes and positions toward the environment, place and ways of knowing, teaching and learning. The recommendation of Trudy as a potential participant in my research came about through expectations that others had of particular performances of environmental education teaching practices that portrayed an environmentally conscious position. Similarly, through her participation in the research, she performed doings and sayings of environmental consciousness and a personal responsiveness to place which were portrayed through her actions as a teacher.

Performed through the choices that she made in the way that she taught environment and place, Trudy positioned her interest in teaching through the arts, as well as teaching about water and catchment studies, as something that she felt was important in developing an ecological awareness for her students. In doing this she made tangible links, not only to the prescribed curriculum outcomes and standards, but to her personal philosophy and beliefs about the importance of water, catchment health and creativity, based on her practical knowledge and judgement – in other words, phrōnesis.

Her attitude and position that artwork was an important way in which to make meaning could be seen through Trudy’s practice of incorporating
visual and performance art activities into the way that she taught students to make meaning about the environment. Furthermore, students created art-works that were based on bodily movements through place when walking to the local river. In another example, students were involved in an activity where they were to create a dance performance that reflected a short story that had been read to them about the journey of ‘water’ from a raincloud, into a tributary, and then along a river until reaching the ocean.

The every-day and every-where performances of teaching constitute and effect the performances of other actions, and the actions of others. Performances of environment and place in the case sites constituted and effected the performance of the teaching staff, students, and community members’ environmental action within those places. In turn, the performances that constituted a consciousness and responsiveness to place and environment, effected the performances of others in that place. An example of this was seen in Daniel’s setting aside a proportion of grounds and maintenance funding to pay a community member as a gardening teacher. Here, his beliefs and philosophies of learning in environmental education, formed through his practical experiences and actions in place, as well as his knowledge and judgements formed through experiences, led him to develop a position for a gardening teacher. This was something that he saw as important in developing student’s understanding about the importance of that place and the natural world and developing connections with the community:

... like Janine with her veggie garden [teaching]; we have made that a priority in our school community, that our children are going to get that experience every week, they are going to be one of things that they are going to be out there hands on. With Flatlands Environmental Education Centre it’s the same, we were going to provide experience for those kids on a regular basis week in week out - and we have committed a fair bit of money for that. [...] Because, in a way I’m responding also to the needs of the community as much as the needs globally, because unless we are getting kids coming through that have got an appreciation of what we are doing and they really enjoy it, as they grow up and if they are in this local community in ten years time, we want them to be part of the structure of Flatlands Environmental Education Centre doing what they are doing, because that is not going to go away (Daniel, Principal, FPS, March, 2008).

Finally, an example of the repetition and choreography of bodies and bodily experiences through environmental education, leading to practising in all
sorts of ways, can be seen through the practices of writing with Mary’s previous Year 5/6 students. The final product, a book providing information about Indigenous bird and flora that were commonly found around Mountain Top Primary School, was researched and written as part of a unit of work, and provides an example of writing as a practice that is an account of language resources and an account of activity. The language resources were formed through particular genre and purposes given to the activity, the spoken instructions and the dialogue between teacher and student in working through the task, as well as the dialogue between student and student as they carried out the task. Additionally, language resources were used to communicate particular environmental messages about the natural, local place. In turn the activity of the task involved a physicality and embodied-ness, seen through the bodily activities and actions through which the sayings were enabled, both in terms of writing practice, but also in terms of environmental and conservation actions. In this sense, then, this writing activity provided an activity that can be understood in terms of both ‘doing’-ness and ‘saying’-ness.

These doings and sayings were carried on, spiralling out (Kemmis, 2010) in ever further spinning actions: within the school grounds through the planting of Indigenous plants to attract and provide habitat for native and endemic species of birds and insects, and into the community, through the utilisation of the students’ writing to inform local community groups (namely, the council and the tennis club, who both sought copies of the book produced).

Practices in the case-study schools fostered the development of environmental subjectivities and responsiveness to place through a curriculum in action encouraging consistent and ongoing experiences and regenerative actions within the environment. There is a routinisation and habituation of characteristics and dispositions created through the practice of activities that show a response to and consciousness of place and environment. In turn, these were formative of the environmental subjectivities of students and teachers involved in these practices of environmental education.
Conclusions

Through this chapter, I have discussed how a practice-theoretical perspective contributes to environmental education philosophy and theory for primary schooling. In doing this I have highlighted the centrality of activity, body, habit and routinisation to environmental- and place-consciousness, based on an understanding that practices are “the central moment in social life because they are the site where understanding is carried and intelligibility articulated” (Schatzki, 1996, p. 210).

In discussing the contribution that practice theory brings to environmental education, I have looked to the notion of environmental education as arrays of activity in an integrative practice. I explored the activities in the case-studies that formed the practices of environmental education there, suggesting that the schools were involved in practices of place as well as practices in place. Further to this, although the case-studies had commonalities in their practice of environmental education, there were also many differences in their practices, both within cases and across the cases. In this sense, then, the practice of environmental education was complex and open-ended, with many diverse activities, as well as guiding rules and principles, general and practical understandings, and teleoaffective structures.

In this chapter I also addressed the understanding that routine and ongoing performance of actions produce habits, forms of life and subjectivities. I contend that this has implications for how environmental education might be practised in primary schooling, in consideration of environmental education as an activity that is done, or as abstract, decontextualised facts to be learned. This is not to suggest that knowledge should not be significant to the practice of environmental education, rather that many activities, embodied and emplaced, with ongoing and routine experiences and contact with the natural world, are important in the formation of bodily dispositions and habits, and an eco-ethical sense of habitus.
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We act to think, and we only think we think to act because we have let some specific forms of life colonize our notion of what constitutes ‘humanity’ (Thrift, 1999, p. 297).

