Integrating Innovative Environmental Pedagogies into Practice in Adult Community Education: the rhetoric and the reality.

Submitted by

Jonathan Kempster

In partial fulfilment of the requirements for the degree of Doctor of Education

School of Education

University of Sheffield

October 2016

Acknowledgements

This work would not have been possible without the support of a great number of people. In particular I am deeply indebted to:

the eleven practitioners who were so enthusiastic and who gave up so much of their time and energy to be a part of this study;

my family and especially my brother, Richard, and my mother, Betty, who encouraged, supported and did not doubt me, even in my darkest times;

Kevin and so many other friends who have listened to my frustrations and joys whilst I have written this thesis;

Zoya who, by listening and by gentle coaxing and questioning, opened so many doors for me;

Hilary Jones, my mentor, who did not give up on me, even when I did;

Chris Winter, my supervisor, who provided on-going support, taught me the significance of being critically reflective and who progressed my writing style and ability;

Allen Thurston for his motivating words and energising thoughts;

And finally Jane, my partner and dear friend who has made many sacrifices for me and given unrelenting support.

Abstract

This study explores whether innovative environmental pedagogies that encourage learners to reflect on nature and are socially-critical can be integrated into teaching practice in a local government adult community education setting. Existing environmental education (EE) research reports that integrating innovative environmental pedagogies into teaching practice is problematic as a result of institutional constraints and teachers' subjective influences. Most of this existing research has been conducted in schools, not in adult community education. My study recognises this gap in knowledge and explores how eleven practitioners working in one particular local government adult community education setting in England make meaning of innovative environmental pedagogies.

In my study I employ an action research strategy, collecting data through semi-structured interviews and cooperative inquiry meetings. Heron and Reason's (1997) extended epistemology provides an appropriate theoretical framework. Their extended epistemology resonates strongly with my methodology and supports the practical methods required to address my research aims and questions.

My findings show that integrating innovative environmental pedagogies into one adult community education setting is indeed problematic. Problems include: practitioners' concerns with adhering to externally imposed government performance targets; their practice of working in isolation and how their beliefs over remaining neutral in teaching significantly influences their attitude towards innovative environmental pedagogies. Unlike previous research, my findings also make visible how practitioner beliefs about nature and privileging learner needs mitigate against the integration of innovative environmental pedagogy into practice. I conclude that innovative environmental pedagogies cannot simply be grafted on to pre-existing practices. Innovation in EE must be situative and aligned with the contexts in which practitioners work.

CONTENTS **PAGE**

Chapter 1: Introduction

In recent years there has been considerable interest devoted towards integrating environmental education (EE) across the curriculum within schools, universities and further education (Cotton, 2006a; Walter, 2009). Bell (2004) notes that the 'standard reference point for a definition of "environmental education" is the Intergovernmental Conference on Environmental Education held in Tbilisi in 1977' (p.42). This conference defined the purpose and raison d'être of environmental education to be:

- to foster clear awareness of and concern about, economic, social, political and ecological interdependence in urban and rural areas;
- to provide every person with opportunities to acquire the knowledge, values, attitudes, commitment and skills needed to protect and improve the environment;
- to create new patterns of behaviour of individuals, groups and society as a whole towards the environment (UNESCO, 1980:71).

Although many educators are committed to integrating EE across the curriculum, however, much contention exists with regard to how a 'clear awareness' should be fostered, what 'new patterns of behaviour' should be created or which forms of 'knowledge, values [and] attitudes' should be engendered (Gray-Donald and Selby, 2008). As a committed environmental educator and area manager, who has worked within a local government adult community education service for eighteen years, I locate myself firmly within this contentious world.

The contention that I experience is one where, within the service in which I work, a very specific form of EE, Education for Sustainable Development (ESD), has become dominant. I have severe reservations about ESD and will elaborate on my concerns in section 1.1. My preference is for integrating into practice environmental pedagogies that are innovative in that they are socially-critical and encourage learners to reflect on nature and in section 2.1 and 2.2 I explain why I support these approaches. Research within the field

of EE, however, has shown that the integration of environmental pedagogies that are socially-critical and encourage learners to reflect on relationships with nature is problematic. Grace and Sharp (2000) and Fazio and Karrow (2013) report on the institutional constraints within education that mitigate against the integration of innovative environmental pedagogies. Cotton's (2006a) research shows how teachers' concerns with neutrality contribute towards innovative environmental pedagogies being problematised. The majority of existing research has been conducted within schools, however, and my extensive search of pre-existing literature shows that none has taken place in an adult community education setting in the UK. My study recognises this gap in knowledge and my thesis presents a critical inquiry into whether innovative environmental pedagogies can be integrated into practice within the local government adult community education service where I work.

Within this chapter I introduce my research project. First, I briefly introduce ESD and outline my concerns with this particular environmental pedagogy. These concerns form the contextual backdrop to my research. They motivate me in my quest towards exploring whether more innovative approaches to EE can be integrated into practice. Next, I provide a brief explication of what I consider to be an innovative environmental pedagogy. I then outline my research aim and questions and discuss my research design and my positionality. Finally, I give justification for my study and outline the structure of the thesis to follow.

1.1 ESD: Origin and Concerns

ESD has its origins in the publication 'Our Common Future', a report produced by the 'World Commission on Environmental Development' (WCED) in 1987. The WCED, created under the auspices of the United Nations 'Environmental Programme', was chaired by the Norwegian Prime Minister Gro Harlem Brundtland and consisted of representatives from twenty-two countries (Winter, 2007). WCED (1987) defined ESD as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs' (p.43:item 4). In the late 1990's ESD was introduced into school curriculum policies at a national level in England (Winter, 2007).

More recently, ESD has become prominent in national UK adult community education policy. In 2005, the UK government produced the document 'From Here to Sustainability: The Learning and Skills Council's Strategy for Sustainable Development' along with an accompanying publication 'Strategy for Sustainable Development: Supporting Document'[1]. Both documents recommend that colleges and adult community education providers 'promote and embed sustainable development skills' (HM Government, 2005a:5).

My first knowledge of ESD stems from working in a large local government adult community education service. I was employed as an area manager and on November 2nd 2006 attended a meeting with the services senior management team. During this meeting, the head of service introduced ESD. She produced an initial draft of a sustainable development action plan for our adult community education service. This draft cited government policy on ESD and posited that 'sustainable development (SD) should be at the heart of all learning' (p.2) and 'that there is a need for all learners to acquire SD skills' (p.2). The head of service asked that as, area managers, we worked with staff to integrate ESD into practice. In particular she wanted staff to integrate approaches that encouraged learners to recycle materials and engage in energy efficiency practices[2]. By doing this she posited that our service would contribute to the UK government's overarching goal for sustainable development:

> The goal of sustainable development is to enable all people throughout the world to satisfy their basic needs and enjoy a better quality of life, without compromising the quality of life of future generations. (HM Government, 2005a:3).

[1] The Leaning and Skills Council (LSC) was established in 2001 as a non-departmental public body under the Learning and Skills Act 2000. It was sponsored initially by the Department for Education and Skills (DfES) and from July 2007 by the Department for Business, Innovation and Skills (BIS). The LSC identified its main goal as being 'to improve the skills of England's young people and adults to ensure we have a workforce of world class standard' (LSC website, "About Us" page). The LSC was terminated on the 31st March 2012 and was replaced by the Skills Funding Agency (SFA). Until its closure, the LSC provided approximately 89% of the funding for the adult community education service where I work.

[2] For example, turning off lights when not needed.

At the time, I uncritically accepted the discourses of ESD. I adopted the words without thinking about them, used them and advocated for them. For the next two years I encouraged staff to integrate ESD into their curriculum areas. I asked them to consider ways in which their lessons might inspire learners to think more carefully about how they used resources and what they might recycle. Things changed for me however in 2008. I began my EdD course and became more critically reflective. In May 2009 I attended an EdD lecture where the notion of ESD was scrutinised. Following this I too began to question ESD. The more I scrutinised, the more I became uncertain. As time progressed I realised that policy on ESD was problematic in four ways. I now discuss each of these in turn under the subheadings of:

- The economic imperative
- Anthropocentric knowledge
- Emphasising individual action
- A privileged doctrine

1.1.1 The Economic Imperative

Bonnett (2007) is critical of the covert meanings implicit within ESD. He posits that ESD policy is based on taken-for-granted cultural assumptions that are encoded within a language that privileges certain forms of knowledge. In particular he takes issue with the word 'development' and the association this has with economic imperatives. He suggests within ESD 'there is relatively little talk of having less, and generally a continuing expectation of having more' (Bonnett, 2007:710). Similarly, Jickling and Wals (2008) raise concerns over the close relationship within ESD policy between the '3 p's' of people, planet and profit. They note within ESD that environmental awareness is associated with an 'uncritical or tacit embrace of unrestrained economic growth' (2008:40). Selby and Kagawa (2010) are also critical of the material growth contingent and posit that:

> …it looks as though the key contribution of sustainable development has been to reinforce the dominance and sway of the occidental marketplace worldview (p.38).

I am concerned about this association with economic development. I question why I should encourage practitioners to integrate approaches to EE that foreground economic development within the service in which I work. Arguably, it is economic development that significantly contributes to environmental degradation and 'represents a source of current problems rather than a solution to them' (Winter, 2007:339).

1.1.2 Anthropocentric Assumptions

My second concern is with the anthropocentric assumptions that underpin ESD (Bonnett, 2007; Jickling and Wals, 2008). Embedded within ESD is an assumption that humans are the central and most important beings on planet earth. This assumption is reflected in the UK government's overarching goal of sustainable development where the focus is on enabling 'all *people*… to satisfy their basic needs'. There is no reference within this statement to nature. By adopting this perspective ESD is preoccupied with sustaining human needs rather than those of the whole planet (Jickling and Wals, 2008). More-so, ESD is informed by an ethic described by Pinchot (2004) as 'wise use… [which emphasises] … the greatest good for the greatest number for the longest time' (p.17) and there is an assumption that the environment constitutes a resource that contributes towards 'human flourishing' (Bonnett, 2003:685). Bonnett (2003) takes issue with ESD because:

> …things – including 'purely' natural things – are always [and only] revealed to us in a context of human concerns and practices, and their reality and value is therefore always at some level conditioned by such concerns and practices (p.687).

Encouraging practitioners to integrate ESD into practice is problematic for me because this approach to EE reveals only the elements of nature that service human need. All other elements remain invisible and are subsequently attributed with little value. Additionally, by being underpinned by anthropocentric assumptions ESD 'continues to express the kind of underlying arrogant superiority and instrumentalism towards nature that has been a prime contributor to present [environmental] problems' (Bonnett, 2003:680).

1.1.3 An Emphasis on Individual Action

Thirdly, I question the emphasis that ESD places on individual action. The HM government document 'Securing the Future' stresses the importance of promoting 'a clear understanding of, and commitment to, sustainable development so that all people can contribute to the overall goal through their individual decisions' (2005a:16). There is a focus in ESD on encouraging learners to take *individual* responsibility for recycling and engaging in energy efficiency practices (Jickling and Wals, 2008). I am critical of environmental pedagogies that emphasise individual action. Focusing learners' minds on their individual actions distracts attention away from questioning the broader structural and political reasons for environmental problems and deflects attention from collective responses (Clover et al, 2010). ESD 'brackets off questions about the structure of society and concentrates instead on questions about the behaviour of individuals within that (apparently fixed) structure' (Tesh, 1988:161). Subsequently the status quo is preserved and environmental degradation continues 'unencumbered by the critique or challenge of a politicized, engaged and active public' (Clover et al, 2010:15).

1.1.4 A Privileged Doctrine

Fourthly, I am concerned that ESD has become elevated 'to the status of a privileged doctrine' (Jickling and Wals, 2008:12). ESD discourse now informs policy at an international, national and local level. Jickling and Wals suggest that the adoption of ESD, initially at an international and then national level was not an arbitrary or casual act. It was purposeful and focussed on engendering a particular 'worldview' (Jickling, 1992). This is a worldview underpinned by anthropocentric assumptions, economic imperatives and an individualistic focus (Bowers, 2003). It is a worldview that 'promote[s] a certain kind of citizenship, particularly one that serves, or at least does not question, a neo-liberalist agenda' (Jickling and Wals, 2008:4). I worry that by encouraging practitioners to integrate ESD into practice, I am asking them to become 'agents' (Jicking and Wals, 2008:6) in communicating this very specific worldview. Practitioners would be engendering amongst learners', knowledge that is generated by powerful actors and privileging the voices of those in power at a national and international level. This causes me to

question my very purpose in education. I do not believe that education should be used instrumentally, as a mechanism by powerful actors, to impose a worldview that promotes individualism, anthropocentrism and economic imperatives. Instead I believe that education should encourage learners to question dominant worldviews and challenge the anthropocentric and neo-liberalist assumptions that pervade society. Thus I seek to integrate environmental pedagogies into practice that are more innovative in that they are socially-critical and encourage learners to reflect on relationships with nature.

1.2 Innovative Environmental Pedagogies

In their book, 'Green Frontiers, Environmental Educators Dancing Away from Mechanism', Gray-Donald and Selby (2008) describe a palm tree that grows on the banks of the Madre de Dios river in Southern Peru that 'defies notions of what a plant can do: it walks!' (p.1). They describe how:

> …the trunk of the palm tree is supported in the air by long mangrove like roots. The roots grow in the direction where there is rich soil and where there will be sunlight available for the fronds above and move away from where there is no such stream of radiant energy. Little by little … the tree moves to a place where it may better flourish (ibid:1).

The authors compare themselves to the actions of this walking palm and explain that as environmental educators they seek spaces where there is energy and light, places informed by theories and practice that 'inspire the roots of environmental education to walk past established boundaries and flourish in the freedoms and potentials of new space' (ibid:1). In a similar way I too intend to see whether it is possible to venture past established boundaries that constrain EE within anthropocentric, individualistic and economistic ways of knowing. I want to address my concerns about ESD by exploring whether innovative environmental pedagogies that encourage learners to reflect on relationships with nature and are socially-critical can be integrated into practice within the service in which I work. In chapter two, whilst discussing EE research literature, I explicate why I support these

approaches as well as explore more deeply my interpretation of innovative environmental pedagogies. Here I briefly expand on what I mean by 'reflecting on relationships with nature' and 'socially-critical'.

1.2.1 Reflecting on Relationships with Nature.

Mortari (2004) contends that if, as environmental educators, we are to:

> …lessen the power of the instrumental view which considers nature as raw material to be used, we need to take on as the foundation of ethical discourse the ontological presuppositions which claim that human beings are also part of nature – and that every being in nature has intrinsic worth (p.111).

I concur with Mortari and seek to integrate environmental pedagogies into practice that encourage learners to reflect on their relationships with nature so they might consider how they are part of nature. To this end I support environmental pedagogies that work to make nature more visible (Nicol, 2002). I aim to 'rehabilitate the notion of *knowledge by acquaintance* into the curriculum' (Bonnett, 2007:714). Like Bonnett (2007) I understand this acquaintanceship to engender 'a direct, intimate, tacit knowledge that affects and is capable of engaging all the senses. In other words, …an enriched, vitalized, sense of knowledge' of nature (p.714). By encouraging learners to reflect on their relationships, a door to a way of knowing is opened 'in which the power and subtlety of otherness and the elemental are felt and allowed to matter' (ibid:719). Through coming to know nature more intimately, by touching the bark of a wizened oak tree, by wondering at the glistening of a rain drop balancing lightly on a blade of grass, by thinking on the sun shining off the emerald greened back of a fly, we as humans, might begin to extend the 'same reverence' to nature as we would to our own bodies (Wilber, 207:307).

1.2.2 Socially-Critical Environmental Pedagogies

Throughout my thesis I employ the term 'socially-critical' to encompass approaches that encourage learners to critically investigate the social and

economic practices that contribute to environmental degradation (Bonnett, 2007). My notion of socially-critical is grounded in the concept of 'reform pedagogy' (Nicol, 2013:2) in that I aim to integrate approaches that encourage learners to critically reflect on how they might transform society so we can move beyond the economic and neo-liberal structures that relegate nature to the value of a resource. My notion of socially-critical incorporates an emphasis on collective action. Earlier I suggested that ESD's emphasis on individual action contributes to reinforcing the status quo because it encourages learners to focus on their own actions rather than considering broader structural and political reasons for environmental degradation (Clover et al, 2010). It is this uneasiness with individual thinking and action that encourages me to consider collective responses to environmental concerns. Clover et al (2010) posit that collective action is more powerful in precipitating 'socio-environmental change' and for this reason suggest, as environmental educators:

> …we must work to enhance people's collective potential to ask or to make change and help them more fully realise their capacities as environmental citizens (p.16).

I support Clover et al because I believe it is important for learners to engage with opportunities that enable them to critically and collectively reflect, to 'learn to think and struggle together and so develop the abilities, skills and confidence to move agendas forward' (Clover et al, 2010:16). My enthusiasm for integrating innovative environmental pedagogies and my concerns regarding ESD have influenced my research aim, questions and design which I now discuss.

1.3 Aim and Research Questions

My research aims to investigate whether innovative environmental pedagogies that encourage learners to reflect on relationships with nature and are socially-critical can be integrated into practice within the service in which I work. To discover such meaning my research explores how eleven practitioners understand, develop and make sense of innovative

environmental pedagogies. At the start of my research I realise that the integration of innovative environmental pedagogies into practice is problematic. Various researchers (Grace and Sharp, 2000; Cotton, 2006a; Fazio and Karrow, 2013) have reported on a 'rhetoric-reality gap' (Stevenson, 2007a:139) or mismatch between the innovative environmental pedagogies advocated by theorists and the realities of teaching in state run organisations. Some researchers uphold that the mismatch is due to institutional constraints. Fazio and Karrow (2013) in their research report how institutional constraints in schools in Canada mitigate against the integration of innovative environmental pedagogies. They discuss how 'engaging with nature and environmental issues [is] … a demanding endeavour' (p.640). It takes time to experience and reflect on nature, yet school timetables and 'class schedule' provide only limited opportunity for students to interact with nature meaningfully. Others, whilst recognising that institutional constraints exist, uphold that it is educators' beliefs and values that are at odds with many of the underlying meanings implicit within innovative environmental pedagogies and this contributes significantly to a rhetoric-reality gap. Cotton's (2006a) research in a school in England reports how 'teachers' beliefs act as a critical mediating factor' (p.80) on the integration of innovative environmental pedagogies. In her research, teachers expressed concern over socially-critical EE. Teachers thought that if they encouraged students to take part in collective action in support of nature, they might be guilty of 'indoctrination' (p.73) and they did not want to 'overly influence' learners (p.74). Although I can find no research that has been conducted in a local government adult community education service, the indication is that such issues may exist with integrating innovative environmental pedagogies into practice in the service where I work. With this in mind, my main research question asks: 'Can innovative environmental pedagogies be integrated into the practice of teaching in the local government adult community education service in which I work?' To help me focus my investigation further I have three supplementary research questions which are as follows:

1. What notions of nature and approaches to environmental pedagogy are supported by practitioners at the start of the research?
2. What environmental pedagogies did practitioners favour post the period of intervention?
3. Do practitioners identify problems with integrating innovative environmental pedagogies into practice and if so what might these be?

With regard to supplementary research question one, I intend to explore the environmental pedagogies that practitioners integrate into practice at the start of my research. I want to see if they uncritically engage with environmental pedagogies that constrain EE within anthropocentric, individualistic and economistic ways of knowing. If they are, this will indicate at the start of my research that there may be a rhetoric-reality gap in the service in which I work. Some practitioners however may already be integrating environmental pedagogies into practice that are socially-critical and encourage learners to reflect on relationships with nature. If this is the case, this might indicate that, contrary to the literature, the integration of innovative environmental pedagogies is not problematic. Additionally, within this supplementary research question, I am interested in exploring practitioners' beliefs and value associations with nature. Bonnett (2003) asserts that a person's 'underlying stance on nature's value will determine the kinds of knowledge and understanding to be considered relevant' (p.556). In view of this I am interested in teasing through whether practitioners have an instrumental view of nature or if they associate nature with an intrinsic worth because this may influence whether they integrate innovative environmental pedagogies into practice. With regard to research question two, my research includes an active interventionist phase in that I intend to introduce practical examples of innovative environmental pedagogies for practitioners to discuss and reflect upon. I am interested in exploring how practitioners understand, develop and make meaning of these examples. Will they favour them over their pre-existing practice or will they problematise them? If they favour these examples and so integrate innovative environmental pedagogies into practice, this will challenge the pre-existing literature that identifies a rhetoric-reality

gap. If they problematise the examples this will add weight to the pre-existing literature. Further, if they problematise innovative environmental pedagogies, I am interested in exploring in what ways and this leads me to my third supplementary research question. Will practitioners identify institutional constraints or will they problematise them because innovative environmental pedagogies are at odds with their own deeply held beliefs?