This final chapter draws together a conclusion for my dissertation as I address the contribution of my research to environmental education theory and philosophy. It provides a point for discussing and making explicit the connections between the conceptual framework categories of place, knowledge and practice, and how each implies the other. I provide firstly a summary of this dissertation, and then lead into a discussion of the key contributions I have made to the field of environmental education, a consideration of the limitations of the research and the possibilities that emerge from it for future work.

Overview

Beginning with a description of my own experience of relationship with place, I provided in Chapter One an overview of the epistemological and ontological framework that has informed my understanding of theory, research and practice in environmental education in the first chapter. In particular, I outlined the relational nature of theory, the importance of place in constructing and creating ways of knowing about the world, and the contribution of this epistemological and ontological framework to my belief in the interconnectedness of all things, human and more-than-human, and the embodied nature of experience in place. In this chapter, too, I situated my research as drawing on understandings of the social world through practice theories (Schatzki, 1996, 2002; Bourdieu, 1992), including non-representational theory (Thrift, 2008), and highlighted the centrality of the body, action and activity to these theories.

In the following chapter (Chapter Two) I turned to the underlying concepts and philosophies that form the complex, interrelated notions of environment, place and sustainability. The purpose of this chapter was to provide a background discussion of the concepts that contribute to the field of environmental education research and philosophy, drawing on a notion of the socio-ecological and understanding the reciprocal, interconnected and interrelatedness of nature, place and society. Here, I also
acknowledged my wariness of sustainability discourse, recognising the term as vested with hegemonic meaning and the promotion of consumerist and globalised production, often attributable to ecological degradation and the promotion of a human-consciousness that fails to see the intrinsic value of the more-than-human world other than in its use for human society.

In Chapter Three, I provided a literature review and historical context to the development of the field of environmental and sustainability education over the past fifty years. In particular, I looked to the contradictions and contestations of the field in its development, the ongoing debates about how closely related environmental education and sustainability should or could be, and the reimagining of the field in the past decade as poststructural, postmodern and post-critical theories became more widespread. Here, I presented place-conscious education (Gruenewald, 2003b), regeneration (Main, 2005) and pedagogies of responsibility (Martusewicz & Edmundson, 2005) as key pedagogical and philosophical understandings for environmental education that is responsive to and conscious of place.

A conceptual framework of place, knowledge and practice was discussed in Chapter Four, with the positioning of these concepts as interconnected through environmental education. I provided this framework as a foundation for understanding environmental education informed by and informing praxis – the actions that come from practical and prudent knowing and judgement for the good of the earth. Following the statement of the research questions, I discussed the decision to utilise case-study as a methodology which allowed both a study of practices allowing the exploration of everyday actions and interactions in environmental education, and provided a methodological basis through which to generate a context-dependent and concrete account of place-conscious and environmental education practices. In the final section of this chapter, I provided an overview and discussion of the decisions and choices made in the design, conduct and reporting of the research, as well as a description and discussion of the generation and analysis of the data, reflexively looking to the case-studies as meaningful, ethical and effective representations.
A context and background description of each of the case-studies was provided in Chapter Five. Here, I introduced my three ‘cases’: Flatlands Public School and Environmental Education Centre, a small rural school in NSW with 33 students, three teachers, and strong connection and engagement with the environmental work in the local community; Riverside Public School, with 350 students, located in a suburb on the outskirts of a regional NSW city, where I spent a term with one Year 6 class as they worked their way through an ‘Environments’ unit of work on healthy catchments; and Mountain Top Primary School, a North-East Victorian school with 184 students and an integrated environmental education curriculum across the school that focussed on engaging their students with learning through the environment.

In Chapters Six, Seven and Eight I explored the environmental education practices in the case-study schools through the concepts of place, knowledge, and practice, respectively. While these chapters formed the central philosophical-empirical discussion of each of those concepts, they were understood as non-linear, interconnected and with each implying the others.

In Chapter Six (‘Shaping Place, Shaped by Place’) I discussed the centrality of place in the meaning-making of primary school environmental education. Throughout that chapter I explored the presence of place in the practices and activities of environmental education in each of the case-study sites. The purpose of the chapter was to provide a discussion of place as a concept central to the practice of environmental education. In particular, I explored understandings of place as experienced through the interaction of material site, social setting, and affective meanings afforded to place, then moved into a discussion of the relational nature of place through flows of knowledge and practice. I interpreted relational concepts of place using examples and illustrations from the case-studies, as well as discussing the experiences of place and environmental education activity for the students in the case-studies through their participation in place-related activities.

In Chapter Seven, (‘Knowledge, Curriculum and Mobilising Understanding’), I considered knowledge, meaning-making and curriculum in primary school environmental education practice. I discussed the
constitution of knowledge as school subject, arguing that disciplinary understandings are often privileged at the expense of practical and experienced knowledges. I made a case for a strategic eclecticism in environmental education curriculum practice, where place and experience are valued alongside more disciplinary knowledges of environment and sustainability. I suggested that environmental education practice responsive to and conscious of place challenged traditional notions of ‘the classroom’ as an indoor space where teaching happens, with a shift instead to being acknowledged as only one part of the curriculum in action. I also provided a discussion of recent environmental education curriculum developments in Australia, suggesting that the mobilisation of understanding into action is central to environmental education.