1.4 Research Design

I adopt an interpretive position within my research. This position upholds that people's views and beliefs are complex and varied and 'the goal of the research is to rely as much as possible on the participants' views of the situation being studied' (Creswell, 2009:8). My research involves an action research strategy (Reason, 2001), the bulk of the data being collected from two sets of semi-structured interviews and three cooperative inquiry meetings (Reason 1994) with eleven practitioners over eight months from January until August 2012. The sample comprised of practitioners from a range of curriculum backgrounds that included maths, English, yoga, science and DIY. My decision to engage action research and employ both semi-structured interviews and cooperative inquiry meetings was informed by my theoretical framework, research questions and literature, as well as practical and ethical considerations. I will expand on the reasons for my choice in the methodology chapter.

My research design draws upon Heron and Reason's (1997) theory of epistemological diversity which I will elucidate on in the literature review. Their theory accords with my methodological framework and supports the practical methods required to address the research aims and question for two reasons. Firstly, it provides a framework within which I can define innovative environmental pedagogies. This framework was invaluable when I came to analyse how practitioners make meaning of innovative environmental pedagogies. Secondly, Heron and Reason's extended epistemology is positioned within an emergent context. They explain how through critical reflection and action, we gradually come to acknowledge and accommodate

different ways of knowing in practice. I find this idea of emergence useful because it reminds me of the walking tree, of how by engaging in action research we might all re-evaluate and reconsider our approaches to environmental pedagogy.

1.5 Positionality

Barton and Clough (1995) draw attention to how researchers personally held values and beliefs serve to influence a research project from its very inception. They suggest that researchers are involved in making evaluative judgements whilst deciding on the research topic, type of sampling adopted, questions asked, evidence recorded and perspectives engaged when interpreting the data:

> Research does not merely address or discover the objects of its enquiry but it begins to create them from the first moment of identification of a topic. To select a method is to attach immediately a quite particular view and a particular ideology (ibid, 1995:3).

Further, there is recognition within the research community that a researcher's ontological and epistemological assumptions will significantly influence the research project. Clough and Nutbrown (2007) define ontology as the theory of 'what exists and how it exists' (p.33) and epistemology as 'how we can come to know those things' (p.33). They advise that a researcher's ontological and epistemological position be made explicit in research. In recognition of this, I now state my positionality. By doing this I aim to demonstrate rigour and critical self-reflexivity, alleviate concerns of bias and help the reader to make better sense of my research by expressing 'where I am coming from' (Sikes, 2007:5).

My ontological position is informed by the assumption that reality is subjective. Reality is interpreted, intertwined within our thought and experience and exists as much inside as outside of ourselves (Nicol, 2002). My epistemological position accordingly contends that knowledge is personal and subjective. Orr (1993) states there is 'no way to separate feeling from knowledge, or object

from subject' (p.17) and I support his assertion. My positionality influences my understanding of education. I believe that 'cognition… is not a representation of an independently existing world, but rather a continual bringing forth of a world through the process of living' (Capra, 1997:260) and this focus on the subjective precipitates my belief that we are all knowledge makers (Wellington et al, 2005). We can all make meaning and pursue solutions to problems (Bowl and Tobias, 2012) and because of this I perceive my role to be that of a facilitator or partner in dialogue within education rather than an expert (Gadamer, 1975). My assumption that reality is subjectively constructed also informs my understanding of nature. Raine (2003) defines nature as a plethora of realities 'whose ground is consciousness itself' (p.172). Within this understanding, nature is positioned as multifaceted, nature's emergent reality being dependent on the experience and cognition of the observer. I concur with Raine and consider my understanding of nature to be dependent on my felt experience. Thompson (2008) too describes how each experience of nature is unutterably particular. Cognition emerges through a connective process in which our bodies attune 'to the style of being of the other entity' (p.99). She posits that we can only truly come to know another being if we openly recognise and engage with our own subjectivities. This is why I feel it is important for nature to be visible within learning, so that through our own experience, we might each come to know nature as the 'self-arising' (Bonnett, 2007:720).

1.6 Justification for My Research.

Within the field of EE there is limited research on how educators make sense of integrating innovative environmental pedagogies into practice (Cotton, 2006a). With this in mind, my research has justification for two reasons. First as reported earlier, much previous research suggests that educators do not support the integration of innovative environmental pedagogies. There is a rhetoric-reality gap that exists between the innovative environmental pedagogies proposed by theorists in academic journals and books and the realities of teaching EE in state run educational organisations. My research aims to explore the juncture between theory and practice and in so doing it will add weight to, or challenge, the pre-existing research that reports on a

rhetoric-reality gap. Second my study acknowledges the absence of research on the rhetoric-reality gap in adult community education. My extensive search of EE literature reveals that much of the previous research has been conducted with educators employed within schools. Contrastingly, adult community education practitioners' voices have been overlooked and marginalised. This research will enable eleven adult community education practitioners' views, beliefs and practices to be explored and reported upon. In some small way it will contribute to addressing the lack of research within the literature on how adult community education practitioners understand, develop and make meaning of innovative environmental pedagogies. I hope that by documenting this, my research may inform future policy, practice and theory in the field of EE.

To summarise, my study provides a critical discussion on how eleven practitioners make sense of and engage with innovative environmental pedagogies. This study may be of relevance to other adult community education practitioners who, like me, have an enthusiasm for integrating innovative environmental pedagogies into practice. In addition, it may be of interest to all educationalists, academics and policy makers who are passionate about nature and who seek to integrate innovative environmental pedagogies into practice.

1.7 Structure of the Thesis

Chapter two is my literature review. This chapter critically analyses relevant literature within the field of EE and explores the meaning of innovative environmental pedagogies. I discuss existing research that problematises the integration of innovative environmental pedagogies and explain my theoretical framework. Chapter three makes explicit my methodology and methods. I consider my methodological procedures, reflect critically on the methods and discuss data collection and analysis. Next, I outline the ethical considerations and discuss the trustworthiness of my research. Finally, I consider the strengths and limitations of my methodology and methods. Chapter four reports on the data relating to research question one. I report on the value that practitioners, within my study, associate with nature. Additionally, I detail

the views that they hold on environmental pedagogies at the start of my research. Chapter five addresses the data relating to research questions two and three. This data arose from an interventionist stage of the research when examples of innovative environmental pedagogies were introduced for practitioners to explore and to critically reflect on. I report on how they understood, developed and made meaning of these examples. Additionally, I report on the concerns they expressed about innovative environmental pedagogies. In chapter six I discuss my findings in the context of the aims of my study and main research question. I also consider the actions I might take as a practitioner in response to the findings. Chapter seven is my conclusion. I begin by relating the findings to my research questions and aim. I discuss the strengths and limitations of my research and consider its contribution to knowledge. I provide recommendations for policy, practice and research. Finally, I reflect on my learning journey before concluding.

Chapter 2: Literature Review

This literature review is the result of a critical and systematic exploration of relevant research literature within the field of EE. Literature reviews perform various functions. They illustrate how ideas within a research project have developed and explore the epistemological and ontological roots that inform a study. They provide the context for a research project and position it within a wider body of knowledge (Wellington et al, 2005). Literature reviews enable a theoretical rationale for a study to be developed (Brewer, 2007). Additionally, literature reviews clarify the relationship between a proposed study and the pre-existing work conducted within the research field (Rudestam and Newton, 1992). Consequently, they enable a researcher to avoid duplicating research that has already been conducted, identify where there are gaps in knowledge and provide justification for their study. Accordingly, I mean to fulfil all of these functions within this literature review chapter.

My research aims to investigate whether innovative environmental pedagogies that encourage learners to reflect on relationships with nature and are socially-critical can be integrated into practice within the local government adult community education service where I work. To discover such meaning my research explores the views and beliefs of eleven practitioners and considers how they make sense of innovative environmental pedagogies. The selection of literature reviewed is informed by this aim and the focus of my main and supplementary research questions:

Main:

Can innovative environmental pedagogies be integrated into the practice of teaching in the local government adult community education service in which I work?

Supplementary:

1. What notions of nature and approaches to environmental pedagogy are supported by practitioners at the start of the research?
2. What environmental pedagogies did practitioners favour post the period of intervention?

3. Do practitioners identify problems with integrating innovative environmental pedagogies into practice and if so what might these be?

To address my aim and research questions my literature review is divided into five sections. Section 2.1 begins with a discussion on meanings associated with nature. I explore these meanings because the notion of nature pervades my research. Thus my study focuses on how practitioners make meaning of innovative environmental pedagogies that seek to encourage learners to explore relationships with *nature* and critically reflect on the social and economic practices that exploit *nature*. Furthermore, in the introductory chapter, I reported that I am interested in identifying the meanings and values practitioners associate with *nature*, because this might influence how they make meaning of innovative environmental pedagogies (Bonnett, 2003). In order to make progress in my study I therefore consider it important to first address the question 'What is nature?' (Bonnett, 2003:577) by drawing on key literature within the field of EE. Additionally, within this section I reflect on concerns regarding the prevalence of an anthropocentric worldview that separates humans from the 'rest of nature' (Clover et al, 2010:36) and associates natural environments with an *instrumental* value.

In section 2.2 I explore the meaning of innovative environmental pedagogies. My understanding of what might be considered innovative in EE has gradually emerged. Initially it was informed by the work of liberal-progressive environmental educationalists (Orr, 1992, 1994a and Bevins and Wilkinson, 2009). Both Orr and Bevins and Wilkinson seek to address concerns of separation between humans and nature by advocating for approaches that make nature more visible in learning. Their emphasis is on encouraging learners to come to know nature through 'first-hand' experience (Orr, 1994a:52). As my research progressed I thought more deeply about the experiential processes involved in coming to know nature and what this might mean for how nature is valued. This led me to consider the work of post-modernist environmental educationalists like Warkentin (2002), Weston (2004), and Thompson (2008). Within their work they each consider how by deeply reflecting on experiences of nature, a sense of empathy might be

engendered. Later in my research through reading the work of socially-critical environmental educationalists (Clover, 2002 and Clover and Hill, 2003), I realised the importance of including social and political contexts in learning about nature. In consideration of my emerging understanding, I frame section 2.2 under the themes of liberal-progressive, post-modernist and socially-critical environmental pedagogies. Within each theme I explore how the environmental pedagogy has influenced my understanding. Additionally, I critically reflect on each environmental pedagogy. This section then provides a record of my own sense making, of how I have been informed by the literature and how I have developed an understanding of innovative environmental pedagogies (Reason, 2006).

In section 2.3 I take a more critical turn. I discuss research that problematises the integration of environmental pedagogies that encourage reflection on relationships with nature and are socially-critical. Discussing this research enables me to draw attention to the concerns that have been voiced and this section provides an early indication of the problems associated with integrating innovative environmental pedagogies into practice.

In Section 2.4 I introduce the theoretical framework that underpins my study and discuss Heron and Reason's (1997) theory of Epistemological Diversity. I explain how this theory enables me to view the process of integrating innovative environmental pedagogies as emergent and one that engages with many ways of knowing (Reason, 1998). Additionally, within this section, I discuss Nicol's (2002) adaptation of Heron and Reason's theoretical framework. Nicol reflects on pedagogical process within EE. I found his adaptation of Heron and Reasons' work useful during my research because it provided a framework for my conception of innovative environmental pedagogies. In section 2.5 I conclude by relating my research questions to the key debates identified within my literature review.

2.1 The Meaning of Nature.

The literary critic Raymond Williams (1983) asserts 'nature is perhaps the most complex word in the [English] language' (p.219). He posits nature can

mean many things and depending on our ontological position, nature will mean something slightly different to each of us. Raine (2003) considers a similar position and suggests that nature is multifaceted, nature's emergent reality being dependent on the experiences and cognition of the observer. In this sense then, rather than a fixed reality, nature is conceived as a 'vision of meaning' that emerges from personal interaction and that 'creates an ever changing panorama passing through our minds' (Raine, 2003:177). This conception of nature resonates closely with my own interpretivist view expressed earlier.

Yet, although I partially hold onto this understanding, I realised early on that, for my research purposes, this conception is too open. Part of my first research question aims to reveal the understandings that practitioners associate with nature. If I am to address the first research question I need a framework that helps me tease through and consider in more detail the meanings that practitioners associate with nature. Initially I considered Soper's (1995) three notions of nature as a framework but then later used Bonnett's (2003) four senses of nature because his work allowed for a greater complexity to be considered when reflecting on practitioners' interpretations. I now briefly explore the notions of nature discussed by Soper (1995) and Bonnett (2003). Soper identifies three notions of nature – 'metaphysical', 'realist' and 'surface'. Metaphysical is nature perceived as untouched by humans, as wild and distant construct 'through which humanity thinks its difference and specificity' (p.125). Realist nature is construed as 'nature to whose laws we are always subject to and whose processes we can neither escape nor destroy' (p.125). Surface nature is defined as 'the nature of immediate experience and aesthetic appreciation' (p.125). Bonnett (2003) builds on Soper's interpretation and identifies four 'senses' that 'run across Soper's schema' (p.588). These are 'nature as cosmic order, nature as wilderness, nature as innate essence and nature as the "hale", arbiter of rightness' (p.588). The first, 'nature as cosmic order', is defined in terms of nature being 'thought of as the great scheme of things – of which everything is in some sense a part or is constituted' (p.588). Within this sense nature is conceived, on the one hand, as an integrated functioning system, conforming

to scientific laws. On the other, nature can be considered within a religious context, everything being a part of the 'Great Chain of Being' (Thompson, 2008:95) and performing some purpose within a hierarchical divinely planned order. 'Nature as wilderness' (p.589), Bonnett's second sense, is defined as 'wild, elemental and quintessentially beyond human control' (p.589). It is mountain crag, distant moon or windswept tundra. This is similar to Soper's conception of nature as 'metaphysical'. Bonnett refers third to 'nature as innate essence' as 'that which is inherent, which constitutes the essential being' (p.589) of nature. Here, nature is defined as something that has a fundamental quality and purpose that lies beneath the surface of a material representation. A tree standing by a pool of darkened water or sun dappled blades of grass in a city park can be conceived in this way, as standing forth, 'having their own essence which deserves to be respected [and] ... reflects an enduring intuition of nature as in some sense having its own telos' (p.589). Fourth, Bonnett defines 'nature as the "hale", arbiter of rightness' as that sense of nature that is 'wholesome and as it should be' (p.589). Nature is conceived as something representing a metaphor for that which is 'pre-morally fitting or good' (p.589).

Importantly, within Bonnett's framework, the varying senses of nature reflect different relationships between humans and nature. Thus for example, Bonnett asserts that within the notion of 'nature as wilderness' is an assumption that 'nature is understood as something non-human, that is, essentially independent of human purposes and culture' (p.589). Humans are in this sense separate from nature. Conversely within the notion of 'nature as innate essence' (p.589) is an intimation of mutual connection - both humans and nature having a telos or purpose 'which deserves to be respected' (p.589). This concern over our relationship with nature and whether humans are connected or separate from nature is considered important within EE literature (Bai and Scutt, 2009). It is to a discussion of this concern I now turn.

2.1.1 The Human-Nature Relationship

Many researchers within EE contend that the predominant worldview in Western culture is one that positions humans as separate to and more

important than nature (Bonnett, 2003). Thus Griffin (1995) asserts that: 'The prevailing habit of mind…is to consider human existence and above all human consciousness and spirit as independent from and above nature' (p.8). Nicol (2002) too raises concerns over a perceptual divide that is pervasive in Western culture and Evernden (1992) refers to the distinction between humans and nature as a form of 'organic apartheid' (p.119). Orr (1994a) asserts that the prevalence of this worldview is influenced by the physical distancing of humans from natural settings. He describes how an increasing percentage of the world's population live in urban areas, amongst 'shopping malls, freeways and sensory deprivation chambers we call suburbs' (p.65) and questions if it is possible to perceive ourselves as part of something that we are so physically distanced from.

Nicol (2002) goes deeper than Orr's (1994) interpretation, suggesting that the roots of a disconnection between humans and nature can be traced to the advent of 'modern' science' (p.213) and in particular the work of Descartes (1637) and the epistemology of rationalism. Rationalism is defined as 'any of a variety of views emphasising the role or importance of reason…in contrast to sensory experience' (Honderich, 1995:741). Nicol explains that within rationalism, only humans are endowed with conscious thought and the ability to reason. Contrastingly other animate and inanimate beings are defined as machine-like organisms or materials that neither feel nor think. Nicol posits this 'preoccupation with reason established a dualistic pattern' (2002:213) based on difference and separation that continues to influence and dominate current Western thought today. Bonnett (2003) also considers the burgeoning of modern scientific thought to have significantly influenced conceptions of nature. Like Nicol, he suggests that the expansion of rationalism in Western culture engendered a mindset in which nature came 'to be viewed as a machine – a great clockwork – which consists of inert particles driven mechanically by external and impersonal forces' (2003:582). He goes on to posit that as a consequence, nature is overwhelmingly perceived as 'soulless, to be investigated and exploited in whatever ways best meet human needs and purposes' (2003:582). In other words, nature is predominantly associated with an *instrumental* value. Thompson (2008) too discusses how the

pervasiveness of rationalism within Western culture has influenced conceptions of nature. Additionally, she considers how neo-Platonic and Judeo-Christian traditions serve to provide an 'ethical premise' (p.95) and philosophical justification for humans being positioned as separate from and more important than nature. She reflects on the influence of the religious conception of the 'Great Chain of Being':

> In this Chain, the realms of reality were in a strict hierarchical ontology with God at the top, followed by his angels, then men followed by women, then children, animals, plants and finally inanimate matter. Each order of being functioned as instrumental to the next as the hierarchy ascended up to the human and the divine (ibid:95).

In this section however I do not wish to set the scientific worldview in a wholly negative light. Within his work, Bonnett (2003) is cautious of being too critical of modern science, recognising the positive contributions that have been made by this discipline to understanding the awe-inspiring intricacies of nature. Indeed, within my research, and as shall be seen in chapters four and five, one of the practitioners illustrated how by merging scientific inquiry with artistic interpretation, a deeper understanding and sense of reverence to nature can be engendered. What I have learnt though, and take away from the literature, is the overarching concern expressed by many environmental educationists about the predominance of a perceived disconnection within Western culture between humans and nature. It is the predominance of a perceived disconnection that many luminaries argue constitutes 'the root cause of our current environmental predicament' (Bonnett, 2007:710), whereby as Bai and Scutt (2009) suggest:

> If we think that humanity is separate and independent from nature, and moreover, that the former is superior to the latter, then it follows (psycho)logically that humans *can* (sic) manipulate, control, exploit and even destroy nature (p.95).

Bonnett (2007) posits that this perception of nature as separate from and subordinate to humans is imbibed within UK ESD policy and 'Brundtland–type

definitions of sustainable development' (p.710). There is much evidence to support this assertion. Within the introduction, for example, I drew attention to the UK government's overarching goal of sustainable development[3]. This goal focuses on enabling 'all people to… satisfy their basic needs and enjoy a better quality of life, without compromising the life of future generations' (HM Government 2005a:3). References to nature are not included in this overarching goal and the intimation in this statement is that there is a preoccupation with separating out and privileging only human needs. In a similar vein there is intimation of privileging human survival and flourishing within the ministerial forward of the BIS[4] Sustainable Development Action Plan (2009 – 2011), where Ian Lucas states:

> Climate change is happening. We can see the evidence all around us with melting ice caps and rising temperatures. And we know that as our planet's climate changes and our population continues to expand our resources will be under increasing strain. So our capacity to survive and flourish in this new environment will hinge on our ability to live within our means or, to put it another way, to make the most of the resources at our disposal. That is what sustainable development is all about (HM Government, 2009:2).

David Orr (1994a) asserts that:

> …much of what has gone wrong with the world is the result of education that alienates us from life in the name of human domination, fragments instead of unifies (p.17).

My own thoughts resonate deeply with Orr's and this is why I am interested in integrating environmental pedagogies that encourage learners to reflect on their relationships with nature so they might consider how they are connected with other beings. In section 2.2 I consider literature on environmental pedagogy that seeks to address this disconnection. In so doing I explore the

[3] See section 1.1.