Finally, in Chapter Eight (’Practice, Performing, Doing’), I explored the contribution of practice theories to environmental education that is conscious of and responsive to place. In particular, I investigated the notion of environmental education as an organised array of activities, and considered how it might be conceptualised in light of Schatzki’s (1996, 2002) theorisation of integrative practices. I also discussed the everyday minutiae of activity and action that form environmental education practice in the case-studies. Further to this, I developed an argument around bodily disposition and the embodied, routine and habitual performance of environmental and sustainable activities in place that are actioned on, with and through the world. I concluded this chapter with an argument that routine, habitual and ongoing environmental education experiences in place – and about place – contribute to an eco-ethical sense of habitus and is formative of environmental subjectivities.

Given this summary overview of the dissertation, I now turn to a discussion of some of the key contributions that I make to environmental education research, practice and philosophy.

Contributions

As I introduced in the ontological and epistemological framework in Chapter One, the intent of my dissertation was to consider, discover and uncover how notions of place, knowledge and practice, seen through a practice-theoretical perspective, contribute to understanding and philosophy in
environmental education. Here, the focus for my inquiry was environmental education in primary schooling more broadly, and within the context of three rural-regional primary school case-studies more specifically. Central to my choice to theorise and research environmental education was an underlying belief in the importance of the relationships to, and actions of care and concern for, the living and non-living entities and places that are fundamental to life in this world.

As the title ‘Practising Place and ‘Learning to Love the World’, indicates, it is specifically in place(s) that practices and activities (including thinking acts, as Thrift [1999] claims in the passage cited in the introduction to this chapter) effect the world, of which we are inextricably part. Such an understanding of place, as inherent to our being and acting in the world, encourages a view of environmental education where understanding is mobilised into action, engaging learners affectively and experientially through learning to love the world. Further, through the exploration of environmental education as the intersection of place, knowledge and practice, I have discussed environmental education practice as an organised array of activities where place, body and knowledge are interrelated and interconnected. In addition, I have provided an account of the generation and mobilisation of knowledge and understanding into action for meaningful relationship and activity in the world. I discuss here the contributions that theorisation of place, knowledge and practice provides to environmental education.

First, a practice-theoretical perspective, as I have suggested here, contributes to re-conceptualisations of environmental education as an organised array of activities that attempt to both effect and affect the relationships that we hold with the world. Environmental education practices that constitute a consciousness of and responsiveness to place generate understandings that form, reform and transform activities and actions in place(s). The generation of knowledge of environment and place is, in this sense, diverse, multiple and complex. Further, the mobilisation of knowledge through emplaced and embodied repetition and habituation are formative of eco-ethical subjectivities. Primary school environmental education practice is situated in relationship to place. From the earliest years of a child’s life, embodied routine and habituation form techniques of the body and dispositions. In this regard, clearly there are possibilities and
links to be made to early childhood education and care, although the focus of my dissertation has been on primary schooling. As such, environmental education practice can be understood as action and activity, whereby experiences in place develop multiple, diverse and complex knowledges and understandings that value the more-than-human world and, from the beginnings of our experiences of the world, inform actions for the good of the world.

Second, I have claimed that the generation of knowledge for environmental education meaning-making has traditionally occurred within the fragmentation of the curriculum disciplines, where knowledge and meaning-making are predominantly constructed through science and social studies subject areas in schooling, and environmental learning is filtered through managerial and sustainability discourses. Alternative constructions of knowledge in environmental education value and include inter-disciplinary and multi-disciplinary understandings, as well as knowledges formed through practice and experience. Alongside the interconnections of the diversity of school subjects, these alternative constrictions are fundamental to appreciating and mobilising understanding into actions. Central to this is recognition of the role that experience in and of place plays, and acknowledgement that understanding and knowledge developed through practical activities and practices cannot be developed through the theoretical. As such, acknowledgement of learning in environmental education needs to take account of embodied and emplaced experiences through regular, ongoing and habitual actions and practices. In this sense, then, alternative conceptions of knowledge as the interaction of the theoretical, practical, and experienced are important for environmental education that aims to produce informed and committed action that exercises deliberate judgement for the good of the world.

Third, I claim that relationship to place, and an understanding of the relational interconnected nature of places, is crucial for the generation of knowledge in environmental education. Here, place is both the site of activity as well as the context for learning. The students, teachers and, where applicable, community members involved in this research were all aware of and explicit in acknowledging the value that place held for them. Engagement in place-related activity provided students and teachers with opportunity to develop deeper relationship with those places through their
role in constructing and co-making them. The knowledges developed through such engagements in place, through both formal and informal learning situations, enabled students to develop knowing relationships and awareness of their role in shaping that place and other places. Given that environmental education is a practice that acts upon the world, an engagement with place and an appreciation of the knowledges we produce through our engagement with place, are crucial to environmental education.

In the following section I provide a discussion of the limitations of my research and possibilities for further research that builds on the philosophical-empirical exploration in this dissertation.

**Limitations and future research**

Research is a practice of this world. It is therefore situated within the messy, sticky, complex and unruly nature of the world. No plan is ever infallible and the practice of research occurs within many other actions and practices of the social and other-than-social worlds. Unsurprisingly, therefore, the research that I have discussed throughout my dissertation involves limitations and possibilities.