[4] The Department of Business Innovation and Skills (BIS) is the parent organisation of the Skills Funding Agency (SFA). The SFA is tasked with funding and regulating adult further education and skills training in England. The agency describes its main function as "to direct funding quickly and efficiently to further education colleges and other skills providers" (BIS website, SFA page, 2012). The SFA provide approximately 85% of the funding for the organisation that I work for.

significance of encouraging learners to reflect on relationships with nature, as well as work through what I mean by innovative environmental pedagogies.

2.2 Conceptualising Innovative Environmental Pedagogies

Within the literature I have found no specific references to the term 'innovative environmental pedagogies'. In the introduction though, I explained I use the term to describe those approaches that go beyond established boundaries that constrain EE within anthropocentric, individualistic and economistic ways of knowing. More-so, I understand the term to represent those approaches that encourage learners to reflect on relationships with nature and are socially-critical. I recognise my understanding of the term innovative environmental pedagogies is subjective. Moreover, my conception reflects an emergent process (Reason, 2006). It has evolved over time. In recognition of this subjective and emergent context I accept that others may define innovative environmental pedagogies differently. I offer my conception here in the sense of engaging in creative discourse with you as the reader rather than presenting an absolute truth (Stables and Scott 2001). What I show in this section is how my understanding of innovative environmental pedagogies has emerged through my critical engagement with the literature. This is so I can be as transparent as possible in my research (Reason and Marshall, 2001).

To illustrate how my ideas have emerged I critically discuss in this section how 'liberal-progressive', 'post-modernist' and 'socially-critical' environmental pedagogies influence my thoughts. I adopt this typology of environmental pedagogy from Lin Feng (2010) and use it as a heuristic for organising my thoughts for the purpose of this research. In her doctoral thesis on the 'Sustainability Education Curriculum in HE in England and China' Feng (2010) identifies four key environmental pedagogies within the literature. These include the three I have referred to plus an additional 'technical sustainability' category. She does not focus on this fourth category when theorizing on innovative ways forward however, acknowledging that 'the lessons that can be offered by the technical sustainability education perspective are limited' (p.30). Initially in this section I consider how liberal-progressive environmental educationalists (Orr, 1992, 1994a; Bevins and Wilkinson, 2009) contribute to

my understanding of how learners might be encouraged to reflect on their relationships with nature through first-hand experience. Next, I discuss the work of post-modernist environmental educationalists (Warkentin, 2002; Thompson, 2008,) and explicate how they encourage me to think more deeply about the pedagogical processes involved in coming to know nature closely and what this might mean for how nature is valued. I then consider how socially-critical environmental pedagogies influence me towards realising the importance of including a social and political context in learning about nature. Finally, I summarise the key points and provide an initial overview of how I have come to understand innovative environmental pedagogies.

2.2.1 Liberal-Progressive Environmental Pedagogies

Liberal-progressive environmental education has its origins in the writings of John Dewey (1938/1991) and is founded on notions of pragmatism, democracy and citizenship (Walter, 2009). Dewey advocated for an approach to education that emphasised the centrality of the learner. The Greek concept of 'paideia' (Orr, 1994b) is considered important to liberal-progressive educationalists. In this concept, the focus of education is not so much on proficiency over subject matter. Instead the subject matter is viewed as the conduit through which learner's progress and develop. Education then is seen as more than just the refinement of intellect in that there is a focus on personal fulfilment (Feng, 2010). This emphasis on the centrality of the learner underpins a key tenet within liberal-progressive pedagogies - the foregrounding of personal experience (Elias and Merriam, 1995).

Importantly, Dewey was critical of teaching styles that encouraged a distancing of theory from direct experience. He was concerned that an emphasis on disseminating academic concepts served to isolate learners from the real world by encouraging them to focus on abstract theories (Walter, 2009). Accordingly, he suggested that educators should bridge the gap between the academic and real world through *experiential* learning. Experiential learning is learning through doing (Feng, 2010). It is hands-on, practical and includes problem solving and experimentation. 'It is about learning by being active and taking part rather than "lecturing" and "being

taught'" (Feng, 2010:49). This approach necessitates the educator to adopt the role of a facilitator, basing learning programmes on the needs and experiences of the participants rather than on a predetermined academic curriculum (Carr, 1998).

2.2.1.1 Experiencing Nature

This focus on experiential learning is imbibed in much liberal-progressive EE literature. Aldo Leopold (1949) is a founding contributor to the liberal-progressive EE tradition (Walter, 2009). Leopold advocated for approaches that engaged learners in direct hands-on experience with nature through education out-of-doors (Callicott, 1987). Orr (1994a) too is influential in advocating for an epistemology that engenders a 'first-hand knowledge' of nature (p. 52). He posits that within all curricula, educators should consider ways in which learners can 'experience nature through sight, sound, smell touch and taste - through a medley of senses that play on us in complex ways' (1994b:6). Orr (1994a, 1994b) draws much of the inspiration for his work from Leopold. He advocates for pedagogical approaches that are practical, learner centred and involve problem solving. In particular, he emphasises the importance of education 'outdoors' as a way of developing a far greater affiliation with other forms of life:

> We can develop the kind of first-hand knowledge of nature from which real intelligence grows. This means breaking down walls made by clocks, bells, rules, academic requirements, and a tired pedagogy. I am proposing a jail break that would put learners of all ages outdoors more often (1994a:52).

Bevins and Wilkinson (2009) and Otto and Wohlport (2009) also emphasise outdoor learning in their discussions on how they have integrated EE across the curriculum at Florida Gulf Coast University in the USA. Reading their work, as well as Orr's (1994a, 1994b), prompted me to question, whether an innovative environmental pedagogy might be one that includes practices where learners are engaged in experiential learning out of doors. I considered this approach important in two ways.

Firstly, integrating outdoor learning into courses would bring an immediacy to nature in terms of learners experiencing a physical presence. It would 'rehabilitate the notion of *knowledge by acquaintance* into the curriculum' (Bonnett, 2003:714). Nature in this sense would be visible and this would provide the potential for nature to be experienced and to have a 'voice' (Bonnett, 2003). Secondly, Orr (1994a) suggests that through experiencing at first-hand 'a river, a mountain, a farm, a wetland, a forest, a particular animal [or] a lake' (p.96), learners might begin to perceive themselves more connected to nature and so develop a sense of *biophilia*. Fromm (1973) defines biophilia as 'the passionate love of life and all that is alive' (p.365) and Wilson (1984) posits it is 'the urge to affiliate with other forms of life' (p.85). Within his work Orr (1994a) makes repeated references to the notion of biophilia and explains how through 'immersion in particular components of the natural world' learners might experience a 'deeper kind of knowing' towards living and non-living nature (p.96). He defines this deeper kind of knowing as a 'sense of wonder' (p.138) and makes clear that this 'can only be felt' (p.24) and not reasoned through cognition. In expressing a sense of wonder as 'felt', Orr (1994a) is drawing attention to the existence of pre-rational ways of knowing (Griffin, 2011) where 'thought is taken to include feelings' (Horwood, 1991:23). Orr posits that this opens the door to a more 'intimate relation with nature' (1994a:141) that can engender feelings of 'reverence' (1994a:138) and 'love' (1994a:31).

Through additional reading of liberal-progressive EE literature I was able to develop my understanding still further with regard to how learners might be encouraged to reflect on their relationships with nature. This relates to the interdisciplinarity context within which liberal-progressive environmental educationalists suggest that learning about nature should occur. I will briefly discuss this before explicating the concerns I have towards liberal-progressive environmental pedagogies.

2.2.1.2 An Interdisciplinarity Context.

In their work, Orr (1994a, 1994b), Junyent and Geli-de-Cuirana (2008) and Bevins and Wilkinson (2009) advocate for interdisciplinarity approaches in EE.

Interdisciplinarity approaches are different to multidisciplinarity ones. I understand a multidisciplinarity approach to be one where learners engage separately with disciplines. There is very limited integration that takes place between these separate areas of study. Feng (2010) suggests that the 'final result' of this approach 'will be a series of reports pasted together, without integrating synthesis' (p.52). Conversely, an interdisciplinarity approach focuses on integration of thought and understanding between individual disciplines (Orr, 1994b). In their paper, Junyent and Geli-de-Ciurana discuss a research project that aimed to integrate the concept of environmental responsibility across curricula activities in Spanish Universities. On discussing the benefits of an interdisciplinarity approach within this research project, they note:

> Integrating this diversity has shown us the possibility to improve real-world knowledge and understanding, and to increase respect for all the different points of views and perspectives (2008:770).

Reflecting on this approach brought a greater complexity to my understanding of acquaintance with nature through first-hand experience. I realised that integrating outdoor learning into single disciplines might be problematic with regard to my intention to engage with environmental pedagogies that seek to address the human-nature disconnection. In a science class, for example, learners might only come to develop an acquaintance with nature through rationalist and objective ways of knowing and this may reaffirm notions of separation between humans and nature. An interdisciplinarity approach would guard against this. Thus, within a science class, learners might also be encouraged to develop an acquaintance with nature through creative and artistic exploration. By so doing, an opportunity would be provided to 'join intellect with affection' (Orr, 1994a:95) and a pedagogical door opened 'which unifies the subject and the object' (Nicol, 2002:215) so that a deeper relationship with nature might be engendered. Learners could explore different perspectives and identify connections in ways that might not be possible in discipline specific approaches (Jickling, 2003).

2.2.1.2 My Concerns with Liberal-Progressive Environmental Pedagogies

Although the liberal-progressive EE tradition helps progress my understanding of innovative environmental pedagogies, I have two concerns. Firstly, I am critical of the assumption within liberal-progressive EE literature that direct experience a*utomatically* leads to an intimate relation with nature and to feelings of reverence. Nicol, (2002, 2012) cautions against environmental educationalists assuming that all direct experiences result in positive feelings towards nature and suggests that there needs to be a deeper understanding of the processes involved. Yet despite several readings of Orr's (1992, 1994a, 1994b) work, I could find no reference to how, once they have been 'immersed' (1994a:96) in nature, learners might be encouraged to develop feelings of reverence. At the end of reading this literature I felt that, if I was to progress my understanding of innovative environmental pedagogies, I needed to know more about how an intimate relationship might be engendered through immersion in nature.

Secondly, although liberal-progressive environmental educationalists seek to address their concerns over separation, a focus on outdoor learning might alternately serve to reaffirm the human-nature disconnect. I found an emerging pattern within both Orr (1992, 1994a,1994b) and Leopold's (1949) work where 'farms', 'mountains', 'rivers' and 'forests' were posited as natural. Contrastingly 'urban societies' (Orr, 1994a:118) and 'sensory deprivation chambers we call suburbs' (Orr, 1994a:65) were identified as human constructs that were contrasted with nature. Russel et al (2008) are critical of such an interpretation. They argue this implies nature only happens in wild and distant places and reaffirms, rather than unsettles, a way of knowing that positions humans as separate to nature. In recognition of this concern, post-modernist environmental educators adopt a more inclusive approach that seeks to 'blur the lines' between human and what might be nature (Oakley et al, 2010:87). They argue that first-hand experiences with nature can equally be found in a suburban garden (Warren, 2000) or 'within cities it might be in a park or ravine, copse or other somewhat natural location' (Thompson, 2008:107). Weston (2004) suggests that intimate relations with nature can

even be engendered in the 'hyper-humanized' (p.31) contexts of a classroom and, whilst teaching, he encourages learners to seek out and come to know other animate and inanimate beings that inhabit such spaces. Reflecting on post-modernist EE literature helped reconcile the concerns I had with liberal-progressive environmental pedagogies and it is to a discussion of this literature I now turn.

2.2.2 Post-Modernist Environmental Pedagogies

Post-modernist EE has its origins in the writings of Heidegger (1927/1962), Foucault (1977), Derrida (1967) and Rorty (1979). Post-modernists view reality as constructions of subjectivity and contest notions of certainty and universal truth (Usher et al, 1996). Accordingly, post-modernist environmental educationalists question the certainty of rationalistic ways of knowing that separate humans from nature. They propose we should look at new ways of exploring identities of self and world (Abram, 1996). They advocate that identities should be formulated on a *relational* ontology and epistemology (Thompson, 2008). Within a relational approach, identities are perceived to be fluid and based on dialogic relationships with others:

> Learning and understanding are made (not transmitted) as we dialogue with others and reflect on what we and they have said – as we 'negotiate passages' between ourselves and others (Doll, 1993:156).

The *self* is always evolving. Multiple identities can be assigned to any one particular subject, depending on the interactions taking place and the parties involved in constructing definitions (Affifi, 2011). It is a way of thinking that interprets every experience as unique or 'unutterably particular' (Winter, 2008:91) and that privileges the personal and tacit context of knowledge (Feng, 2010).

Reading the literature on post-modernist EE progresses my understanding of what might be considered innovative. It enables me to have a deeper conception of how a more intimate relationship with nature can be

engendered through a relational ontology and epistemology. Additionally, postmodernist EE literature helps me understand how, through a relational ontology and epistemology, learners might begin to conceive nature as having *intrinsic* rather than instrumental value. I now explicate how this literature contributes to my understanding.

2.2.2.1 Engendering Intimate Relationships

Thompson (2008) proposes we should work towards:

> …a more relational sense of self, as well as a conception of nature as having subjectivity, so that a new relationship of empathetic mutuality can be born (p.96).

Thompson contends that if we engage in dialogue with nature through deeply reflecting on sensed experiences, we might develop a more intimate relationship with other animate and inanimate beings. She illustrates how this process might occur by describing an instance when, by reflecting on a rock, her conceptions of another being were deepened:

> My body is drawn to a particular being or entity, perhaps a rock, which evocatively presents itself to my senses. When my body responds to this reaching out to me of another entity, the entity then answers by disclosing other dimensions of itself, which in turn invites me to explore more deeply. As this process continues, I attune myself to the style of being of the other entity, as it seems to do with me. I am somehow taken into its world, into the rock itself, and it now occupies a different place in my world. 'It thinks itself within me' (Merleau-Ponty, 1962:214). We are both changed, taken into each other's worlds (ibid:99).

Thompson is discussing an experience that enabled an intimate understanding of herself and another 'being' to occur. It is an understanding based on a dialogue that relies on a connective process in which one body senses and attunes to the rhythms of another (Merleau-Ponty, 1962). During this process the rock emerges as something more than a material entity and occupies a 'different place' in Thompson's 'world'. In the instance of time and space that Thompson is referring to, the rock takes on a subjective

particularity that allows for a specialness and value to be comprehended. The rock speaks to her, not in words, but in unutterable presence of being and through this Thompson experiences a 'transformational exchange' that enables her to gain a more intimate understanding – both in terms of herself and an 'other'.

Fawcett (2000), Warkentin (2002) and Weston (2004) also refer to how transformational exchanges might be engendered between humans and nature. Like Thompson, they too emphasise the importance of reflecting on sensed experiences, yet within their interpretations, they additionally draw attention to the value of harnessing imagination to extend an understanding of nature. Bonnett (2003) contends that imagination can be 'conceived as the bridge to nature' (p.586) and can help to 'create a union between two realms of being, the empathetic and quickening power of the imagination enabling a dialogical relation to occur' (p.586) and in many respects the works of Fawcett (2000), Warkentin (2002), and Weston (2004) indicate how this might happen. Warkentin in her research considers the notion 'imaginative embodiment' (p.251). She describes how by imagining herself embodying another being she is able to come to know nature more intimately. To illustrate her point, she describes how the experience of touching a tree, awoke a sense of how that tree might also be touching and experiencing her and refers to this as the 'reciprocity of perception' (p.253). Through this experience she began to imagine what it might be like to embody and become that tree. In her discussion she emphasises that she does not 'presume what a tree thinks or feels' (p.252). Instead she searches her own feelings for the 'qualities' (p.252) in herself that she also senses and recognises within the tree and through doing this she is able to empathise more deeply. Weston (2004) too discusses imaginative embodiment and provides various examples of how he integrates this into his lessons. He explains how he invites learners to focus their attention on another animate or inanimate being. He encourages learners to imagine themselves as that being, to consider how they might perceive the world and 'take their point of view' (p.43). He then asks learners to reflect on and discuss in groups their impressions. Fawcett (2000) also considers the importance of an imaginative context within learning. She

discusses ‘narrative imagination’ and the use of storytelling as a way of extending learners’ understanding of nature. She describes how she encourages learners to write and tell stories about the felt ‘sensory intimacy’ and the ‘particularity’ of their experience of meeting another being. She contends that nurturing imagination ‘helps enliven the traces and smells of the subjectivity of the “other”’ (p.140) and encourages learners to conceive nature in more complex ways than initially experienced in the immediacy of physical meeting.

Through reading the work of Fawcett, Thompson, Warkentin and Weston I began to understand the importance of innovative environmental pedagogies including opportunities where learners could reflect on their senses and deeply interrogate their experiences. Additionally, I realised how a relational ontology might serve to unsettle conceptions of a rationalistic, objective and separate world. By encouraging dialogical relations, a relational ontology positions other beings as ‘subjects with whom we can share experience’ (Kuhl, 2011:110). It represents an approach that re-establishes through ‘meaningful relationships’ (Piersol, 2010:202) a ‘sense of knowing the “other” as a “fellow being”’ (Bai and Scutt, 2009:99). Crucially, Bai and Scutt (2009) suggest that by engaging in meaningful relationships, we begin to conceive other beings as having ‘intrinsic value’. They define intrinsic value as ‘valuing something not for its utility or instrumental value to us, but for its own existential integrity and legitimacy of right to *be for itself*’ (2009:95). Bai and Scutt contend that by closely experiencing and intimately coming to know another, we begin to appreciate the integrity and value of a thing in its own right. Bonnett (2007) refers to this valuing in the sense of conceiving another being as ‘self-arising’ – ‘the essentially non-artefactual quality of the standing forth from out of itself’ (2007:712). Positioning other beings as *subjects* that have intrinsic value is important. This is because as Mortari (2004) contends it leads to notions of ‘respect’ or as Wilber (1996) suggests encourages one to treat nature with ‘the same reverence you would extend to your own body’ (1996:204). Bonnett (2003) contends that extending intrinsic value towards another being brings with it ‘some moral obligation’ (p.631) or ‘moral reciprocity’ (Thompson, 2008:101) to the extent that we are drawn to

'defending, protesting and speaking on behalf of the value we experience in nature' (Bai and Scutt, 2009:95).

2.2.2.2 Concerns with Post-Modernist Environmental Pedagogies

There are two concerns that I have with post-modernist environmental pedagogies. Firstly, the contention amongst post-modernists that there are no universal truths and that reality is relative and informed by dialogic interaction between subjects might lead to instances of 'anything-goism' (Winter, 2006). Indeed, Feng (2010) warns that:

> …if postmodernism is taken to its extreme…. it may make learners morally and politically irresponsible, because the situation of extreme multiplicity and heterogeneity leads to nihilism (2010:63).

Reflecting on this concern within the literature encourages me to be cautious over the notion of intrinsic value. Earlier I considered how, by closely experiencing another being, learners might appreciate the value and integrity of a thing in its own right. Does this mean then that, as environmental educators, we assume that all beings have the potential to possess intrinsic value? If so, is this not potentially problematic? Indeed, Griffin (2010) questions whether it is possible to conceive all beings as having intrinsic value when some pose significant threat or harm to others. Bonnett (2003) takes another view and asks whether by conferring intrinsic value on all animate and inanimate beings 'does not the term "value" become emptied of all meaning?' (2003:584). He goes on to ask 'has not value become too tightly attached to sheer existence?' and urges environmental educators to consider the meaning of intrinsic value carefully (2003:584). Yet although Bonnett questions the notion of intrinsic value, he later states:

> …in a period dominated by instrumental rationality, establishing a positive open, receptive relationship with the natural world – a world that can be stern, even harsh, but not simply alien – a world that rewards sensitive engagement through the exercise of the full range of our faculties and can provide fresh perspectives on our

> lives as a whole – may be of the highest significance in shaping a response to current problems (ibid:585).

My thoughts resonate deeply with those of Bonnett. Thus, although I accept the notion of intrinsic value requires careful consideration, I am supportive of approaches that, by encouraging dialogical relations, go some way to unsettling a predominance of rationalistic and instrumental ways of knowing nature.

My second concern relates to the accessibility of post-modernist environmental pedagogy literature. Feng contends that:

> Unfortunately, postmodernist writings in general are obscure and abstract, making them very difficult for people outside academia to understand and see as relevant (2010:64).