Like other research that explores and engages the researcher in new ways of thinking their world, the research presented here is broad-ranging and attempts to cover many ideas, concepts and notions: of environment; place; sustainability; practice; knowledge; curriculum; praxis; phrōnesis; discipline – the list goes on. Naturally, there are limits on what can be contained within the confines of a doctoral project, which has meant that this exploration has been precisely that – exploratory. Each of these ideas, concepts and notions could fill a dissertation devoted entirely to itself, something that no doubt has already occurred to the reader. The benefit of this broad encompassing of worlds, however, has been in the exploration of the interconnection and interrelation of these concepts. As such, there has been opportunity to develop a rich sense of these knowledges as growing, forming, reforming and transforming through their interactions and intersections – in short, the theorisation of place has brought new understanding to theorisation of practice and theorisation of knowledge (and vice-versa), and all have contributed to a philosophy and theory of environmental education that warrants further discussion, debate and imagining. What are the possibilities for environment and place to be
practised in institutionalised and decontextualised curriculum? In what ways is place/environment silenced in school discourse? In what ways is place present, and how, and what does this mean for students’ and teachers’ environmental subjectivity? How could place be practised differently, or provide different ways of practising in a nationalised curriculum context? What does place provide to understanding schooling in particular, environmental ways?

Methodologically, the case-studies provided snapshots of those particular schools at the particular times that the data were generated. The decisions made to do this were dependent on many outside factors. Although each of these three case-studies has provided valuable insight into the actions and practices of place and environmental education at those schools, it is much like skimming the cream off the top of the milk. A deeper engagement in each of these schools over a longer period of time, and involving participatory generation of data, such as mapping, creative story-writing or artworks, as well as more collaborative relationship between ‘researcher’ and ‘researched’, would perhaps work toward providing depth of insight into the place, practice and generation of knowledge over time.

As an exploratory research project, this dissertation has successfully provided a starting point for thinking through some of the central concepts in environmental education – the places in which we locate and interrelate our learning of the world, the knowledges generated in understanding the world, and the actions and interactions through which we act upon the world. Possibilities for further research in environmental education, using this research as a stepping stone, could engage further with practice-theoretical perspectives in looking to how environmental and sustainability education is practised differently, in different places, and generates different knowledges through these practices and places. A greater engagement in the political dimensions of schooling, curriculum place and knowledge could be undertaken to provide empirical evidence relating to the theorisation of critical place-conscious environmental education. Further investigation is also warranted which considers and teases out the interrelations and tensions between knowing, in a disciplinary sense, doing, in a practical sense, and being emplaced and embodied in the practice of environmental education. In addition, extending this notion outward to take into consideration the recently released Early Childhood Early Years
Curriculum Framework (DEEWR, 2009) and in particular its organising concepts of ‘belonging’, ‘being’ and ‘becoming’ could provide further possibilities for thinking through early childhood curriculum that engages with place and environment, and what these concepts might also bring to formal schooling more generally.

There is recognition of the importance that interdisciplinarity plays in environmental education for addressing the crises and damage to this world through attention to ongoing socio-environmental problems that cannot be separated into disciplinary boundaries (Kyburz-Graber & Rigendinger, 1997; Meyers, 2006). As such, there is merit in pursuing action-oriented research, with educators across schools, communities and universities. Such research could focus on changing actions and mobilising understandings across, through and outside of disciplinary understandings. It could bring forward the background to life and living often left silent or unspoken – the places through which we act on the world – and further develop notions of citizenship for eco-social justice or eco-citizenship (Furman & Gruenewald, 2004; Martusewicz & Edmundson, 2005; Potter, 2008). This research could work to further explore notions of subjectivity and habituation and citizenship for eco-social justice in environment, place and sustainability education through practice theories.

**Concluding thoughts**

Over the years that I have undertaken this dissertation, my understanding of environment and place, environmental education, knowledge and practice have developed through ongoing contemplation about what a relationship to place, environment, nature and society means for the ways that we live in the world. In turn, this has informed my understandings of environmental education as practice, where first and foremost we act in and on the world. Clearly, then, a reconceptualised environmental education has a role to play in the development of our relationships to environment, society and place, embodied through our earliest years of life.

The experience of researching, observing and conversing with the teachers and students in each of the case-studies showed the world as a “world of radical possibility”, where practices were changing, complex, forming, reforming and transforming through their practising (Thrift, 2008, p. 114).
Participating in this research were schools that were responding to the implicit and explicit challenges of an ecological crisis, and that were working to incorporate an environmental and place responsiveness into their curriculum. They provided clues in their practice, and in their struggles, that helped to articulate better how we might go about addressing the challenges of curriculum in environmental education.

In this way, although always imperfect and grounded in the everyday tangled web of schooling, these schools incorporated understandings about the environment, grounded in experience of and response to the natural world, into actions of responsibility for the good of the planet. The students in these schools were learning skills, eco-consciousness and responses that will hold them in good stead as they grow up into a future where environmental uncertainty is predicted and climate change now all but accepted. Yet, through their practice and foregrounding of place, schools can also provide the opportunity and possibility for students to develop a deep and engaged relationship to place: to ‘learn to love’ the world...
Reference list


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DEEWR – see Australian Government Department of Education, Employment and Workplace Relations.

DEH – see Australian Government Department of Environment and Heritage.


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IPCC – see *Intergovernmental Panel on Climate Change*


Lincoln, Y. S. & Guba, E. G. (2000). The only generalization is: There is no generalization. In M. Hammersley, R. Gomm & P. Foster (Eds.), Case study method: Key issues, key texts (pp. 27-44). London: Sage.