My experience has been that this literature is highly complex and requires sustained reading, contemplation and re-reading of the text. Although this might encourage considerable reflexivity by the reader and contribute to new horizons of understanding, there is a risk of this literature being perceived by practitioners working outside of academia as impenetrable and deeply intellectual[5]. This may serve to reduce the potential for post-modernist environmental pedagogies being integrated into practice.

2.2.3 Socially-Critical Environmental Pedagogies

Socially-critical EE has its origins in critical pedagogy and in particular the writings of Freire (1970, 1972), Gramsci (1971), Apple (1981) and Giroux (1997). Critical pedagogues challenge us to question what we think we know is true and 'normal' in society. Their concern is with the 'relentless criticism of all existing conditions' (Marx, 1983:93) and they seek to demonstrate how power and knowledge are used within society to service the interests of some groups and individuals at the expense of others (Kilgore, 2001). Critical pedagogues posit that dominant groups and individuals maintain power in

[5] References to the inaccessibility of post-modernist environmental pedagogies draw my attention to concerns of a rhetoric-reality gap between theory and practice. I discuss this concern in section 2.3.

society by ensuring that their worldviews and definitions of reality are accepted as the cultural norm and as beneficial for everyone, even though they exist to serve the interests of those in power (Giroux, 1997). Freire (1970, 1972) and Gramsci (1971) refer to this process of worldview assertion as *hegemony*. Importantly critical pedagogues insist that powerful groups and individuals use education to reinforce hegemony. Freire (1970) adopts the term 'Banking Model' to define education that is transmissive and that focuses on ensuring students replicate social norms and Apple discusses how education 'inexorably moulds students into passive beings who are able and eager to fit into an unequal society' (1981:135). In recognition of these concerns critical pedagogues suggest that, rather than preserving unequal power relations, education should perform an emancipatory function by encouraging learners to recognise 'the role of power relations in the formation of knowledge' and engage with 'the political forces that shape their lives' (Plant, 2001:164).

In accordance with critical pedagogues, socially-critical environmental educationalists (O'Sullivan, 1999; Postma, 2002; Clover et al, 2010) question normative assumptions and strive to unveil hegemonic processes. In particular they are critical of an instrumental value association with nature. They posit that constructions of nature as an exploitable resource contribute to the proliferation of a consumerist industrial neo-liberal society (O'Sullivan, 1999). Moreover, some (such as Postma, 2002) assert that the widespread dissemination within mainstream education of Brundtland-type definitions of ESD (that positions nature as a resource) is indicative of how powerful groups and individuals seek to reaffirm consumerist neo-liberal meanings. It is because of the predominance of consumerist neo-liberal meanings that Clover et al contend that it is:

> …not enough to nurture and instil a love of nature … We have to realise that no matter how many trees we hug, they will still all be cut down in the name of development, growth and the advancement of profit (2010:34).

They go on to argue for approaches in education that encourage 'environmental citizenship'. Environmental citizenship promotes 'people seeing themselves as actors who can influence not only the context of environmental decision making but policy making vis-à-vis nature' (ibid:35). Reading socially-critical EE literature introduced new dynamics to my understanding of innovative environmental pedagogies. Previously I had come to understand innovative environmental pedagogy to be one that made nature more visible and encouraged learner reflection on nature. I now realise that if, as environmental educators, we are to work towards a world in which nature is valued for its own 'integrity and legitimacy of right to be' (Bai and Scutt, 2009:95), it is important to encourage learners to critically reflect on the very fabric of society. I began to consider how we might encourage learners to question the institutions and structures in society that exploit nature and empower learners so they take action in support of nature. I now discuss how the literature influences my understanding under the theme of empowering learners to take action.

2.2.3.1 Empowering Learners to Take Action

Clover (2002, 2003) is influential in advocating for a socially-critical pedagogy that focuses on encouraging learners to critique the influence of power relations in the construction of knowledge about nature and in empowering learners to take action in support of nature. She proposes an approach she terms 'critical environmental adult education' that 'makes concrete links between the environment and social, economic, political and cultural aspects of peoples' lives' (2002:10). Clover (2002, 2003) explains how critical EE is underpinned by Freire's work (1970) and the notion of '*conscientization*', a process that incorporates both learner reflection and action. *Conscientization* empowers learners by providing them:

> …with opportunities to explore, understand, challenge and ultimately transcend the constraints placed upon them by particular ideologies, structures and cultural practices (Clover et al, 2010:25).

In the book 'The Nature of Transformation', Clover et al (2010) provide a number of practical examples that illustrate how the notion of *conscientization* can be applied within EE[6]. In the example 'Zen of consumerism: "waste r us"' (p.78), Clover et al outline how learners are encouraged to reflect on the impact a consumer society has on nature. They describe how learners are asked to work in pairs and visit a large department store. During the visit the learners identify fifteen products and are asked to 'describe the amount and type of packaging and its purpose', 'estimate the life expectancy', consider the pollution implications and question whether the product is 'a need or a want' (p.79). On returning to the classroom, learners are invited to reflect on their experiences and discuss the 'negative implications' (p.79) that consumerism might have on humans and nature. Next, they are asked to consider the actions they might take to address the negative aspects. Although this is only a simple exercise, it illustrates how learners might be encouraged to question the worldview that consumption is normal and re-vision alternatives to consumerism through action. As I read further I began to consider more deeply the role that environmental educators might play in encouraging learners to question worldviews and take action in support of nature. From the literature I identified three subthemes and I discuss these under the subheadings of:

- Recognising and validating learner knowledge
- Introducing critical theory and
- Promoting collective action.

2.2.3.1a Recognising and Validating Learner Knowledge

In an article entitled 'Critique, Create and Act', Clover and Hall (2010) discuss how learners might be supported so they feel empowered to speak out against organisations that position nature as a resource and that exploit nature. Clover and Hall reflect on a project entitled 'The Positive Energy Quilts', an adult learning project, organised in 2005 in response to

[6] I refer to several examples, including "Zen of Consumerism: 'Waste r us'", from the book "Nature of Transformation" during the interventionist period of my research.

government and corporate proposals to construct a hydro-electric power-plant on a native growth forested area of Vancouver Island, Canada. Clover and Hall explain how learners in the power-plant area reported they had no voice and were powerless against the development. They were intimidated by the formal professionally-produced information provided by the government and corporate organisation in support of the power-plant. Yet Clover and Hall discuss how, through working with adult educators, learners were given voice. Initially they were encouraged by an adult community educator to reflect on their experiences and their connections with the forested area. Additionally, they were invited to research literature on the environmental implications of the development. Next, they were asked how they might action their concerns. In response they chose to produce a series of quilts that were displayed at public events, local government consultations and in the City Hall[7]. Eventually the decision to construct the power-plant was overturned. Clover and Hall explain that 'recognising, tapping into and validating people's ecological knowledge' was of critical importance in this process (2010:170). It enabled learners to develop their 'intellectual confidence' (Blackburn, 2000:10) or a belief in their own interpretations of reality and fostered an understanding that the truth is not some objective phenomena that is 'out there' (Nicol, 2002:219). By reflecting on experiences of the forested area, Clover and Hall explain how learners were able to construct their own 'meaningful contextual knowledge' (Kyburz-Graber, 1999:417) that they could harness in helping them to question the professionally produced information provided by the government and corporate organisation. Importantly, Clover and Hall note how, by creating and displaying the quilts, learners were encouraged to position themselves as 'creative subjects' (Blackburn, 2010:8) rather than passive objects. The adult community educator was affirming to the learners that they had the ability and *knew how* to take action and respond to the proposed development.

[7] In their article Clover and Hall (2010) describe how some learners stitched 'images of windmills, shrimps and scallops, or solar panels [onto the quilts] to identify various aspects of the environment that would be harmed or draw attention to alternate energy forms. Others connected economic gain with environmental plunder such as the image of a stream of satiny water disappearing down the throat of a coin purse' (p.169).

2.2.3.1b Introducing Critical Theory

Kapoor (2003) also discusses how learners can be empowered to take action in support of nature through validating and privileging their ecological knowledge. He reports on an instance where environmental educators are working with the Adivasis indigenous peoples of India to challenge the continued destruction of native growth forest areas. He outlines how educators seek to encourage Adivasis indigenous people to explore their connectedness with the forests through reflecting on their pre-existing spiritual and cosmological understandings of the forests. Additionally, however, Kapoor explains how this spiritual and cosmological understanding is 'combined with critical social-structural reflection' (p.53). He outlines how educators aim to introduce additional critical theory and understanding on how government policies are working to subordinate the needs of the forests and the Adivasis indigenous people over the 'demands of national defence, communications, industry and other purposes of 'public' importance' (p.53). Kapoor explains that by applying critical theory learners are encouraged to interpret new horizons by exploring how dominant groups maintain power in society. It enables learners 'to penetrate the false and irrational world of social appearances tied to the dominant order' (p.53).

2.2.3.1c Promoting Collective Action.

Clover et al (2010) stress the importance of encouraging learners to realise their collective rather than individual potential in taking action in support of nature. They suggest that collective responses to environmental concern empowers learners. This is because collective action is dependent on dialogue between participants in group settings that is anchored in a context of negotiative process. During this process, diversity amongst participants is recognised and their various perceptions are considered, explored and reviewed (Hill and Johnston, 2003). Thus individual reflection is seated in a process of collective engagement whereby participants compare their experience and knowledge with the shared understanding of the group. Souto-Manning (2010) posits that engaging in critical reflexive dialogue in group settings fosters a 'generative environment' within which new ideas and responses to environmental concern can develop. It provides participants

with the opportunity to 'open up to the thinking of others and thereby not wither away in isolation' (Freire, 2004:103). Additionally, perhaps, promoting collective action 'allows us as human persons to know that we are part of the whole' (Heron and Reason, 1997:275) and that we are connected and exist within a relational rather than individualised separate world.

2.2.3.2 Concerns with Socially-Critical Environmental Pedagogies

I have two concerns with socially-critical environmental pedagogies. Firstly, within EE literature, several luminaries comment on the anthropocentric assumptions that are contained within discourses that inform this environmental pedagogy. In particular they take issue with the work of Freire because of his 'problematical discourse on the distinction between humans and animals' (Kahn, 2002:7). Corman (2011) posits that imbibed within the text of *Pedagogy of the Oppressed* (1970) is a dualistic language that seeks to affirm human identity and superiority through differentiation and separation from other beings. She states how:

> For Freire, animals are a fixed, immutable, non-labouring, non-transforming Other (sic) against which the essence of humankind is thrown into sharp relief. Such common logic presupposes that humanity achieves its identity through that which it is not. Animals' presumed inadequacies highlight our achievements. Their supposed inferiority marks our superiority (2011:32).

Bowers (2002) too is critical of the anthropocentric assumptions contained within Freire's work and explains how this further serves to maintain rather than unsettle rationalistic impressions of a non-conscious nature 'other'. Evidence of these assumptions abounds within Freire's text. Within *Pedagogy of the Oppressed* (1970) he posits that animals are 'unable to decide for themselves, unable to objectify either themselves or their activity… [they are] "submerged" in a world to which they can give no meaning' (p.98). He later asserts that 'the animal [is] lacking self-consciousness. Humans, however, because they are aware of themselves and thus of the world… are *conscious* beings' (p.99).

Corman (2011) argues that this 'kind of ideological orientation… should garner serious attention, especially if we draw upon the text in our teaching' (p.30). I am mindful of her concern. Yet, I am also aware of the actions that socially-critical environmental educationalists have taken to expose anthropocentric underpinnings and dispel concerns. Thus, like Corman (2011), Clover et al (2010) recognise Freire's inherent tendency to repudiate 'the animal'. They contend that although socially-critical EE is rooted in the work of Freire, it has since progressed to a position that foments biophilia by 'encouraging a reconnection, in a more sensory, spiritual and emotional way, with the rest of nature'[8] (p.36).

Secondly, I am concerned that both learners and practitioners might feel intimidated by practices advocated within socially-critical environmental pedagogies (Fien, 1993). Earlier in this section, I explained how socially-critical environmental pedagogies focus on encouraging critical learner reflection on both individual as well as larger social, political and cultural realities. To this end, Clover et al explain that:

> …educators must not get caught up in simply creating learning environments, which are safe, comfortable or uncritically affirm or validate all learner experience. Being challenged about our assumptions and learning to shift paradigms and see things differently can be painful. Learning environments must nurture, but also be sites for challenge, rebuttal and making mistakes (ibid:24).

Although I recognise the importance of critical reflection as a catalyst for engendering transformation, I am concerned about how learners and practitioners may react to such 'relentless criticism' of normative assumptions (Marx, 1983:93). Practitioners may feel uneasy about challenging learners as rebuttal might induce learner alienation (Fien, 1993). Moreover, I have begun to question the ethicacy of asking practitioners to encourage learners to take 'collective pro-environmental actions' (Clover, 2002b:315) in support of

[8] Clover et al (2010) posit that the term "the rest of nature" should be adopted when referring to all beings, other than human, as a way of implying that we are all "part of" rather than "apart from" nature.

nature, as this may risk them being perceived as subversive within the organisation they work (Cotton, 2006a). I return to this point in section 2.3.

2.2.4 Summarising My Emerging Understanding

In this section I have reported on my emerging understanding of what might be considered an innovative environmental pedagogy. Initially I outlined how liberal-progressive environmental pedagogies drew my attention to the significance of experiential, outdoor and interdisciplinarity learning. Post-modernist environmental pedagogies helped develop my understanding of how intimate relationships with nature might be developed through a relational ontology. By reading the literature on both liberal-progressive and post-modernist environmental pedagogies I realised the importance of encouraging learners to reflect on their relationships with nature. Latterly, reading socially-critical EE literature brought a new dynamic to my understanding of innovative environmental pedagogies. I realised the significance of encouraging socially-critical thinking, of recognising and valorizing learner knowledge and in promoting collective action. In section 2.4 I will further hone my understanding of innovative environmental pedagogies whilst discussing my theoretical framework. Before this, in section 2.3, I discuss research that problematises the integration of innovative environmental pedagogies into practice.

2.3 Problematising Innovative Environmental Pedagogies

Although I support innovative environmental pedagogies, existing research within the field suggests that integrating these approaches into practice is problematic. Various luminaries (Grace and Sharp, 2000; Cotton, 2006a; Stevenson, 2007a) have commented on a mismatch between the environmental pedagogies advocated by theorists and the realities of teaching EE in state run educational organisations. Stevenson (2007a) termed this mismatch between theory and practice ‘the rhetoric-reality gap’ (p.139). Some researchers contend that this gap is resultant of the institutional constraints within state-run educational organisations. Both Gruenewald and Manteaw (2007) and Stevenson (2007b) discuss the impact of state-mandated standards and performance targets on curriculum innovation in

schools in the USA. Stevenson in particular, draws attention to how globalisation and an increasing emphasis on neo-liberal policies have affected curriculum diversity and pedagogical innovation. He explains that the focus in many Western industrialised nations is on assuring a strong economic position within a global market. Education is tasked with preparing workers to compete in this new global market economy. Subsequently there is now an emphasis in school curricula on literacy, numeracy and science and a reliance on standardised performance measures that enable international comparisons to be made on the quality of education that is provided by competing countries. Stevenson posits that correspondingly:

> …subjects outside the core areas of literacy, science and mathematics, such as creative arts and citizenship (be it political or environmental citizenship), are being de-emphasised or squeezed into smaller components of the school curriculum and not seen as warranting the same amount of attention (2007b:270).

In other words, Stevenson believes that the predominance of a neo-liberal discourse in education that focuses a teacher's attention on preparing students to take tests and meet performance targets has led to a 'narrowing of the purposes of schooling and the processes of teaching and learning' (ibid:270) and a subsequent marginalisation of subjects other than literacy, numeracy and science in the curriculum.

Whilst recognising that institutional influences exist, other researchers (Gruenewald, 2004; Cotton, 2006a) contend that it is practitioners' personally held beliefs, regarding the purpose of education or relationships to nature, which contributes to a rhetoric-reality gap. In this section I review the research that explores a mismatch between theory and practice. I discuss the research under two themes: 1) institutional influences and 2) practitioners' beliefs. By reviewing this literature, I draw attention to the potential barriers and pitfalls that might exist regarding integrating innovative environmental pedagogies into practice. Reading this literature honed my interest in exploring how, if at all, innovative environmental pedagogies might be integrated into practice in the adult community education service where I

work. Additionally, reviewing the literature enables me to identify gaps in research and this helps provide justification for my study. My impression from reading the literature is that most of the research, that explores why the integration of innovative environmental pedagogies might be problematic, has been carried out in conjunction with practitioners working in schools. None has been conducted with practitioners working in adult community education.

2.3.1 Institutional Influences

Grace and Sharp (2000) discuss how student teachers in Southampton University Education Department were met by sustained opposition in schools when, during teaching practice, they tried to integrate socially-critical environmental pedagogies. They note how 'this clearly highlighted the existence of the gap between practices advocated by theorists and classroom reality, i.e. the rhetoric-reality gap' (p.332). Grace and Sharp wanted to understand the reasons for this rhetoric-reality gap and so conducted research with teachers in 45 secondary schools in the south of England. They planned to explore the 'nature and size of the EE rhetoric reality gap' and 'reveal which aspects of EE teachers wish to include more of, or less of, in their teaching programmes' (p.334). Their research was predominantly quantitative and based on a 'simple questionnaire' (p.336). Collection of quantitative data was additionally supported by focused interviews with five teachers in which 'the questionnaire results were discussed to get a deeper insight and [to] validate the data collected in the survey' (p.335).

In their findings Grace and Sharp report that only 7% of the schools surveyed considered socially-critical EE as 'an 'essential' or 'very important' part of the school curriculum' (p.336). They note that teachers identified four significant 'constraints' (p.336). Firstly, 85% of the respondents said that socially-critical EE was of a 'non-statutory nature' and so did not *have* to be taught in schools (p.336). Secondly, and in connection with the first, teachers (73%) reported a 'lack of timetabled time' in that their priority in teaching was meeting the statutory demands of the curriculum (p.336). Thirdly, teachers (60%) problematised approaches to EE that were of a 'cross-curricular nature' (p.336). Fourthly, teachers (46%) found a 'lack of resources' to be a

constraint (p.336). Significantly, Grace and Sharp also report that although these constraints exist, a high proportion (64%) of teachers, in principle, considered the inclusion of 'political factors' in EE to be important (p.337). Additionally, 51% of respondents considered 'taking part in action for the environment' to be important (p.338). These findings led Grace and Sharp to suggest that it is more-so the institutional constraints, rather than views of teachers, that contributes to the rhetoric-reality gap. However, although I find the research by Grace and Sharp useful, in that it draws my attention to issues that might exist within the service in which I work, I am critical of their study. This is because of the limited explication they provide with regard to the reported 'constraints'. They do not provide in-depth detail as to why the 'non-statutory nature' of socially-critical EE might be problematic. They do not define what they mean by 'cross-curricular nature'. Nor do they state how this relates to socially-critical EE or explicate why 'cross-curricular' approaches are problematic. Additionally, they do not explain how the 'lack of time tabled time' or the 'lack of resources' is interpreted and what the ramifications might be for integrating socially-critical environmental pedagogies. Their research left me wanting to know more about the 'rhetoric-reality' gap.