WCED – see World Commission on Environment and Development.


Appendix 1: Information Sheet

For teachers and school staff
worked out, keeping in mind that they are free to withdraw from the research at any time, without fear of penalty or discriminatory treatment. In providing the researcher with access to the classroom, it is also possible that students may be disrupted and provide difficulties for the teachers involved. If this is the case the teacher is free to ask the researcher to cease voice-recording or leave the room.

The study is being conducted to meet the requirements for the degree of Doctor of Philosophy (Education), under the supervision of Professor Bill Green, (02) 6338 4563, of the School of Teacher Education at Charles Sturt University. It is likely that the data will also be used for publications by the principal investigator. All recorded data will be transcribed and analysed using discourse analysis. All documents will also be analysed using discourse analysis. The confidentiality of participants, places and schools will be protected through the use of pseudonyms for any identifying information. In addition all recorded, written and documented data collected will be stored in a locked filing cabinet for five years, after which it will be destroyed. Any files stored on the computer will be password protected and deleted after five years. Any digital photographs will not be used for any purposes other than for the research and that any images will not be published without the parent's consent and the consent of any individuals photographed.

The participant is not obliged to participate in the project and can withdraw from the project at any time without needing to give a reason. Non-participation or withdrawal will not result in any penalty or discriminatory treatment.

NOTE: Charles Sturt University’s Ethics in Human Research Committee has approved this project (approval number 2006/310). If you have any complaints or reservations about the ethical conduct of this project, you may contact the Committee through the Executive Officer:

The Executive Officer
Ethics in Human Research Committee
Academic Secretariat
Charles Sturt University
Private Mail Bag 29
Bathurst NSW 2795
Tel: (02) 6338 4628
Fax: (02) 6338 4194

Any issues you raise will be treated in confidence and investigated fully and you will be informed of the outcome.

NOTE: The New South Wales Department of Education and Training Research and Evaluation Unit have approved this project (SERAP number 2006080). If you have any complaints or reservations about the ethical conduct of this project, you may contact the Research and Evaluation Unit:

Research and Evaluation Unit
NSW Department of Education and Training
GPO Box 33
SYDNEY NSW 2001
Tel: (02) 9561 8370
(02) 9561 8809
(02) 9561 8402

Any issues you raise will be treated in confidence and investigated fully and you will be informed of the outcome.

If you consent to be involved in this project please return the consent form on the following page. If you consent to photographs that include yourself to be published for research purposes, please also sign the 'Consent to use photographs for research purposes and publications' form. You are advised to keep the information statement for reference to at a later stage.

If you have any questions about this research or your child’s participation in it, please do not hesitate to contact me.

Rebecca Miles
For children
The interviews will be conducted between May, 2008 and October 2008. If you have any questions or concerns regarding this research you are encouraged to contact Rebecca using the contact details above.

**NOTE:** Charles Sturt University's Ethics in Human Research Committee has approved this project. If you have any complaints or reservations about the ethical conduct of this project, you may contact the Committee through the Executive Officer:

<table>
<thead>
<tr>
<th>The Executive Officer</th>
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<td>Ethics in Human Research Committee</td>
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<td>Academic Secretariat</td>
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<td>Charles Sturt University</td>
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<td>Private Mail Bag 29</td>
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<td>Bathurst NSW  2795</td>
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<td>Tel: (02) 6338 4628</td>
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<td>Fax:  (02) 6338 4194</td>
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</tbody>
</table>

Any issues you raise will be treated in confidence and investigated fully and you will be informed of the outcome.

If you consent to be involved in this project please detach and return the consent form on the following page. If you consent to photographs including your child being published for research purposes, please also sign the 'Consent to use photographs for research purposes and publications' form. You are advised to keep the information statement for reference to at a later stage.

Yours sincerely,

*Rebecca Miles*
Appendix 2: Consent Forms

For teachers and school staff

Consent to participate in research

I consent to participate in this research. I understand that I am free to withdraw my participation in the research at any time, and that if I do I will not be subjected to any penalty or discriminatory treatment. The purpose of the research has been explained to me, including the (potential) risks/discomforts associated with the research, and I have read and understood the written explanation given to me through the information sheet. I understand that if I have any queries concerning my involvement in this research I am free to contact the principal investigator. I understand that any information or personal details gathered in the course of this research about me are confidential and that neither my name nor any other identifying information will be used or published without my written permission. I understand that any digital photographs that are taken will not be used for any purposes other than for the research and that any images will not be published without my consent and the consent of any individuals photographed. I understand and give permission for interviews/focus groups to be audio-taped.

NOTE: Charles Sturt University’s Ethics in Human Research Committee has approved this project (approval number 2006/310). If you have any complaints or reservations about the ethical conduct of this project, you may contact the Committee through the Executive Officer:

The Executive Officer
Ethics in Human Research Committee
Academic Secretariat
Charles Sturt University
Private Mail Bag 29
Bathurst NSW 2795
Tel: (02) 6338 4628
Fax: (02) 6338 4194

Any issues you raise will be treated in confidence and investigated fully and you will be informed of the outcome.

Signed by: ..............................................................................................................
Name: .......................................................................................................................
Date: ........................................................................................................................

Consent to use photographs for research purposes and publications

In signing the below section, I give consent for photographs which feature myself to be reproduced in research publications and for research purposes. I understand that not giving consent to use photographs will in no way impact me, and by not signing the section below photographs featuring me will be blurred, so as to make identifying me impossible.