Fazio and Karrow (2013), like Grace and Sharp, are also interested in researching how the 'constraining nature of schools' contributes to a rhetoric-reality gap (p.640). Their interest lies with understanding why environmental pedagogies that 'promote environmental literacy'[9] are 'not commonplace in schools' (p.640). Their study 'incorporated a mixed-methods research design' that collected both quantitative (on-line questionnaire) and qualitative (focus group interviews) data from 98 elementary and secondary schools in south-central Canada (p.641). In their findings they report three significant constraints. These are 'class schedule', 'planning time' and 'funding for materials' (p.644). With regard to 'class schedule', Fazio and Karrow note

[9] Fazio and Karrow (2013) define environmental literacy as an approach that includes 'dimensions concerning environmental knowledge, skills, dispositions, and action. The knowledge facet includes understanding local and global ecology of place (e.g. waste and water flows and processing), interrelationships (e.g. ecological/human interactions), and sustainability principles underlying the environment. Examples of environmental skills and dispositions include systems and evidence-based thinking skills, along with empathetic dispositions. Action for the environment includes learning through and from activities that address environmental issues of local concern' (p.640).

how lessons in schools are divided into small blocks of time (i.e. forty-five minute sessions). This conflicts with the integration of environmental literacy programmes because 'students engaging with nature and environmental issues [is]…a demanding endeavour' (p.640). It takes time to visit, experience and reflect on nature and they report school timetabling and schedule is not amenable to these spatial and temporal requirements. Within class schedules, Fazio and Karrow also make reference to how state testing and government imposed performance targets impact on teachers' choices regarding environmental pedagogy[10]. They give less weight to this influence however in comparison to the other constraints and I consider this significant in relation to the concerns raised by both Gruenewald and Manteaw (2007) and Stevenson (2007b) that I referenced earlier. Regarding planning time, Fazio and Karrow note how the integration of innovative EE programmes requires teachers to think creatively in how they apply learning about nature and environmental issues to their subject specialism. Teachers require additional time to plan innovative programmes, yet Fazio and Karrow report that time is not made available in schools. To compensate for this, Fazio and Karrow suggest that if teachers are to integrate innovative environmental pedagogies, they require 'exemplar lessons and activities that can be combined with mandated curriculum' and 'release time to help develop EE lessons and resources' (p.646). Additionally, they suggest that teachers would benefit from 'additional time and funding to assess and develop interdisciplinary teaching and learning resources' (p.646).

2.3.2 Practitioners' Beliefs

Cotton's (2006a) focus is on understanding the significance of teachers' beliefs in relation to integrating socially-critical EE into practice. She conducted a qualitative inquiry based on detailed semi-structured interviews with three teachers working in secondary schools in England. Interview data

[10] Fazio and Karrow explain how in Canada 'all students in grades 3, 6, 9 and 10 are required to undertake numeracy and literacy testing. These results are used to evaluate individual student progress and school effectiveness by the school district and Ministry of Education. Results for schools are made public' (p.651).

was supported by classroom observation. Like Grace and Sharp (2000), Cotton reports there are institutional influences that work against the integration of socially-critical EE. She terms these influences 'objective constraints' and notes how 'external examinations, parental pressure and school structure may reduce the possibilities for introducing socially-critical EE into the curriculum' (p.78). Additionally, however, she reports that 'teachers' beliefs act as a critical mediating factor' (p.80) and describes how these represent 'subjective constraints' (p.78) that mitigate the integration of innovative environmental pedagogies. Importantly Cotton posits that because socially-critical EE promotes action in favour of the environment, teachers perceive this to be a pedagogy that represents a particular 'worldview' or 'one-sided approach' (p.73). She reflects on the response of one of the teachers who commented 'I'm not out there to turn them [students] into green-banner waving, fundamentalist environmentalists' (p.74) and describes how 'these teachers were not in favour of promoting particular attitudes of concern for the environment' (p.72). In contrast to Grace and Sharp, Cotton's research indicates that teachers do not agree with encouraging learners to take part in action for the environment. She explains how teachers expressed fears over 'possible charges of indoctrination' (p.73) and were anxious they might 'overly influence' (p.74) students if they promoted particular attitudes. Cotton goes on to note that respondents in her research preferred to adopt a 'neutral position' and one that was impartial to nature and the environment (p.77). She explains how this emphasis on neutrality:

> …is a considerable step away from the EE literature in which teachers are encouraged to take a 'committed' approach to their teaching about the environment, in order to encourage students to take action on environmental issues (ibid:75).

Cotton suggests that beliefs regarding neutrality mitigate the integration of socially-critical EE. Cotton is not alone in reporting on teachers' concerns with neutrality. Gayford (2000, 2002) in his research with science teachers in England also details these concerns. Kyburz-Graber (1999) too reports that teachers expressed fears over 'ideological indoctrination' (p.426) when

discussing the integration of socially-critical environmental pedagogies in German schools. Cotton is herself critical of the notion of neutrality and in her work she reflects the sentiments of socially-critical environmental educationalists like Postma (2002). Postma argues that concepts of neutrality are underpinned by the predominant cultural constructs that exist at any one time. For this reason, he posits that the notion of maintaining a neutral position is a false or illusionary concept. Reading Cotton's research was important to me. Until this point, I was unaware that socially-critical EE might represent an approach that challenged practitioners' notions of neutrality. As will be seen in chapter five however, many of the practitioners involved in my study emphasised the importance of adopting a neutral stance and because of this problematised approaches that encouraged learners to take action in support of nature.

Concerns with neutrality however might not be the only subjective influence. Practitioner belief regarding relationships to nature might also contribute to a rhetoric-reality gap. I state this because, although I can find no previous empirical research on how practitioner beliefs toward nature might influence environmental pedagogy, several luminaries have intimated in theoretical papers this might be the case. Barratt (2011) discusses how a:

> …relational ontology, still makes many uncomfortable. It challenges the privileged place of the human and is not easily explained within the assumptions of Western frameworks of knowing or Cartesian Science (p.126).

Barratt is implying that if practitioners' beliefs are accordant with anthropocentric and rationalistic understandings, then this may mean they discount environmental pedagogies that seek to engender intimate relationships with nature. In this way she reflects the thoughts of Bonnett (2003) who asserts that the meaning a practitioner associates with nature will have:

> …profound implications for how [they] educate pupils to address environmental problems...[Their] underlying stance on nature's value will determine the kinds of knowledge and understanding to be considered relevant (p.556).

Gruenewald (2004), whilst mainly theorizing on how institutional constraints contribute to a rhetoric-reality gap, also comments on how educators' conceptions of nature might influence their choice of environmental pedagogy. Gruenewald draws on the work of Foucault (1977/1995) as he explains how dominant discourses permeate throughout society and influence our thoughts and actions. He outlines how anthropocentric and rationalistic interpretations of nature are dominant in Western society. They:

> …persist because the discourses that perpetuate them circulate everywhere in culture and are embedded in material products of our thoughts and actions. Indeed, as members of the culture, we more or less participate in their maintenance (p.86).

Gruenewald notes how teachers, like all members of society, are influenced by the predominance of anthropocentric and rationalistic interpretations. He posits these interpretations are constantly at play and constrain teachers in their choice of environmental pedagogy in North American schools. Reading the work of Barratt, Bonnett and Gruenewald encouraged me to ask whether the practitioners in the service in which I worked might also be influenced by anthropocentric and rationalistic interpretations. If they are, might this mean they would perceive innovative environmental pedagogies, that aim to unsettle the divide between humans and nature, as problematic? As will be seen in chapter four and five, these influences did exist amongst practitioners and they contributed towards limiting the integration of innovative environmental pedagogies.

2.3.3 Summary

In this section I reported on literature that identifies a rhetoric-reality gap in environmental pedagogy. This literature has significance for my research in three ways. Firstly, the literature made me aware of the constraints that might

exist with regard to integrating innovative environmental pedagogies. As a consequence, this literature helped shape my main research question in that it encouraged me to ask *can* innovative environmental pedagogies be integrated into practice, if these barriers exist.

Secondly, this literature drew my attention to where there are gaps in knowledge. Importantly, despite an extensive literature search, I have been unable to identify any study that explores how practitioners working in an adult community education setting make meaning of innovative environmental pedagogies. I am conscious that adult community education settings are different to schools and this may mean that the rhetoric-reality gap may present itself in different ways.

On the one hand the gap may not be as severe as in schools. Admittedly, in the service in which I work, there are some classes where learners adhere to a set examination syllabus. It is possible that in these classes practitioners may experience the same constraints as in schools. They may feel under pressure to prioritise content and process associated with the exams syllabus and subsequently consider the integration of innovative environmental pedagogies inappropriate. Additionally, however, there are significant numbers of non-accredited classes. These classes do not follow a pre-defined examination syllabus and practitioners are not constrained by a mandated curriculum. Arguably, in these classes there might be more potential for innovation and the rhetoric-reality gap might be less severe.

On the other hand, practitioners might experience additional constraints to those reported. Within the service where I am employed, many practitioners work part-time, some for as little as two hours per week. They might also work in outreach venues that are located a distance away from a main adult community education centre. These working practices mean that many practitioners become extremely isolated and may only interact with peers and support staff on one or two occasions each term. In the adult community education literature, Viskovik (2005) discusses how practitioner isolation in tertiary colleges in New Zealand limits the ‘propagation’ (p.390) of innovative

practice. She reports how by being isolated, practitioners do not meet to share ideas and collaborate on integrating new initiatives into practice. It is also possible that within the service in which I work, isolation might represent a significant constraint that is additional to the ones reported in schools.

What I aimed to do in my study then was research how a sample of practitioners in adult community education made meaning of innovative environmental pedagogies and to see how their interpretations compared with those of teachers in schools. Would they identify similar constraints to those reported in previous research with teachers? Or, would they identify different ones? Or, would they mitigate these constraints and so integrate innovative environmental pedagogies into practice? In particular, I intended to 'give voice' to practitioners working in adult community education. I wanted to listen to and report on their interpretations and possible concerns with a view to making their voices heard in the wider field of EE.

Thirdly this literature made me aware of the importance of being pragmatic when considering innovation in environmental pedagogy. Both Fazio and Karrow (2013) and Cotton (2006a) advise that if theory is to be integrated into practice, then institutional constraints and practitioner beliefs need to be taken into account. They recommend that as environmental educators we must take a 'pragmatist turn' (Fazio and Karrow, 2013:641). Environmental pedagogies cannot simply be grafted on. They must be 'situative' and 'aligned' with the contexts within which practitioner's work (ibid:641). This point is also made by Stables and Scott (2001) who, whilst reflecting on the various constraints that mitigate the integration of environmental pedagogies informed by 'deep ecological and socially critical responses' (p.270), suggest '"doing what we should" must relate to "doing what we can"' (p.274). Importantly, this concern with pragmatism and of seeking out solutions to the rhetoric-reality gap influenced me in my choice of theoretical framework which I discuss in the next section.

2.4 Theoretical Framework

I use Heron and Reason's (1997) theory of epistemological diversity as my theoretical framework. Their theory upholds that the world (both human and non-human) is complex and multifaceted. If we are to understand our complex world, we must engage with diverse 'ways of knowing' (Reason, 1998) so we can open our eyes to a multiplicity of interpretations. The word 'diversity' within their conception of epistemological diversity has two meanings. On the one hand it is conceived as meaning *many* and accordingly, Heron and Reason identify four ways of knowing - experiential, presentational, propositional and practical. On the other hand, it is conceived as referring to alternative ways of knowing and the inclusion of peripheral or subjugated knowledge. Engaging with this theoretical framework enables me to gain important insights and to make connections I might otherwise not make. Arriving at the point where I can name my theoretical framework though has not been easy. I have been searching for a framework that fulfils two roles.

Firstly, I need a framework within which to position my notion of innovative environmental pedagogies. My formulation of innovative environmental pedagogies has emerged through engagement with liberal-progressive, post-modernist and socially-critical literature. This represents an 'eclectic mode of engaging with theoretical perspectives', because it 'entails addressing a number of distinct bodies of theoretical literature with the objective of combining them for purposes of the research' (Wellington et al, 2005:60). Although I see the value in drawing on various theoretical perspectives, because this enables me to develop an in-depth understanding of how learners might be encouraged to reflect on relationships and take action in support of nature, I feel my conception is lacking in structure. It is important that I have this structure so I can analyse the extent to which practice can be considered innovative during my research with the practitioners. Heron and Reason's theory of epistemological diversity provides this structure. I can map their conception of experiential, presentational, propositional and practical knowing across to my interpretation of innovative environmental pedagogies. Heron and Reason refer to these four ways of knowing as an

'extended epistemology' (p.274) and Nicol (2002) uses this framework to define his approach to EE. I discuss Nicol's work and explicate the meaning of experiential, presentational, propositional and practical knowing in 2.4.1.

The second role I need my theoretical framework to fulfil is in helping me to reflect on how practitioners make meaning of innovative environmental pedagogies. In particular, as mine is practical research, in that my aim is to see if we can change our practices in the service in which I work, I need a framework that helps me consider my responses to practitioners' problematising innovative environmental pedagogies. Heron and Reason's framework enables me to do this because it is a pluralist epistemology that is informed by a 'participative worldview' (p.275). It frames my thoughts within an understanding that my interpretation is one amongst many and opens my ear to other languages and points of view that practitioners might speak. I will explain how their framework supports me in understanding practitioners' actions in 2.4.2.

2.4.1 A Framework for Analysing Innovative Environmental Pedagogies.

In his research, Nicol (2002) considers how theories associated with deep ecology might be integrated into practice in outdoor education. According to Nicol, deep ecology 'posits solutions which require changes in the way humanity thinks about itself and its relationship with the natural environment' (2002:209). Additionally, deep ecology encourages critical reflection on societal structures that exploit nature. Nicol explains that although deep ecology is robust in philosophical thought, it lacks an educational framework that enables him to analyse how it can be integrated into practice. Adopting Heron and Reason's extended epistemology provided Nicol with a framework that was 'suitable for understanding and evaluating the pedagogical process' involved (2002:214). My research is different from Nicol's in that mine is concerned with adult community education and his with outdoor education. Additionally, Nicol is concerned with integrating 'one theoretical position' (deep ecology) into practice. I am interested in integrating multiple theoretical positions relating to liberal-progressive, post-modernist and socially-critical environmental pedagogies. Our research is similar though in that we both aim

to integrate practices that encourage learners to reflect on their experiences of nature and question the societal structures that exploit nature. Additionally, we both seek an overarching framework that enables us to reflect on and analyse practices in environmental pedagogy. Below I explicate my understanding of Heron and Reason's extended epistemology and outline its application to my conception of innovative environmental pedagogies. Concomitantly I reflect on Nicol's interpretations of Heron and Reason's framework.

Experiential Knowing

Reason (1998) posits that experiential knowing is knowing 'through direct face-to-face encounters with person, place or thing; it is knowing through empathy and resonance' (p.44) and Heron and Reason (1997) suggest that it is 'knowing by acquaintance' (p.277), 'through participative, empathic resonance with a[nother] being' (p.281). Nicol (2002) relates this way of knowing within environmental pedagogy to the work of Orr (1994) and his focus on first-hand experience. I too consider this way of knowing to represent approaches that seek to engender a 'first-hand knowledge' (Orr, 1994b:52) of living and non-living beings and in particular, see this as representing the experiential learning practices advocated within liberal-progressive environmental pedagogies[11].

Presentational Knowing

Reason (1998) explains that:

> …presentational knowing emerges from experiential knowing, and provides its first expression through forms of imagery such as poetry and story, drawing, sculpture, movement, dance (p.44).

Presentational knowing involves engaging with the power of imagination to further explore meanings we associate with experience: 'through this imaginative power we may experience what is essentially real' (Reason, 1993:279). Nicol (2002) suggests that this way of knowing within

[11] See section 2.2.1.

environmental pedagogy provides 'the basis from which the teacher can use the pupils' own experiences to talk of the way in which the non-human world is valued' (p.216). Through reflection on their initial experiences, learners explore their feelings toward nature and represent these to peers through 'talk, text or image' (ibid:216). In my research I see presentational knowing represented in practices advocated by post-modernist environmental educators like Fawcett (2000), Warkantin (2002) and Weston (2004). Each researcher promotes practices which encourage learners to internalise and reflect on experience. Additionally, they draw on the power of imagination to help learners conceive and represent nature in more complex ways than initially experienced in the immediacy of physical meeting[12].

Propositional Knowing

Propositional knowing 'is knowing through ideas and theories, and is expressed in abstract language or mathematics' (Reason, 1998:44). Propositional knowing enables learners to 'explore the world beyond experiential and presentational knowing' by applying theory (Nicol, 2002:216). Nicol explains that:

> …through propositional knowing, pupils can learn about the societal structures which prevent or support a deep ecological understanding of the world (p.218).

I too believe that propositional knowing can be used to support learners in developing a deeper understanding of how societal structures might impact on nature. In particular I consider socially-critical environmental pedagogy to include this way of knowing. Earlier, for example, I discussed how Kapoor (2003) reflects on the significance of introducing socially-critical theory to the Adivasis indigenous peoples of India. By doing this the Adivasis indigenous people were encouraged to consider the exploitation and destruction of native growth forests in broader social, economic and political contexts[13].

[12] See section 2.2.2.
[13] See section 2.2.3.1b.

Practical Knowing

'Practical knowing is *knowing how to* do something, demonstrated in a skill or competence' (Heron and Reason, 1997:281). Practical knowing is manifested in action and emerges from and consummates experiential, presentational and propositional forms of knowing.

> It presupposes a conceptual grasp of principles and standards of practice, presentational elegance and experiential grounding in the situation within which the action occurs (ibid:281).

Nicol asserts that the:

> …type of action, to which practical knowing refers, is that practiced by Freire (1972) where the purpose of education is to improve the social condition (2002:219).

I concur with Nicol and in my research consider this way of knowing to be represented within socially-critical environmental pedagogies. Thus, in section 2.2.3, I discussed the work of Clover and Hall (2010) and the 'Positive Energy Quilts' project. Within this project, learners were encouraged to identify their own meaningful contextual knowledge through directly experiencing the forest they sought to protect (experiential knowledge). They produced quilts as a way of representing their experiences and knowledge of the forest (presentational knowledge). They were asked to research additional literature on the environmental implications of building a hydro-electric power-plant (propositional knowledge). Finally, by displaying the quilts at public events, buildings and meetings, learners were encouraged to position themselves as 'creative subjects' (Blackburn, 2010:8) who *knew how to* take action and respond to the proposed power-plant development (practical knowledge).

Heron and Reason's (1997) extended epistemology represents an appropriate framework for me to use. It accommodates my notion of innovative environmental pedagogies that has emerged through engagement with

liberal-progressive, post-modernist and socially-critical literature. In chapter four and five I use this extended epistemology to support my analysis.

2.4.2 A Framework for Reflection

Heron and Reason's extended epistemology helps me reflect on how practitioners make meaning of innovative environmental pedagogies in three ways, which I discuss under the subheadings:

- Knowing grounded in experience
- Seeking communion
- Knowing through emergence

Knowing grounded in experience

Within their research, Heron and Reason take issue with the privileging of theoretical or propositional knowledge. This concern over privileging 'intellect as the primary means of knowing' (Reason, 1994:15) led Heron and Reason to propose their extended epistemology 'because it reaches beyond … theoretical knowledge' (Reason 1998:43). This is not to suggest they do not value theoretical knowledge but they consider it to represent *one* alongside three other, traditionally subjugated, ways of knowing (experiential, presentational and practical). Crucially, within their 1997 paper, Heron and Reason stress the significance of experiential knowing. They posit that our 'experiential encounter with the presence of the world is the ground of our being and knowing' (p.276). Through this 'felt participation' (p.277) with an 'experiential reality' (p.278), other ways of knowing unfold and emerge. They go on to suggest that:

> …while propositional and presentational knowledge are grounded on and symbolize experiential knowledge, experiential knowledge cannot be reduced to either of them (ibid:276).

I consider this acknowledgement of the foundational influence of experiential knowledge important to my research with practitioners. It reminds me of why I must be critically reflexive towards my interpretation of innovative

environmental pedagogies. My understanding of innovative environmental pedagogies has emerged through reflection on scholarly academic literature. In other words, it is informed by propositional knowledge. Drawing on Heron and Reason's theoretical framework reminds me of the importance of 'grounding' this interpretation in the 'experiential reality' of the teaching lives of practitioners. If I am to understand the rhetoric-reality gap that I discussed earlier in section 2.3, it is important that I have this framework as it will constantly reinforce the significance of me listening to practitioners' voices and reflecting on how their lived experiences in teaching might affect their interpretations of innovative environmental pedagogy.

Seeking Communion

Importantly, Heron and Reason (1997) explain that their theoretical framework is informed by a 'participative worldview' (p.275), that upholds that differences between people can be understood and reconciled through participation in dialectical engagement. I like this idea of a participative worldview because it helps me consider how, by engaging in dialogue with practitioners and being open to others, we might find ways forward when confronted with an issue. It is a worldview that steers me away from an 'agentic' mindset within which I become entrenched in advocating and asserting my own individual interpretations and one that instead guides me towards seeking communion (Reason, 2006). I interpret communion in this sense to mean the drawing together of people to resolve, through cooperation and collective critical reflexivity, a particular issue or uncertainty (Reason 2006). The uncertainty in this case exists in the interface between theory and practice in EE. By engaging in communion, both the practitioners and I might modify our own versions of theory and practice and by so doing contribute to the discourse within EE. There is a pragmatic and reconciliatory air then that influences me in Heron and Reason's (1997) framework, that accords with the recommendations made by Stables and Scott (2001), Cotton (2006a) and Fazio and Karrow (2013) I referenced earlier in section 2.3.3.

Knowing Through Emergence

Heron and Reason's (1997) extended epistemology is positioned within an emergent context. They explain how through cycles of critical reflection and action, we gradually come to acknowledge and accommodate different ways of knowing. This emergent context resonates with me strongly. I have experienced it. I have lived it myself, uncomfortably at first, when wrestling with my own construction of innovative environmental pedagogy. I have observed emergence too when working with practitioners. I have seen how they have problematised, initially rejected and then come to reconsider certain approaches within practice. Nicol discusses this emergent context, whilst drawing on Heron and Reason's theory of epistemological diversity, in his 2013 paper. He posits that the integration into practice of Heron and Reason's extended epistemology is dependent on a teacher's 'readiness', to internalise, wrestle with and explore each of these ways of knowing (Nicol, 2013:52). I find this notion of knowing through emergence helpful in my research. It reminds me that changes do not happen overnight and thoughts take time to emerge. Importantly I must be receptive to the situations and contexts within which practitioners interact because, as discussed in section three, there might be institutional and/or subjective influences that impede the emergence of particular ways of knowing. More importantly this notion of emergence speaks to me in a language of hope. It encourages me to think that although practitioners might initially reject integrating certain ways of knowing into practice, this does not mean that they will continue to do so. By engaging in ongoing dialogue and through participating in collective critical reflexivity, we might all modify and extend our understanding.

2.5 Conclusion

My reading of the literature has contributed significantly to my understanding regarding environmental pedagogy and informed my own sense-making, the direction of my study and the research questions. In section 2.1 I reflected on concerns within the literature regarding the prevalence of an anthropocentric worldview that separates humans from the 'rest of nature' (Clover et al, 2010:36) and associates natural environments with an *instrumental* value. I explained how this concern motivated me towards identifying ways in which,

as educators, we might encourage learners to re-evaluate their relationships with nature. It encouraged me to ask the main research question 'can innovative environmental pedagogies be integrated into the practice of teaching in the local government adult community education service in which I work?' At the start of my research though, I did not have a firm conception of what an innovative environmental pedagogy might be. By reading the literature on liberal-progressive, post-modernist and socially-critical environmental pedagogies my understanding gradually emerged and I began to think more deeply and critically about how I conceptualise innovative environmental pedagogies[14]. The literature I discussed in section 2.3 informed the direction of my study and research questions still further. Until this point I did not consider that institutional influences and personal beliefs might impact on how practitioners make meaning of innovative environmental pedagogies. Reading this literature encouraged me to problematise innovative environmental pedagogies. Consequently, I asked 'what problems might practitioners identify with innovative environmental pedagogies?'[15] Additionally I asked 'what notions of nature and approaches to environmental pedagogy are supported by practitioners at the start of the research?'[16] This is because I wanted to explore how beliefs might impact on meanings associated with innovative environmental pedagogies. Finally, I consider the literature I discuss in section 4, by Heron and Reason (1997) and Nicol (2002), to be of huge significance to my thinking. Their work provides me with a framework within which I position my interpretation of innovative environmental pedagogies. Additionally, I find Heron and Reason's proposition of a participant worldview and their notion of knowing through an emergent reality to be influential. It encourages me to engage with practitioners and to explore with them how they make meaning of innovative environmental pedagogies through an interventionist phase of reflection and action. I make reference to this focus on emergence by including the research question: 'What environmental pedagogies did practitioners favour

[14] See section 2.2.
[15] Supplementary research question 3.
[16] Supplementary research question 1.

post the period of intervention?'[17] These references to the notion of an emergent reality and a participant worldview influence me in my choice of method and methodology which I now discuss.

[17] Supplementary research question 2.

Chapter 3: Methodology

Methodology provides a rationale for attaining knowledge. It imparts a framework within which appropriate methods for generating and analysing data are considered (Sikes, 2007). Justification and critical analysis of one's chosen methodology and methods constitutes an important part of any research (Wellington et al, 2005) and provides credibility for the findings, claims and conclusions made within a project. Within this chapter I introduce, justify and critically reflect upon my methodology and methods.

My research investigates whether innovative environmental pedagogies can be integrated into practice within the local government adult community education service where I work. My research employs an interpretive paradigm and adopts an action research strategy to explore the views and beliefs of eleven practitioners. I carried out two sets of semi-structured interviews and three 'cooperative inquiry' (Reason 1994) meetings with the same eleven practitioners to enable me to address my main and supplementary research questions:

Main: Can innovative environmental pedagogies be integrated into the practice of teaching in the local government adult community education service in which I work?

Supplementary:

1. What notions of nature and approaches to environmental pedagogy are supported by practitioners at the start of the research?
2. What environmental pedagogies did practitioners favour post the period of intervention?
3. Do practitioners identify problems with integrating innovative environmental pedagogies into practice and if so what might these be?

This chapter consists of five sections. I begin by defining methodology and methods before discussing my methodological stance and reflecting on my positionality. Next, I outline why I focus on action research and justify my choice of research methods. In section 3.2, I explain my data collection

procedures. I discuss my research preparation and sampling, detail my data collection processes and explicate my data analysis. In section 3.3 I reflect on ethical considerations and discuss trustworthiness. In section 3.4 I report on the strengths and limitations of my chosen methodology and methods before concluding in section 3.5.

3.1 Methodology and Methods

Methodology pervades the whole research process (Wellington, 2000). At the beginning, methodology encourages researchers to make critical choices regarding the methods and assess their strengths, limitations and consequences of use. During the actual research process, methodology provides a framework for reflection, encouraging ongoing critical analysis of the choice and use of methods against the unfolding outcomes. Methodology is employed at the end of the research through evaluating and justifying the methods, in considering their practical contributions and limitations and in constructively questioning whether different approaches should have been included. In essence, methodology is integral to the whole research process and provides a critical lens through which to consider and question the research methods (Wellington, 2000).

Methods are the practical techniques used to collect the data and are decided upon once the methodology, theoretical framework, aims of the study and research questions have been identified (Wellington, 2000). They represent the tools we use in the pursuit of knowledge (Grix, 2004). Methods and methodology are interconnected but are different. Methods are the practical techniques and methodology informs, reflects on and evaluates these techniques.

Bell (1999) suggests the primary question to ask when deciding upon a methodological stance is not ‘which methodology’ but ‘what do I need to know and why?’ Wellington et al (2005) provides further focus and advises that the choice of methodology must primarily be based on its appropriateness to addressing the research questions. Methodology must be synergetic to and interlink with the research aim, questions and theoretical framework that

inform the study (Wellington et al, 2005). Within my research, I aimed to explore the views and beliefs of eleven practitioners. I wanted to unveil their deeply held assumptions and explore how they understood, developed and made sense of innovative environmental pedagogies. I intended to fully engage with their subjectivities (Gewirtz and Cribb, 2006). Recognising this intention encouraged me to position my research within an interpretive paradigm or 'set of beliefs that guide action' (Sikes, 2007:6). Interpretivism recognises reality as subjective. There is no single truth or prima facie understanding of the world (Bassey, 1999). Interpretivism privileges the concept of 'plurality of meaning', a consideration of reality that questions the illusion of expertise and argues that many different truths exist and have value in any one time (Minh-ha, 1989:30). Underlying interpretivism is the principle that research participants' views and beliefs are complex and varied. It is this complexity that interpretive methodologies seek to unveil. Accordingly, interpretivism correlates with my research aims and questions.

3.1.1 Positionality

Interpretivism recognises that a researchers' ontological and epistemological assumptions will influence the whole research project. Gewirtz and Cribb explain:

> Inevitably, embedded in all sociological work are views about what counts as a worthwhile research question, about what counts as a desirable process or outcome and about how responsibility for particular outcomes are or should be distributed (2006:142).

In recognising this influence, interpretivist scholars suggest that, as researchers, we must bury the myth of the neutral observer (Wellington, 2000) and instead engage processes that require the articulation, defence and problematising of values that we bring to our research (Gewirtz and Cribb, 2006). We should reflect openly and honestly on our positions and values; be explicit about these within our writing and signal to the reader how our values have influenced our research (Wellington et al, 2005). Within my research I began this process in the introduction, where I stated that my understanding

of reality was informed by an interpretivist position. I then outlined how this has affected my perception of education and nature. Now I reflect further on my positionality. I discuss the influences that have led me to adopt an interpretivist understanding. Additionally, I explain why I consider myself to be an 'insider' and how this might affect my research.

3.1.2 My Positionality

My first degree was in geography and geology. This was a science degree that made no space for reflection on epistemological stances and, at that time, I uncritically accepted notions of objectivity and scientific reductionism. When I began my Master of Arts degree in leisure management at the University of Sheffield several years later, it seemed natural for me to transfer my scientific and objective understanding to the social world that I was about to study. I soon realised though that the social world is complex. In working through these complexities, I began to take small but important steps towards recognising the significance of subjectivity. When I returned to studying twenty years later on the EdD professional doctorate course, I was keen to revisit my epistemological and ontological understandings. I increasingly turned my attentions to interpretivism and in particular how this way of knowing is evidenced in my educational practice. I have found many instances within my role as area manager when I am reminded of the notion of plurality of meaning (Minh-ha, 1989). At times I find that I have differences of opinion to other practitioners when trying to resolve an issue at work. My understanding and interpretation is one that sits amongst many others. Furthermore, in seeking reconciliation on these differences of opinion, I have experienced a fusion of understandings (Gadamer, 1975) between the solutions to issues I originally conceived and the ideas that my fellow practitioners have introduced. Thus my approach to practice is an interpretivist one in that I seek solutions to problems through dialogue and by listening and responding to other peoples' conceptions of reality. I seek cooperative and collaborative solutions to practice (Reason, 2006).

3.1.2.1 The Insider

In conducting my research within the adult community education service where I work, I realise that I am in a privileged position because I am an 'insider' (Wellington et al, 2005). Chamberlain et al (2000) identify two benefits to approaching research as an 'insider'. Firstly, there is the benefit of access in that a degree of trust has already been developed with colleagues. This level of trust allowed me to take risks in my research and ask questions that practitioners might otherwise have considered too sensitive or challenging if they had been voiced by an external researcher. Secondly, there is the insight that is provided by lived experience (Wellington et al, 2005). Thus, I have worked for the adult community education service for nearly twenty years. Over this time my practice has been increasingly influenced by a culture of 'performativity'[18] (Lyotard, 1984). During my study, practitioners made reference to how performance measures impacted on their decision to integrate innovative environmental pedagogies into practice (see section 5.2.1.1). Through being aware of the influence that performance measures have on our adult community education service and by searching and interrogating the feelings within myself, I was able to empathise more deeply with practitioners' fears and anxieties. I was able to engage an 'epistemology of insider-ness' (Reinhartz, 1992:260).

None-the-less, knowledge generated by an insider must be treated with caution for two reasons. Firstly, integral to the insight of insider-ness is an attachment to the subject under study (Reinhartz, 1992). By conducting research within the adult community education service in which I work I may overlook certain responses and be unable to make the familiar unfamiliar. One might be 'oblivious to one's own assumptions' (Wellington et al, 2005:115). I have tried to address this risk through a process of ongoing critical reflection and problematising of my assumptions. Secondly, I must acknowledge my own positionality with regard to the practitioners who have been involved in this research. I am employed as an area manager and this is

[18] Perfomativity represents a process of target setting, performance measurement and comparison for the purpose of increasing efficiency and effectiveness (Ball, 1998).

a more senior post to the other practitioners. This might contribute to an issue of power imbalance (Sikes, 2006). Practitioners may have concerns with regard to what they say and how they respond during the research and how this may subsequently affect their career. I will discuss how I address this concern in section 3.3.3.2. Next I explain how, although I locate my research within an interpretivist methodology, my theoretical framework influences me towards adopting a very specific strategy – that of action research – to aid me in understanding how practitioners make sense of innovative environmental pedagogies.

3.1.3 Action Research

In section 2.4.2, I explained that Heron and Reason's (1997) theoretical framework is underpinned by a 'participative worldview' (p.275), where by engaging in dialogue and being open with others, we might find ways forward when confronted with uncertainty. The uncertainty in this case is in the interface between theory and practice. I explained that their theoretical framework is positioned within an emergent context. Through participating in critical reflection and action we might gradually come to acknowledge different ways of knowing. This focus on a participant worldview, emergent realities and reflection and action influenced me toward adopting an action research strategy. Action research:

> …seeks to bring together action and reflection, theory and practice, in participation with others, in the pursuit of practical solutions to issues of pressing concern to people (Reason and Bradbury, 2001:1).

Wellington (2000) locates action research within the broad field of practitioner research and notes that it involves a teacher/practitioner 'studying, researching into or intervening in his or her own practice, setting or system' (p.21). McNiff (1988) defines action research as a 'form of self-reflective enquiry…that actively involves teachers as participants in their own educational process' (p.1) and suggests it performs three roles. It can be used to question pre-existing practice through encouraging critical reflection,

enable dialogue between practice and research or generate new knowledge through the process of reflection and dialogue amongst practitioners (McNiff, 1988). Action research is by nature interventionist, in that new ideas are introduced for the purpose of engaging practitioners in discussion, critical reflection and consideration of 'what might be'. It is:

> …about finding ways to open ourselves to different sorts of realities. The Western mind is hugely individualistic, and that individualism drives the frenzied consumerism that is Western capitalism, with terrible consequence for the majority human world and the more than-human world. Maybe action research could explore how the Western mind can open itself to a more relational participatory experience (Reason, 2006:199).

Action research is an appropriate research strategy for my study because it supports me in considering whether it is possible to integrate innovative environmental pedagogies into practice. In particular I consider action research appropriate on two counts. Firstly, action research recognises that there is a disjuncture between academic research and practice (Reason, 2006). More-so, it seeks to unveil and address the gaps between rhetoric and reality and:

> …is concerned with how we make sense of experience and accounts, and how we link these with a wider field of scholarship. It is concerned with the congruence of our theories and our practice (Reason, 2006:189).

It is this congruence between the 'rhetoric' of innovative environmental pedagogies and the 'reality' of practitioners' views and beliefs that I wish to explore. Secondly, action research strives to redress the balance between rhetoric and reality by encouraging practitioners to influence the development of knowledge. It seeks to generate knowledge through reflective practice and in so doing draws attention to the significance of practitioners' voices (Gayford, 2003). It is concerned with the 'primacy of the practical' (Heron, 1996b:41) and starts 'from the idea that creating knowledge is a practical affair' (Reason, 2006:188). Adopting an action research strategy enables me

to give voice to those practitioners within adult community education who have traditionally been marginalised within EE literature. It has encouraged me to consider:

> …how we can help articulate voices that are not being heard. How we can draw people together in a conversation that is not taking place (Reason, 2006:198).

Importantly, within action research part of the process of giving voice involves creating communicative spaces (Kemmis, 2001) where practitioners can come together to critically reflect on how they make meaning of phenomena. It is this drawing together of people that is a central element of action research, the focus being as much on collective as individual inquiry (Reason, 2006). This privileging of collaborative investigation influenced me towards including cooperative inquiry meetings (Reason, 1994). I discuss cooperative inquiry meetings, as well as other methods of data collection, next.

3.1.4 Methods

Reason (2006) suggests that action research is:

> …a participative and democratic process that seeks to do research with, for, and by people; to redress the balance of power in knowledge creation; and to do this in an educative manner that increases participants' capacity to engage in inquiring lives (p.189).

My research investigates whether innovative environmental pedagogies can be integrated into practice and so engages with and explores the beliefs and experiences of eleven practitioners. To support my research aim and methodology I have used interviews and cooperative inquiry meetings for the purpose of data collection as both methods allow for practitioners' beliefs and experiences to be heard and contribute to redressing the 'balance of power in knowledge creation' (Reason, 2006). In this section I justify why I focus on these two methods before providing a detailed explication of the research process.

3.1.4.1 Interviews

Interviews are more than a conversation (Denscombe, 2003). Interviews have a focus. They seek to provide an in-depth insight into a research area (Wolcott, 2001). Denscombe (2003) suggests interviews afford research participants the opportunity to 'speak their minds' (p.167) and so represent a portal through which we can generate an understanding of our fellow human beings. They give research participants a 'voice' (Wellington, 2000:72) through a process of dialogic exchange that invites respondents to express themselves and to share their experiences, views and beliefs (Clover et al, 2010). Interviews then accord with the intention within an interpretivist methodology and action research approach to privilege practitioners' voices.

The degree to which research participants' voices are privileged depends on the type of interview. Denscombe (2003) makes the distinction between structured, semi-structured and unstructured interviews. Structured interviews require stringent adherence to pre-determined set questions that are asked in a specific sequence. The structured interview is 'like a questionnaire that is administered face to face with a respondent' (Denscombe, 2003:166) and for this reason is more appropriate for the collection of quantitative data, than for enabling participants' voices to be heard (Bassey, 1999). Contrastingly unstructured interviews have no pre-determined questions. Emphasis is placed on the research participants informing the agenda and themes for discussion. Although they enable participants' voices to be heard, they are potentially problematic because of the vast array of topics that might emerge during discussion and so they can lack focus. Semi-structured interviews, reside between these two contrasting positions. They use a list of themes or questions, yet semi-structured interviews also embrace flexibility by accommodating variation in the wording, range and order of questions (Bassey, 1999). On the one hand they recognise a focus within research and provide a structure for comparability when analysing the data (Locke et al, 2004) and on the other 'they lend themselves to in-depth investigations, particularly those which explore personal accounts of experiences and feelings' (Denscombe, 2003:167). Additionally, they allow for the emergence

of new ideas not previously identified by the researcher. For this reason, I decided to use semi-structured interviews.

3.1.4.2 Cooperative Inquiry Meetings

Kemmis (2001) posits that the forming of democratic and participative communities of inquiry is fundamental within action research, stating 'the first step in action research turns out to be central: the formation of a communicative space' (p.100). Accordingly, within my research I carried out three 'cooperative inquiry' meetings when practitioners came together and collectively discussed the integration of innovative environmental pedagogies. Cooperative inquiry meetings strike accordance with my interpretivist methodology because they are founded on the assumption that participants have diverse views on reality and it is through dialogic exchange within group settings that differences of opinion can be explored and understood. Gayford (2001) suggests that the process of drawing people together and of encouraging dialogue between practitioners, aids reflection and action. It promotes peer learning and enables a forum to be developed where research participants can share their thoughts, reflect on common concerns and through discussion, contestation and reconciliation reveal new meanings and understandings (Davis et al, 2009). Importantly, such communities of inquiry are underpinned by the premise that 'practitioners know the context in which they are working and have a collective fund of knowledge and practical experience' (Gayford, 2003:132). As with other forms of action research then the primacy is on the practical (Heron, 1996) and it was this practical knowledge and experience that I wanted to unveil within my research.

3.1.4.3 Triangulation

Involving semi-structured interviews and cooperative inquiry meetings within my research contributed towards methodological triangulation in that I was able to compare the data produced by the two methods (Wellington, 2000). This helped corroborate my findings. During the cooperative inquiry meetings for example, various practitioners problematised innovative environmental pedagogies because of concerns over neutrality. The follow-up one-to-one interviews enabled me to corroborate these concerns and further explore why

innovative environmental pedagogies challenged their beliefs on remaining neutral in education.

To substantiate triangulation, I had also intended to include documentary evidence by asking each practitioner to write a short narrative (Evelyn, 2004). The written narrative was to be completed at the end of the third cooperative inquiry meeting and would include accounts of each practitioners' experiences of the research and their considerations on innovative environmental pedagogies. Despite several reminders, only four practitioners provided narrative accounts and because participation in my research was voluntary I did not feel I could press others for the data. Due to the incompleteness of this data set, I did not include it within my research. I referred to this data set, though, during the semi-structured follow-up interviews with the relevant practitioners as this provided useful background data for further discussion. Additionally, I referred to the teaching resources which various practitioners provided during the course of the research. However, as with the short written narrative, not all practitioners provided examples of teaching resources and this is why I only used them as background data. I have further engaged with the process of triangulation by member-checking my data. Wellington (2000) asserts that 'triangulation can be achieved by checking with individuals that your interpretations match and accurately reflect their views and attitudes' (p.25). Thus following the semi-structured interviews and cooperative inquiry meetings I member-checked transcriptions with each research participant. I will return to the subject of member-checking in the section on trustworthiness. Next, I describe the stages in which I collected the data.