Signed: ................................................................. Name: .................................................................
Date: .................................................................

☐ By ticking this box I have indicated that I do not want any photograph of me to be published.

Please separate this sheet from the information sheet and return it to Rebecca prior to the commencement of interviews/focus groups.
Consent to participate in research

My child ................................................................................................................... and I consent to them participating in this research. In giving my consent I acknowledge that:

1. The procedures required for the project and the time involved have been explained to me and any questions I have about the project have been answered to my satisfaction
2. I have read the Parent Information Sheet and have been given the opportunity to discuss the information and my child’s involvement in the project with the researchers
3. I have discussed participation in the project with my child and my child assents to their participation in the project
4. I understand that my child’s participation in this project is voluntary; a decision not to participate will in no way affect their academic standing or relationship with the school and they are free to withdraw their participation at any time.
5. I understand that my child’s involvement is strictly confidential and that no information about my child will be used in any way that reveals my child’s or the school’s identity.
6. I understand that video/audio/photographic recordings will be made as part of the study and that these will only be viewed by the researcher and her supervisors.
7. I understand that any digital photographs will not be used for any purposes other than for the research and that any images will not be published without the parent’s consent and the consent of any individuals photographed.

Charles Sturt University’s Ethics in Human Research Committee has approved this study. I understand that if I have any complaints or concerns about this research I can contact:

Executive Officer
Ethics in Human Research Committee
Academic Secretariat
Charles Sturt University
Private Mail Bag 29
Bathurst NSW 2795
Phone: (02) 6338 4628
Fax: (02) 6339 4194

Signed (parent/guardian) ........................................... Signed (child) ...........................................
Name: ................................................................. Name: .................................................................
Date: ................................................................. Date: .................................................................

Consent to use photographs for research purposes and publications

In signing the below section, my child ........................................................................ and I give consent for photographs which feature them to be reproduced in research publications and for research purposes. I understand that not giving consent to use photographs will in no way impact my child, and by not signing the section below photographs featuring my child will be blurred, so as to make identifying them impossible.

Signed (parent/guardian) ........................................... Signed (child) ...........................................
Name: ................................................................. Name: .................................................................
Date: ................................................................. Date: .................................................................

☐ By ticking this box I have indicated that I do not want any photograph featuring my child to be published, identifiable or not.

Please detach this section from the information statement and return it to Rebecca prior to the commencement of interviews/focus groups.
Appendix 3: Interview guide – principal

Principal interview guide

School and personal approach to teaching
Tell me about your school.

(prompt: Student numbers? Where they’re drawn from? Teachers? How long have you been here? Where you’ve taught before? The local community? Population size? Main occupations in community?)

How would you describe your approach to teaching? i.e. the philosophies you use in your teaching?

Environmental education (EE)
Do you have an interest in environmental education? If so, what led to this interest?

How do you teach ‘the environment’? What areas of EE do you/the school focus on?

What EE programs does your school use?

What processes have led to EE becoming embedded in the school?

How do students respond to it?

What do you think is the long-term sustainability of environmental education in your school? What do you hope is the long-term sustainability of it?

Places used for learning
Can you describe a place that has special meaning/environmental meaning to you?

Tell me about the places that are used by the school for learning? Why are they used?

Can you tell me about your school grounds as a place for learning?

What is the learning focus of these places?

How are these places used in teaching about the environment?

(prompt: Environmental issues? conservation? regeneration?)

What is it about these places that matter?

How do the students respond to these places? Do these places matter to the students?

Curriculum decisions
How would you describe the curriculum at your school?

What are the focus areas of the school’s curriculum?

How are curriculum decisions made? Who has input into these decisions?

How are outside places used in the curriculum?
Appendix 4: Interview guide – teacher

Teacher interview guide

School and personal approach to teaching
Tell me about the school, from your experience.
(prompts: How long have you been here? Where you’ve taught before? What class/stage do you teach? For how long?)

How would you describe your approach to teaching? i.e. the philosophies you use in your teaching?

Environmental education (EE)
Do you have an interest in environmental education? If yes, what led to this interest?

How do you teach ‘the environment’? Are there any areas of EE you focus on?
(prompts: understandings about the environment? Activities? Behaviours? Attitudes?)

How do students respond to EE?

Places used for learning
Can you describe a place that has special meaning/environmental meaning to you?
Tell me about the places that you use for learning in your teaching? Why are they used? How are they used?
What is the learning focus of these places?
How are these places used in teaching about the environment?
(prompts: Environmental issues? Conservation? Regeneration?)

What do you think it is about those places that matter?
How do the students respond to these places? Do you think these places matter to the students?

Curriculum decisions
How would you describe the curriculum that you teach?
What are the focus areas of the school’s curriculum?
How are curriculum decisions made? Who has input into these decisions?
How are outside places used in the curriculum?
Appendix 5: Interview guide – student

Student question guide

Can you describe a place that has special meaning/environmental meaning to you?
Tell me about the places around the school that your teachers use to teach you outside of the classroom?
What about these places made it better (or worse) to learn?
What is it about those places that matter?
Can you tell me about what you learn outside the classroom?
What subject areas are you taught outside the classroom?
How are these places used in teaching?
What do you like or dislike about learning things outside?
Appendix 6: The arrays of activities that contributed to the practice of environmental education in each case study

<table>
<thead>
<tr>
<th>Riverside Public School</th>
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<tbody>
<tr>
<td><strong>General attitude to EE:</strong> ‘Environments’ unit in the school’s scope and sequence – fits into one term; focuses on knowledge about the environment in first half of unit, with focus moving towards acting to change or improve aspects of the environment</td>
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<tr>
<td><strong>Teaching activities:</strong> dialogical; research and inquiry based; small group work; surveying and tallying; waterway monitoring; using technology for research; researching then writing action plans</td>
</tr>
<tr>
<td><strong>Curriculum activities:</strong> Murder under the Microscope; Stream Watch; Living Land (COGs); River Walk - creative artworks; Indigenous theme in artworks; environmental action plans (energy &amp; sustainable energy, frog pond, catchment plan, water conservation)</td>
</tr>
<tr>
<td><strong>Content:</strong> Catchment issues; biology; food chain; river conservation; water quality; catchment features/land topography in the immediate locality; species and habitat loss; dance and movement; persuasive writing; research report writing; creative art techniques (drawing, etching, printing, colour wash)</td>
</tr>
<tr>
<td><strong>Peripheral contexts:</strong> Enviro Club: frog pond and native garden; some students from class engaged in enviro club activities</td>
</tr>
<tr>
<td>Technology and library teacher following up what is done in Murder</td>
</tr>
<tr>
<td><strong>Structures within which EE is practised:</strong></td>
</tr>
<tr>
<td>NSW DET; School curriculum; Institutional practices</td>
</tr>
<tr>
<td><strong>Teacher identified confines:</strong> Extracurricular commitments; not enough time to fit all the required curriculum focuses in; time management; stretched curriculum requirements; box ticking and interruptions as barriers; “A focus on environmental and sustainability has meant that other curriculum focuses have had to go from school’s scope and sequence”; focus on producing work rather than the experiences and processes; time and manpower barriers to getting gardens developed and established</td>
</tr>
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Riverside was a smaller case-study, in terms of the number of participants, and the diversity and range of practices observed and spoken of in interviews were less detailed than those of the other two case-studies. The practice of environmental education at Riverside Public School was observed as incorporating:

- **Learning programs/curriculum,** and specifically: the inclusion and adaptations of the program Murder under the microscope, and the COGs unit of work My River.
• **Interdisciplinary learning**, and specifically, the incorporation of key learning areas of Creative Arts, Dance, English, Science and Human Society and Its Environment (HSIE).

• **Science-based learning**, and specifically: learning activities that developed understandings of water catchment, causes, impacts and solutions to environmental degradation in catchments,

• **Curriculum objectives**, and the role of the teacher in meeting these objectives in practicing environmental education, while also adapting teaching practices to meet personal and professional beliefs and philosophies about teaching environmental education as well as the place for resisting standards and accountability.

• **Changes in schooling**, specifically, changes to the structure of school that arrested the ability of teachers as professionals to provide learning experiences that weren’t focussed on measurable products and outcomes. Sayings around changes in schooling also focussed on the changing climate of schooling that discouraged practices outside of the mainstream, such as environmental education practices involving students in activities that didn’t produce something measurable (and usually written).
Flatlands Public School

General attitude to EE: Environment as a theme for whole school; integrated curriculum; activities involving wide use of curriculum resources; using place deepens opportunities while reducing costs and risk assessment hassles; approach at FPS is not formulaic or easily duplicated – moulded to suit context, people and place; a set curriculum that has to be covered but anything can link to EE; multiple curriculum knowledge focus; environmental ed as a part of everyday school life; avoid attitude that “this term is a unit on environment”; environmental themes fit with outcomes throughout the state curriculum; shift amongst wider schooling context that EE is an ‘extra’, to attitude that EE is important; environmental education has to be continuous – a consciousness that you draw into everything; awareness of there being more to schooling than ‘ticking boxes and fitting within structures and accountability frameworks’; kids will act differently outside than they do sitting down in the classroom; kids don’t learn sitting down; education needs to change – too much focus on sitting down, inside activities

Teaching activities: Inquiry learning; fun stuff; practical hands on learning activities; positive experiences; building respect and credibility with students; flexible, open approach; regularity of experiences; being opportunistic about incidental opportunities; raising issues that aren’t daunting and are able to be understood by K-6 children; cataloguing; auditing; planning, propagating and planting gardens

Curriculum activities: gardening class; games and sport – i.e. orientation activities; hybridised use of learnscapes; Living Land – adaptation of program to school’s context; Stream Watch, Junior Landcare; regular involvement in environmental activities with community members; auditing – bird species, water use, energy use, rubbish; seed collection; artworks; media resources

Content: biodiversity; water conservation; energy conservation; wetlands; Stream Watch; native gardens; threatened and endangered local species – sugar gliders; bird audits and bird watching; general conservation; distinguishing between sustainability focus on resources (waste, energy etc.) and environmental focus (bugs, water); Indigenous focus through artwork and garden; loss of biodiversity; focus on local issues – biodiversity & water; water conservation

Resources: community; Landcare/Junior Landcare; making the most of connections with people, places, parents – resources that are available at the time; development of EEC a group effort; Discovery & Learning Centre a resources for the community and the school

Informal opportunities: cubby making; “hands off” teachers during playtime; informal, unstructured learning times; accidental/informal learning experiences connecting to students everyday experiences; students bringing things of environmental interest from elsewhere to share; gardening classes – minimally structured lessons in place