3.2 Data Collection

Data collection is the process by which various data are produced and compiled for the purpose of addressing the research questions (Locke et al, 2004). Research questions in action research strategies are generally addressed through cycles of action and reflection (Reason, 2006). Accordingly, this process of action and reflection underpinned my research. Reason (2006) explains how action research strategies can consist of either single or multiple cycles and notes that one of the 'fundamental choices for

the researchers is how many cycles to engage in' (p.197). For practical reasons, associated with the length of my research and the amount of time practitioners could invest in the study, I chose a single cycle consisting of three phases. The first phase was about reflection on pre-existing practice and involved semi-structured one-to-one interviews and cooperative inquiry meetings. The second phase was interventionist and it focused on encouraging practitioners to explore if and how they might action changes in their practice. In this phase practitioners took part in cooperative inquiry meetings. The third phase required practitioners to critically reflect on the actions they had taken during phase two. They participated in a final cooperative inquiry meeting and follow-up semi-structured interviews. I will shortly discuss each of these phases. Next, I discuss my initial preparation for data collection regarding organisational approval, sampling, informed consent procedures and piloting of semi-structured interviews.

3.2.1 Organisational approval

The focus in action research is on engendering change in practice and because of this Gayford advises that it is important 'to ensure a satisfactory level of institutional cooperation' and approval before conducting research (2003:135). In seeking approval, I approached the head of service and senior management team (consisting of three adult community education officers). During this meeting I outlined the research aim and questions, proposed methodology, time schedule, potential contribution to knowledge and details of my supervisor. Approval was given for the research and I was asked to liaise with the officer responsible for staff development. I met with the officer in August 2011 and discussed the aims and objectives of the research, data collection procedure and ethical approval. At the meeting, I was concerned that in suggesting alternative approaches to ESD, my research would be perceived as a threat rather than an opportunity. The service had already invested considerable time and effort in developing an ESD programme. I discussed my concern openly. Despite my concern, the officer was supportive of my research as it encouraged critical reflection on practice and theory and she considered this an important element of staff and curriculum development.

3.2.2 Sampling

Wellington (2000) explains that a sample is a proportion of a population selected to represent the whole. All sampling procedures are reliant on the choices, assumptions and understandings held by the researcher and so no sample can entirely represent the population from which it is taken (Wellington, 2000). For the purpose of this research I use the term 'practitioner' to define the population involved in my study because it encompasses a diverse range of job responsibilities that are held by staff in adult community education. By defining the population in this way, it allows for the porous divide between the roles of programme managers, curriculum group leaders, tutor development workers and tutors to be recognised. More often than not there is a morphing of responsibilities between each one of them and all of these roles are involved in integrating environmental pedagogies into practice.

There are two main sampling strategies, random and purposeful (Schofield, 1996). Wellington (2000) describes how random sampling is more accordant with large scale quantitative research methods that aim for objectivity. Samples are drawn randomly from the population. Contrastingly in purposeful sampling, the sample is 'hand-picked' and 'selected with a specific purpose in mind' (Denscombe, 2003:15). The choice of sampling strategy 'always involves compromise' and constraints of time, physical resource and access must be considered (Wellington, 2000:58). Regardless of these constraints however, Maykut and Morehouse (1994) stress the importance of the chosen sampling procedure being accordant with the purpose and needs of the research:

> The selection of a sampling strategy depends upon the focus of inquiry and the researcher's judgement as to which approach will yield the clearest understanding of the phenomena under study (1994:56).

My research was collaborative and required practitioners to contribute a considerable amount of time over a period of many months so that detailed in-

depth rich data could be obtained. Significant commitment was required and for this reason I chose a purposeful sampling strategy that would draw in practitioners who were interested in reflecting on and exploring the juncture between EE theory and practice. Additionally, I wanted the data to reflect, as much as possible, the views and beliefs of teaching staff from each curriculum area within the adult community education service. By doing this the data would represent a cross-section of practitioners from subject specialisms that were underpinned by different ontological and epistemological positions. Shenton (2004) suggests that involving a range of informants from different backgrounds contributes to triangulation within research. I thus focused on a *quota selection* approach within my purposeful sampling strategy (Miles and Huberman, 1994). Within a quota selection approach, major subgroups are identified and then a number of research participants are invited from each of these.

There are seven main curriculum areas within the service in which I work: 1) literacy, numeracy and functional skills, 2) information and communication technology, 3) languages, humanities and science, 4) childcare and personal development, 5) health and wellbeing, 6) arts and crafts and 7) family learning. I aimed to draw two practitioners from each curriculum group area. Each curriculum area is supported by a curriculum group leader and I initially contacted them as they worked closely with many of the staff and would be aware of practitioners who might be interested in collaborating in research. I outlined the intention of the study and asked if they could each identify two practitioners within their curriculum area who I could contact. Between them they identified twelve practitioners. Only seven practitioners however expressed an interest in collaborating in the research when I contacted them. Five others said they could not commit enough time to the research and so a further ten were identified in discussion with the curriculum group leaders and four of these said they would be interested. Additionally, one of the curriculum group leaders said they were interested in collaborating in the research and I considered this beneficial as they could potentially provide key insights (Wellington, 2000). Through this process twelve research participants were identified, although one practitioner withdrew after the first

workshop for personal reasons and I have not included her data within my research. Despite my intention to draw practitioners from a range of curriculum areas, this did not happen (Table 1. below provides details of the subject specialisms of each of the research participants). Although practitioners from ICT and child care and personal development were asked, for reasons of workload and time availability, none participated in the research.

I recognise that my sample is very small. Questions can be asked over the degree to which knowledge generated in this study is representative of staff in the adult community education service as a whole. My justification in working with a small sample rests with pragmatism (Sikes, 2000). The process of acquiring and analysing the in-depth rich data from eleven research participants was extremely lengthy and time intensive. To have included more research participants would have resulted in data overload.

Table 1. Practitioners' Biographical Details

Name	Main role	Years employed in adult community education	Subject areas	Accredited/ Non Accredited Courses	Average number of classes per term	Main types of learner that practitioners engage with when teaching
Pat	Tutor	Five	Maths and Science	Accredited and Non Accredited	Four	'Un-employed adults', 'Families with virtually no qualifications
Stevie	Tutor	Five	Science	Non Accredited	Two	'Adults generally', 'People who want to improve their confidence', 'ladies of a certain age who are widows', 'lonely people', 'families'
Robin	Tutor	Eleven	Maths and English	Accredited and Non Accredited	Three	'Lots of different groups', 'Family groups', 'adults with mental health issues', 'adults with learning difficulties', 'young offenders'
Jules	Tutor	Nine	Yoga	Non Accredited	Four	'Older learners', 'middle aged, middle class ladies', 'a few men'

George	Tutor	Three	DIY and Plumbing	Accredited and Non Accredited	Two	'Predominantly male', 'Either keen home owners/DIYers or labourers looking to extend their skills'
Val	Tutor	One	Food Hygiene and Cookery	Accredited and Non Accredited	One	'Lower income, predominantly single parent, majority unemployed'
Jo	Tutor	Twenty-two	Dry Stone Walling and Masonry	Accredited and Non Accredited	Seven	'People who want to change careers', 'We're getting a lot of learners with needs, Post-War Traumatic Stress, learners with disabilities'
Jamie	Tutor	Eight	Creative Writing	Non Accredited	Two	'Family learning workshops', 'Older learners and reminiscence groups', 'Adults who want to gain confidence in writing'
Charlie	Tutor	Five	Yoga and Health and Fitness	Non Accredited	Two	'Older ladies', 'Adults with learning difficulties'
Frances	Programme Manager and Tutor	Seven	Maths and Science	Accredited and Non Accredited	One	'Adult learners', 'Families'
Chris	Curriculum Group Leader	Three	Community Learning	N/A	N/A	N/A

3.2.3 Informed Consent

Informed consent is the procedure by which potential research participants are provided with sufficient information about the research so they can decide whether to commit to the study (Denscombe, 2003). They need to be provided with enough detail so they are aware of the aims, methods and intended outcomes of the study, as well as be informed of how the research will involve them. Informed consent is an important ethical consideration within all research as it respects and preserves a person's right to freedom and autonomy. Additionally, informed consent contributes to establishing trustworthiness within research. Within my research I was aware of the extensive commitment required by research participants and I wanted to ensure practitioners were fully informed before deciding whether to participate. Once potential research participants had been identified by

curriculum group leaders I contacted them by telephone. I outlined the focus of the study, how it was to be conducted, the potential benefits that would emerge and the extent of commitment required. Some practitioners declined to participate at this point. Others however expressed interest, although rather than asking them to commit at the end of the phone call I suggested I sent them a research information letter (Appendix A) so they would have time and space to consider the research. I then provided them with my details and asked that they contact me within two weeks if they decided to commit. When practitioners contacted me back, we agreed dates for an initial brief meeting. In this meeting I answered any questions, responded to any concerns and, if they agreed to participate, I asked them to read and sign the consent form (Appendix B). Next, we agreed a date for the first semi-structured interview.

3.2.4 Piloting

Piloting is important because this process contributes to the reliability and practicability of data collection (Wellington, 2000). Before I began phase one of the research I piloted my semi-structured interviews with two practitioners. The feedback from practitioners was positive, yet during the pilot interviews I realised that some of my questions were very similar. I therefore amalgamated these and reduced the total number from eighteen down to fifteen. Additionally, I altered a question that asked “Why do you think we should be conserving nature?” to “Do you think we should be conserving nature and if so why?” because I found the earlier version to be too leading in that it assumed practitioners wanted to conserve nature. I also noticed that when I asked the questions during the interview, I was very ‘wordy’. I prefixed and interjected a lot of my words with ‘um’ and I did not voice all my questions clearly, despite them being written down. Wellington (2000) stresses the importance of ensuring that questions are clear and unambiguous. By piloting, I was able to rehearse how I asked the questions so I was clear and focused when I began data collection. I also intended to pilot the cooperative inquiry meetings. This proved problematic however. It involved asking the practitioners who had already given up their time, to the pilot semi-structured interviews, attending a further pilot cooperative inquiry meeting. I considered

it unreasonable to ask them to contribute more of their time. Having completed the pilot, I began phase one of the research.

3.2.5 Phase One - Reflection

The first phase included both semi-structured interviews and cooperative inquiry meetings. The semi-structured interviews were conducted between January and March 2012. These initial interviews provided an opportunity for me to establish trust and develop rapport with practitioners, essential factors if I was to gain insightful and rich data during the research. The interview questions (Appendix C) were directly related to my first supplementary research question. They focused on two themes. Firstly, we discussed the meanings and values that practitioner's associated with nature. Secondly, we explored the environmental pedagogies practitioners favoured prior to the phase of intervention. During the interview I encouraged a relaxed informal environment and engaged practitioners in conversation, using the questions to focus our discussions. Although my questions were in a particular order, I did not necessarily follow this schedule. Instead I was flexible, the interview schedule guiding rather than directing the process (Clough and Nutbrown, 2007). I was conscious too that during our initial discussions I did not simply listen to what the practitioners said. Instead I focussed on unveiling assumed meanings and so further probed the subtle hints, innuendos and nuances that revealed practitioners' perceptions (Davis et al, 2009). This was challenging because it required me to first recognise these nuances before considering how to sensitively respond to the practitioners so that understandings could be refined.

Upon completion of all eleven interviews I carried out a thematic analysis of this data. This enabled me to create themes for discussion in the first cooperative inquiry meeting. I transcribed each interview and emailed practitioners copies of the transcriptions for checking. Member-checking my transcriptions was important because this process contributes to trustworthiness in research.

The first cooperative inquiry meetings took place in March 2012. Not all of the research participants could attend on the same day so I organised two meetings, one on a Tuesday (five participants) and one on a Wednesday morning (six participants). Each meeting lasted approximately two and a half hours. Cooperative inquiry is dependent on a democratic and participative process (Heron, 1996). To aid this process, at the start of the meeting we discussed and agreed guidelines for how we would conduct ourselves as a group engaged in collaborative research. We agreed that we would give each other space to talk, respect views and adhere to confidentiality (Gayford, 2003). Additionally, we discussed the aims of the research and the focus of the three cooperative inquiry meetings so that any concerns or issues could be addressed at the start. No concerns were voiced. We also agreed on a thirty-minute coffee break. I considered this an important element of the meeting because it provided informal space for practitioners' to gain an understanding and trust of one another.

The focus of this first cooperative inquiry meeting was on research question one. Following on from the initial semi-structured interviews I aimed to further explore, in a group setting, practitioners value associations with nature as well as their thoughts on environmental pedagogies. Before this meeting I identified several key areas for discussion (Appendix D) that were informed by my thematic analysis of my first data set. Importantly, within these cooperative inquiry meetings I encouraged practitioners to increasingly engage in a process of reflection and action. Thus within the one-to-one interviews many of the practitioners reported they had integrated ESD into practice. During this initial cooperative inquiry meeting I asked them to critically reflect on ESD. I introduced an example of a lesson plan (Appendix G) associated with ESD and asked practitioners in groups to discuss the strengths and limitations of this environmental pedagogy. This led to some lively debate. Some practitioners became increasingly critical, whereas others defended ESD. I considered this process invaluable because during this critically reflective phase, practitioners were beginning to ask themselves deeper questions about ESD through collective dialogue. I found this process difficult because at times practitioners wanted me to tell them what the main

strengths and issues of ESD were. Gayford (2003) experienced similar difficulty in his collaborative research, reporting that research participants wanted him to 'take the initiative and simply tell them about the main issues and current thinking about the topic' (p.135). To address this, Gayford (2003) suggests referring practitioners to various research articles and posits that 'from their reading, participants can identify for themselves what they consider to be the main aspects of the arguments and ideas involved' (p.135). I adopted a similar strategy and the readings that I referred practitioners to prompted further discussion and critical reflection[19]. On the whole this approach was welcomed by practitioners because it motivated and encouraged them toward conducting their own critical inquiries. Reason (2006) contends that fostering practitioner's capacity to engage in critical inquiry is one of the focuses of action research.

3.2.6 Phase Two - Action

This was the active interventionist phase and consisted of a second cooperative inquiry meeting that was conducted a week after the first. Again, for logistical reasons, one meeting took place on Tuesday (five participants), the other on Wednesday morning (six participants). This phase addressed the main as well as supplementary research questions two and three in that it focussed on exploring the juncture between practitioners' beliefs and experiences and innovative environmental pedagogies. This phase constituted a 'link between action research and scholarship' (Reason, 2006:196) in that I introduced examples of environmental pedagogies for consideration that were socially-critical and that encouraged learners to reflect on nature.

At the start of this meeting we briefly revisited our discussion on ESD from the previous week. I asked practitioners to summarise key strengths and limitations they had identified with ESD. Next, I explained that we would

[19] I referred practitioners to Jickling and Wals, 2008, Bonnett, 2007, Gray-Donald and Selby, 2008 and the Department for Business, Innovation and Skills (BIS) 'Sustainable Development Action Plan, 2009 – 2011'.

continue the process of critical reflection whilst considering environmental pedagogies that encouraged learners to reflect on nature and were socially-critical.

Firstly, we discussed the notion of encouraging learners to reflect on nature. I provided three examples of environmental pedagogy that emphasised this approach. One was drawn from the literature and was from an article by Weston (2004)[20]. I gave background information about this example in terms of its source, the author and the teaching scenario within which it had been used. Two were provided by research participants (Pat and Jamie) and I asked them to introduce their examples[21]. After introducing all three examples, I asked practitioners to work in small groups and to discuss the strengths and limitations of each.

I considered my main role during this process to be one of facilitator (Gayford, 2003). I posed questions that encouraged critical reflection. At times I found this really difficult. I had to listen very carefully to responses, understand their meaning and then formulate further questions that required practitioners to consider more deeply their thoughts. In addition, as with the previous week, some practitioners wanted me to tell them about the current thinking on the environmental pedagogy. I avoided doing this by again referring them to various scholarly readings[22] (Gayford, 2003). Following a coffee break, I introduced three examples of practice that emphasised a socially-critical approach. Two examples were from Clover et al (2010)[23] and one from Clover and Hall (2010)[24]. We then engaged in a similar process of critical reflection. I am aware that my selection of the examples provided for discussion was subjective. I used Heron and Reason's (1997) extended epistemology as a framework to identify the examples. I chose each example because it represented experiential, presentational, propositional and/or

[20] See appendix H.
[21] See section 4.2.4 and 4.2.5 respectively where I discuss these in detail.
[22] I referred practitioners to articles by Weston, 2004, Nicol, 2002, Bonnett, 2007, Fawcett, 2000, Thompson, 2008 and Branagan, 2005, as well as books by Clover et al, 2010, Orr, 1994 and Gray-Donald and Selby, 2008).
[23] See appendix I.
[24] See appendix J.

practical ways of knowing. I did not present any of these examples as *a priori* truths to practitioners (Jickling and Wals, 2008). Instead the examples were introduced as a way of encouraging open discussion and critical reflection on what 'might be' (Reason, 2006).

At the end of our second meeting I asked practitioners what action they might take following our discussions and their critical reflection on environmental pedagogies. I invited them to present their thoughts at a third cooperative inquiry meeting. If they decided to take no action I asked them to outline their reasons. If they decided to take action, I urged them to consider what this might look like and to bring to the meeting an example of an amended lesson(s).

3.2.7 Phase Three - Reflection

The third cooperative inquiry meeting along with a second set of semi-structured interviews formed the third and evaluative phase of the action research cycle (Reason, 2006). Gayford (2003) posits that involving practitioners in the evaluative process, by encouraging them to reflect on the actions they have taken and critically respond to the research questions posed, is crucial within action research - 'Participants need to be involved in making their own judgements about what has been achieved' (p.137). This phase provided further data for the main and supplementary research questions two and three.

The third cooperative inquiry meeting was conducted in May 2012, six weeks after the second. This was so practitioners had time to reflect on the discussions from the previous two meetings, conduct their own inquiries, follow up readings of scholarly papers and consider their action. By scheduling the meeting six weeks in advance all eleven practitioners were able to attend at the same time. I considered this an advantage. It enabled the whole group to come together. Practitioners could listen to each other's points of view and critically reflect on the various actions taken. The meeting was conducted over a four-hour period (10am–12 noon and 1.00pm–3.00pm). During this meeting each practitioner gave a ten-minute presentation that

outlined the actions they had taken. The practitioners who had taken action talked about the changes they made to their practice. They provided examples of amended lesson plans or teaching resources and considered the benefits and limitations of the changes they had made. The practitioners who had taken no action following critical reflection outlined their reasons why and reflected on their concerns over integrating innovative environmental pedagogies into practice. At the end of each presentation, responses were invited from other practitioners. These responses were very revealing because they highlighted differences in practitioners' understandings which led to further reflection and insight (Wellington, 2000). After the presentations, we considered the main research question and jointly discussed the strengths and limitations of innovative environmental pedagogies.

On completion of the cooperative inquiry meetings I went on to conduct a second set of semi-structured one-to-one interviews (Appendix K). These mainly took place during July and August 2012. Four practitioners though were willing to meet on more than one occasion and I found this invaluable when seeking further insight. The focus of discussion within each interview was different. This was because the second set of interview questions were based on exploring the actions each practitioner had taken and on specific comments and responses they made in the cooperative inquiry meetings and their previous interview(s).

All discussions during interviews and cooperative inquiry meetings were audio recorded on a digital recorder. I sought permission from the research participants prior to using the digital recorder. I considered audio recording preferential to hand-written field notes for two reasons. Firstly, there is a risk that some comments can be lost when relying on hand-written notes (Clough and Nutbrown, 2007). Secondly, audio recordings allowed me to 'attend to the direction' of our discussions rather than be caught up in the detail of writing notes (Bassey, 1999:81). Thus the flow of conversation was unhindered (Clough and Nutbrown, 2007) and I could engage in eye-to-eye contact and be more responsive to research participants (Bassey, 1999).

Considering the collaborative nature of my research, I thought this important. In addition to the digital recordings, I wrote a short reflective account immediately after each interview and cooperative inquiry meeting. I found this reflective diary of my initial impressions useful during the data analysis stage of research. Additionally, this contributed to establishing trustworthiness (Clough and Nutbrown, 2007).

I transcribed the data from each interview and cooperative inquiry immediately after each meeting. Transcribing the interviews and cooperative inquiry meetings became a lengthy and time consuming process. After typing up the conversations, I played back the recording several times and checked it for accuracy against the text. I also made note of topics of discussion, which helped me in my data analysis, which I now discuss.