Structures within which EE is practised: CMA, Landcare, limited NSW departmental support at first; state and federal government funding; NSW state curriculum requirements; local government; school curriculum priority; approaching environment sensitively in a rural community; EEC committee – advantage of small committees, pushing through changes and not getting bogged down in planning; generational changes occurring now in the community in regards to environmental care and concern; awards and publicity early on; government funding for solar and water tanks has led to an increase in interest; adoption and adaptation ("If it wasn’t for Learnscapes we probably wouldn’t have gotten to where we are today, but it wasn’t through, necessarily, following the formula or recipe" – Daniel, principal, FPS, March, 2008); collaboration and support with other schools –
i.e. the developing of a unit of work; benefit of a small rural school makes it easier to negotiate with the committee and get things done; school and EEC not separate

**Changes in place made to foster EE:** fences pulled down; areas of the school grounds paved; incinerator ripped out; pathways created; garden beds created

**Connections:** making a strong connection with the environment; responsibility as educators to develop a sense of appreciation and connection to the natural world; connecting with place and social history; connection with birds, animals; encouraging sense of connection and appreciation for the environment and their own place; involvement in place-making; importance of connection between school and EEC; school has become part of the broader community and broader world

The following themes of *doings* and *sayings* identified through the interviews and observations at Flatlands Public School provide an overview of the practice of environmental education there;

- **Learning experiences and curriculum at the school,** specifically:
  - the need for ongoing and consistent integration of environmentally-focussed learning which had heralded an attitude in the school that environmental education was important rather than an additional task in the curriculum; the role that building credibility, momentum, connection and respect for place had through regular experience in the natural environment; the interconnections between school and Environmental Education Centre; the focus on positive, fun and respectful experience of nature rather than ‘gloom and doom’ focus on issues and problems; the practice of schooling as more than standards and accountability frameworks.

- **Learning outside,** specifically: the value that informal and incidental learning in the school yard and Environmental Education Centre had for students; that students needed to have experiences with the world outside the classroom and there was resultant differences in students actions; the need for wider education practices to change to encompass learning in place and in the natural environment.

- **Change and uncertainty,** specifically: the responsibility that the teachers felt about teaching students growing up into a world that faces much environmental uncertainty and challenge; the changes teachers had noticed occurring in mainstream attitudes toward the
environment and teaching in environmental education and the time that it takes for changes in attitudes and behaviours to be ongoing.

- **Different/other**, specifically: the school and Environmental Education Centre as different to other schools and being ‘ahead of their time’ in regards to approaches to environmental education; the practice of environmental education as the teachers just doing the ordinary, but perceived by others as special; the outcomes of the development of the Environmental Education Centre as being beyond what was expected, helping the school to survive and flourish.

- **Interconnections**, specifically: the importance that interconnections with the community, community organisations, government organisations and the school had on both the development of the Environmental Education Centre as well as the recognition and change to attitudes towards the environment.

- **Facilitating care for the environment**, specifically: the role of the school in teaching students to look after, care for, connect with and be responsible for environment and place.
### General attitude to EE
- Environment as a unit of work; environment as an integrated focus – part of everyday life; anything can be made to fit in the curriculum; separate learnscapes teacher; whole school approach; integrated curriculum

### Teaching activities
- Student participation in decision making and committees for planning ground works; students participation in large-scale art projects around the grounds; buddy system – cross-age activities; child-centred learning; ownership; inquiry-based learning; student directed with teacher guidance; different places for different student interests; researching; writing – stories, poems, descriptions, recounts, observations, reports

### Curriculum activities
- Waste Wise; student consultation and participation; bird boards; murals; sculptures; owl wall; connection with a special place art project; gardening – weeding, raking, sweeping, planting; Learnscapes; Learnscapes class; researching; water conservation; student researched art projects around the school; Indigenous Flora and Fauna booklet; forming student committees for planning ground works

### Content
- Endemic flora and fauna; art techniques; conservation; Learnscapes; recycling; water conservation; raising awareness; experiencing the environment; observing changes in the natural world; encouraging positive play to foster relationships to place; biology; ecosystems; recycling; energy conservation

### Resources
- Learnscapes coordinator; learnscapes map enabling action; community and parents; Indigenous plant booklets as guide to the community

### Connections
- “It’s not just about ideas, but building up relationships and being able to engage kids” (Janet, Learnscapes coordinator, MTPS, September, 2008); local context or focus in many activities; supportive parents; activities at school beginning to influence community practices

### Outside institutions
- DSE, Landcare, Waterwise, Council, Tennis court, Indigenous artist, Artists in residence, Jail, Waste wise, Special Forever

### Structures within which EE is practised
- Department of Education, funding constraints, curriculum constraints.

The *doings* and *sayings* discussed in the themes, below, were evident in the practice of environment and place at Mountain Top Primary School:

- **Approach to students’ learning**, specifically: the importance of child-centred learning through the development and creating of the Learnscapes, and the ownership that students felt about these places; the involvement and participation of students in the Learnscapes process, and ongoing changes in the school grounds, involvement of students in decision making and action taking.

- **Approach to environment**, specifically: that the schools practice of environmental education encapsulated learning through the
environment with varying emphases on Indigenous learning, conservation, raising awareness about environmental issues, and the need to connect environmental learning to place and experience.

- **Learning the environment**, specifically: the importance of learning about the environment in order to maintain it for future generations; the focus on learning through the environment as being important to the school and the responsibility that teachers have to do this; although learning the environment was a focus for student learning it also became a learning experience for teachers as well.

- **Communicating place and environment**, specifically: place and environment as spoken through art activities, school messages, Learnscapes map, creation of booklets and artworks in providing sayings to the community and other students.