3.2.8 Data Analysis

Data analysis is a 'process of bringing order to data by focusing on key themes and categories rather than merely presenting a description of the raw data' (Vulliamy and Webb, 1992:216). It involves a process of immersion, of looking and relooking, so key themes, connections and insights become apparent (Denscombe, 2003). Wellington (2000) posits that the quality of a research project depends not only on the quality of the data collected but on the interpretation of this data and the connections that are made with theory.

At the start of my analysis I read and re-read the data so I could begin to develop a degree of awareness and familiarity. I highlighted and annotated data with key observations and comments. I then began a far more detailed analysis of the data that was informed by each of my research questions. Initially I addressed data associated with supplementary research question one. I then progressed onto addressing data associated with supplementary research question two and three and the main research question. To support my analysis, I engaged a four-stage process which reflects the work of Wellington and Szczerbinski (2007). The main objective during the first stage was one of distillation of raw data. I focussed on identifying data that displayed a commonality, either in terms of recurring phrases or repeated

issues, observations or associations. Once identified, I grouped these into 'initial' themes or categories. This performed a preliminary process of open coding (Denscombe, 2003), whereby I began to separate, categorise and make sense of the data. I kept headings of categories simple, descriptive and broad. Stage two focussed on interrogating and refining these initial categories. I looked for commonalities and differences (Denscombe, 2003). This process resulted in some categories being subsumed within others. Other categories were emphasised, redefined or subdivided. This stage of critical reflection and distillation enabled me to refine categories and codes and formulate initial concepts (Wellington and Szczerbinski, 2007). Stage three focussed on a recursive process that interlinked critical reflection of categories with key literature (Wellington and Szczerbinski, 2007). Thus, I returned to the literature and further interrogated my observations and categories. I found this process of referring to the literature crucial in two ways. Firstly, it was at this stage I referred to the work of Nicol (2002) and his adaptation of Heron and Reason's (1997) extended epistemology. By doing this I was able to analyse the extent to which practitioners had integrated innovative environmental pedagogies into practice. Thus I scrutinised whether practitioners sought to engender amongst learners experiential, presentational, propositional and practical ways of knowing (Heron and Reason, 1997).

Secondly, I referred to the key literature that explores the juncture between practitioners' experiences and beliefs and the integration of innovative environmental pedagogies (Kyburz-Graber, 1999; Cotton, 2006a; Fazio and Karrow, 2013). I identified where my findings were supported by and corroborated the findings within the research literature. I was also able to identify recurring themes that were at variance with the findings in the literature. These anomalies between the data and the literature were highlighted and their grounded nature further explored later in the study (Glaser and Strauss, 1967). Stage four focussed on a process of consolidation and refinement. I revisited and scrutinised the data many times to identify if anything had been omitted during the process of critical reflection and analysis. Throughout my data analysis I kept a personal log or series of

‘memo’s to self’ (Denscombe, 2003). This was beneficial because it enabled me to capture my reflections and observations and prevent any new thinking from being lost during the period of the analysis (Denscombe, 2003). Additionally, it detailed chronologically the development of my ideas and concepts.

The deployment of this four-stage approach enabled me to progressively refine my categories, observations and conceptions and throughout the process I used both deductive and inductive analysis. The recursive process of interlinking the data with the research literature reflects a deductive approach to analysis. Contrastingly the emergence of themes that were at variance to the literature reflects analysis that is inductive and grounded in the research data (Glaser and Strauss, 1967). The outcome of my data analysis is presented in my research findings chapters under the various research questions and key themes. In the next section I will discuss my ethical considerations and how these constitute an important part of my study.

3.3 Ethics

Wellington et al (2005) posits ‘any research that involves working with people has the potential to cause damage’ (p.106). To avoid negative impact, it is important that ethical considerations are taken into account throughout the research. Sieber (1993) explains that ‘ethics has to do with the application of moral principles to prevent harming or wronging others, to promote the good, to be respectful and to be fair’ (p.14). I now outline how ethical considerations are placed at the forefront of my research and explain how I gained ethical approval for my study.

3.3.1 Ethical approval

The University of Sheffield requires students to ethically justify the practices and approaches that are to be engaged during their research. This is so sufficient consideration is given to the ethical issues that might arise as a consequence of research being conducted (University of Sheffield, 2011). Each student must complete a research ethics application form that is agreed by the student’s supervisor and approved by the University Research Ethics

Committee. My application was submitted and approved in November 2011 (see Appendix L).

3.3.2 Ethical Considerations

My ethical considerations have been informed by Denscombe's (2003) ethical framework. Denscombe proposes three principles, which are 'participants should give informed consent', 'the interests of participants should be protected' and 'researchers should avoid deception or misrepresentation'. I now outline how I adhered to each of these principles.

3.3.2.1 Participants Should Give Informed Consent

I concur with Denscombe on this principle and uphold that participant involvement in research should be voluntary. Participants must be provided with relevant information regarding the consequences of research so they can arrive at a reasoned judgement as to whether or not they participate. I adhered to this principle and in section 3.2.3 outlined the process of informed consent each practitioner went through before participating in my study.

3.3.2.2 The Interests of Participants Should Be Protected

Denscombe asserts that participants should not be adversely affected by inclusion in a research project, 'nor should there be longer term repercussions stemming from their involvement that in any sense harm the participants' (2003:136). I have taken four actions that safeguard research participants' interests. Firstly, I have considered personal safety when agreeing the time and location of meetings. Secondly, I have taken into account issues regarding confidentiality of information. I used pseudonyms to protect each practitioner's identity[25]. Additionally, all data was coded so that participants could not be traced and data was securely stored in accordance with the Data Protection Act (1998). Thirdly, I was mindful that if practitioners did make change to their practice following the interventionist stage, this change could be seen in a negative light by the adult community education service. To avoid any negative impact on the research participants therefore, I sought

[25] See table one, for list of participants.

organisational approval[26]. Fourthly, throughout the research I considered the potential power hierarchy that exists between myself and the research participants (Sikes, 2006). My role is one of area manager within the education service and because of this, practitioners may have fostered anxieties about what they said and how they conducted themselves during the research. I sought to redress these issues by informing practitioners that if they felt uncomfortable with certain questions in interviews and cooperative inquiry meetings, they could decline to respond and did not have to explain why. Additionally, they could withdraw at any point without giving reasons. I thought by doing this, practitioners would feel more in control of their position in the research. More recently I have read in Gayford (2003) how he sought to redress power issues in cooperative inquiry meetings by agreeing a rota where different participants would assume the role of chair. I did not do this because at the time of research I was unaware of this technique. In future I will be mindful and where appropriate include this approach.

3.3.2.3 Researchers Should Avoid Deception and Misrepresentation.

Denscombe (2003) suggests that researchers should be honest and transparent during their investigations. I have been careful not to deceive any party involved in my research. I have informed the adult community education service and the participating practitioners about the nature and purpose of my investigation. During the data collection I member-checked transcriptions to avoid any misrepresentation. Additionally, I encouraged research participants to discuss, comment and agree on the findings (Gayford, 2003). In the third inquiry meeting we reflected on the outcomes of the research and jointly considered the main research question. In the follow-up interviews, practitioners were encouraged to reflect further on the main research question and the initial findings. However, I have not disseminated a summary of my findings since completing the data analysis. This is because it is only now that I am at the end of my research, I feel able to provide this summary. I realise a considerable amount of time has passed since I conducted my initial research with practitioners and know I must provide a summary if I am to

[26] See section 3.2.1

ensure that participants are informed and agree with my findings and conclusions within this study. Including practitioners in discussions on the outcomes of the research contributes towards establishing trustworthiness which I now discuss.

3.3.3 Trustworthiness

Trustworthiness relates to the extent to which a research project can be considered 'academically sound' (Shenton, 2004:73). Guba (1981) proposes that researchers should take into account four criteria when justifying research trustworthiness. These are credibility; transferability; dependability and confirmability. I now consider how my research addresses these four criteria.

3.3.3.1 Credibility

This concerns the question 'Do the findings capture what is really there' (Merriam, 2001:201). Can the interpretations be trusted and are the findings in the research congruent with the phenomena under study? My research addresses this question in four ways. Firstly, in assuring credibility, Shenton advises researchers adopt research methods that are 'well established' and have been used in comparable projects (2004:64). Semi-structured interviews and cooperative inquiry meetings have both been used as methods for data collection in previous research on the integration of environmental pedagogy (Cotton, 2006, Gayford, 2003) and I have justified my reasons for choosing these in section 3.1.4. Secondly, I discussed in section 3.1.4.3 how by employing semi-structured interviews and cooperative inquiry meetings, my research has engaged in methodological triangulation. Lincoln and Guba (1985) suggest that methodological triangulation helps corroborate findings and assures credibility. Additionally, where ever possible I have referred to various supporting data in the form of teaching resources and narrative accounts produced by practitioners and these have 'provide[d] a background to and help[ed] explain the attitudes and behaviour of those in the group under scrutiny' (Shenton, 2004:66). Thirdly, my ethical considerations 'help[ed] ensure honesty' amongst the research participants (Shenton, 2004:66). This also contributes to credibility. I outlined in the previous section that practitioners were engaged in a process of informed consent and were

advised they could withdraw at any time. Thus data was only drawn from those practitioners who were 'genuinely willing' to participate in research and were 'prepared to offer data freely' (Shenton, 2004:66). In stating this, I recognise that my position as an area manager may have impacted on gaining honest responses from practitioners. I have discussed the strategies I put in place to address this concern. I also explained how I sought to check and confirm my data and findings with the practitioners throughout my research. Lincoln and Guba (1985) state that member-checking is the single most important way of substantiating credibility. Fourthly, I have had regular meetings with my supervisor which has helped me recognise my 'own biases and preferences' and enabled me to critically reflect on my research more deeply than I had done initially (Shenton, 2004:67). Additionally, I have embraced peer scrutiny and discussed my research project, methodology and findings with fellow students on the doctoral programme (Shenton, 2004).

3.3.3.2 Transferability

The notion of transferability concerns the amount to which research findings and conclusions are applicable to other situations (Lincoln and Guba, 1985). Interpretivism recognises that all research is contextually influenced and so defined (Gewirtz and Cribb, 2006). Consequently, Lincoln and Guba (1985) suggest that if transferability is to be considered, researchers must provide sufficient contextual detail about their research. I have provided detailed information about my sampling strategy, the research participants, the data collection methods and the time period within which the research has taken place.

3.3.3.3 Dependability

Dependability concerns the 'extent to which proper research practices have been followed' and closely interlinks with the notion of credibility (Shenton, 2004:71). In demonstrating dependability, researchers must provide a thorough description of the research design and operational detail as well as a reflective appraisal of the methods and methodology (Shenton, 2004). The focus in this chapter has been on providing a full explication and justification of my methodology and methods.

3.3.3.4 Confirmability

This concerns the extent to which the findings reflect the views and beliefs of the participants, rather than the researcher (Lincoln and Guba, 1985). Within my research I have taken steps to ensure practitioners' voices are privileged. I have member-checked my data. I have critically scrutinised and rechecked emerging themes during the data analysis process. I have documented my data verbatim in the research findings chapters. I have been open and transparent about my own predispositions and positionality (Miles and Huberman, 1994). Additionally, being able to demonstrate an audit trail is of crucial importance. Within this chapter I have given a 'detailed methodological description [that] enables the reader to determine how far the data and constructs emerging from it may be accepted' (Shenton, 2004:72). Thus the reader is able to consider the methods that I used to represent the voices of the research participants. To continue this process, I next critically reflect on the strengths and limitations of my methodology and methods

3.4 Strengths and Limitations

3.4.1 Action Research

Firstly, a strength in choosing action research methodology is that it accords with and compliments my theoretical framework. Secondly, action research has supported me in addressing my research aims and questions because it recognises there is a disjuncture between theory and practice (Heron 1996b). More-so it seeks to unveil the reasons for and reconcile this disjuncture. Thirdly, in seeking to generate knowledge through reflective practice, action research has enabled me to give voice (Wellington, 2000) to practitioners working within adult community education who have traditionally been marginalised in EE literature. Fourthly, in privileging practitioners' voices, action research has encouraged me to critically reflect on my own assumptions and worldviews and become open to pluralist constructions of reality 'where knowledge and the solution of problems is considered to be influenced by culture and context' (Gayford, 2003:140).

I have identified three methodological limitations. Firstly, action research involves questions of choice during the conduct of inquiry (Reason, 2006). In

my research I have made choices on the types of data collection employed, the number of cycles engaged and the examples of practice that were introduced during the period of intervention. Each choice is subjective and has ramifications for the findings and knowledge subsequently generated (Wellington, 2000). I have sought to address this concern through an ongoing process of critical reflection and by identifying, articulating and justifying each of these choices both to the research participants and the reader. Reason (2006) suggests that:

> Quality in action research will rest internally on our ability to see the choices we are making and understand their consequences; and externally on whether we articulate our standpoint and the choices we have made transparently to a wider public (p.190).

Additionally, he goes on to posit that justification for our choices in action research should 'not so much rest on [whether we are] getting it right but on [whether we are] stimulating open discussion' (ibid:199). My research has stimulated much open and frank discussion amongst research participants.

Secondly, there is a risk of becoming 'hegemonically agentic' within action research (Reason, 2006:192). Researchers can become so focused on the task in hand, that they subconsciously begin to influence fellow research participants towards achieving a set goal (Marshall, 1999). In my case I am supportive of environmental pedagogies that encourage learners to reflect on nature and are socially-critical and so had to be careful to avoid 'end gaming' and of influencing practitioners towards integrating these approaches into practice (Reason, 2006:197). To have done this would have rendered my research suboptimal. To address this risk, I constantly reminded myself that I was exploring the disjuncture between practice and theory and to do this I had to privilege practitioners' voices over my own beliefs. I reiteratively turned my gaze to critically considering whether during the action research process I had:

> …helped the development of an effective community of inquiry among participants, whether questions of power have been addressed, whether the inquiry has been emancipatory and deepened the experiential basis of understanding (Reason, 2006:193).

Thirdly, for practical reasons, I limited my action research to a single cycle. By doing this I constrained the bounds of an emerging understanding. Nicol (2013) advises that researchers need to be aware and consider the differentiated needs of research participants when conducting action research. Thoughts and actions take time to emerge and some research participants need more time than others. If I repeated this research I would engage in multiple cycles of action and reflection and I explore this consideration further in my concluding chapter.

3.4.2 Cooperative Inquiry Meetings

The first strength is that by drawing practitioners together the cooperative inquiry meetings created communicative spaces where practitioners could express themselves. Cooperative inquiry meetings gave voice to practitioners (Reason, 1994). Secondly, cooperative inquiry meetings aided the process of reflection and action. Through sharing thoughts and by engaging in critical dialogue and contestation (Sammel, 2003), practitioners were encouraged, on the one hand, to consider more deeply their own beliefs and on the other, to explore how each of them made meaning of innovative environmental pedagogies. Thus as one research participant stated:

> It's made me think about things, which is always a good thing to do. It's given me an opportunity to meet tutors from other curriculum areas and listen to what they do and how they do things and what they think about things. And to challenge the way we do things and why we do them (Robin, 21.6.12:26).

There are two limitations. Firstly, creating communicative spaces takes time and organisation (Gayford, 2003). Coordinating and organising the meetings was difficult due to the disparate times that practitioners worked. It involved initially arranging and then having to rearrange meetings when practitioners

found they could not attend. Secondly, creating cooperative inquiry meetings that are democratic, inclusive and engaging for all research participants takes considerable care (Reason, 2006). Despite research participants agreeing guidelines for interaction, I found some practitioners wanted to speak at length, whereas others required encouragement. Addressing this issue proved difficult. I knew that if I interceded too much I would be guilty of controlling or suffocating discussions. If I did not intercede at all, some of the research participants' voices would have remained marginalised. I therefore had to carefully monitor my interactions (Kristiansen and Bloch-Poulson, 2004). My research diary aided me in this process because after each meeting I wrote about and reflected on the dialogic episodes I found challenging.

3.4.3 Interviews

The first strength is that interviews provided a rich source of data within my research. During ongoing dialogue, I was able to explore deeply practitioners' values and beliefs and unveil assumed meanings (Wolcott, 2001) associated with environmental pedagogy. Secondly, the focus in the semi-structured interviews was on privileging practitioners' voices and so, like the cooperative inquiry meetings, they complimented my theoretical framework. Interviews provided space for practitioners to express themselves and speak their minds (Denscombe, 2003). Additionally, the interviews established a space where practitioners were encouraged to critically reflect on their voices and question assumed meanings. Consequently, they contributed towards a process of *conscientizao* amongst practitioners (Freire, 1972).

The main limitation was that interviews were extremely time consuming. Additionally, they produced significant quantities of data and at several times I experienced feelings of data overload (Wellington, 2000). Wellington and Szcerbinski's (2007) four-stage process was helpful in reducing the data and producing themes in my analysis. In recognition of the time taken and the quantities of data produced, however, I would consider carefully the number of practitioners I include in a study in future research.

3.5 Conclusion

My aim within this chapter has been to demonstrate transparency (Reason, 2006), not only in the choices I made during the process of inquiry but in the difficulties I experienced. By doing this, I hope the reader can make judgements about the quality of knowledge generated. I found the process of considering and then conducting my inquiry both enlightening and challenging. Although clearer to me now, I initially struggled with linking my theoretical framework to methodology. Additionally, I felt uncertain about employing action research. There were times when I was challenged by my role as facilitator in the cooperative inquiry meetings. On other occasions I felt uncertain about the examples of environmental pedagogy that I introduced to practitioners. Engaging in critical discussions with my supervisor and repeatedly returning to literature on methodology and methods enabled me to gain more confidence and understanding. Reflecting on the strengths and limitations as well as the ethical considerations and trustworthiness of my research was particularly useful in aiding me through this process. Writing my reflective diary also contributed to my emerging awareness. In the next two chapters I document my analysis of the findings.

Chapter 4: Findings Pre-Intervention

In Chapters four and five, I aim to provide a 'rich, detailed, thick description' (Firestone, 1993:18) and insight into how eleven adult community education practitioners understand, develop and make meaning of innovative environmental pedagogies. In so doing, I address the main research question: 'Can innovative environmental pedagogies be integrated into the practice of teaching in the local government adult community education service in which I work?' I intend to present my analysis in such a way that 'makes sense' of the vast amount of data derived from the research process and in a form that is meaningful to the reader (Rudestam and Newton, 2007:177). To achieve this aim, I use the three supplementary research questions as the framework for presenting the analysis:

1. What notions of nature and approaches to environmental pedagogy are supported by practitioners at the start of the research?
2. What environmental pedagogies did practitioners favour post the period of intervention?
3. Do practitioners identify problems with integrating innovative environmental pedagogies into practice and if so what might these be?

The deployment of Wellington and Szczerbinski's (2007) four stage process of data analysis enabled me to identify key recurring themes and anomalies. These themes and anomalies are discussed in appropriate sections whilst addressing each supplementary research question. In recognition of the emergent nature of my study, the analysis is presented as two separate chapters. In this chapter I analyse data relating to supplementary research question one and so report on the meanings practitioners associated with nature (4.1) and the environmental pedagogies they supported at the start of the research (4.2). I summarise the key findings in section 4.3. Chapter five addresses data relating to supplementary research questions two and three. This data arose from the interventionist stage of the research, when various innovative environmental pedagogies were introduced to participating practitioners.

4.1 Notions of Nature.

Addressing the main research question requires some investigation of the conceptual schemes that underpin practitioners' understanding of nature. Bonnett (2003) asserts that a person's 'underlying stance on nature's value will determine the kinds of knowledge and understanding to be considered relevant' (p.556). With this in mind, I am interested in teasing through practitioners' value associations with nature because this may influence the environmental pedagogies they favour. I begin section 4.1.1 by analysing practitioners' understandings of nature. Additionally, I reflect on how practitioners associate themselves with nature. Do practitioners define the natural environment as a separate physical or material entity, composed of an 'outer world' (Raine, 2003) or do they in some way perceive themselves as part of nature? Section 4.1.2 considers the value that practitioners place on nature and whether natural environments are perceived as having more of an intrinsic or instrumental value.

4.1.1 Perspectives on nature

Nature was described by practitioners in a variety of ways. Some practitioners perceived natural environments as 'wild' and removed from humans. Others reported that nature represented places of sanctuary and reflection. Some questioned whether natural environments 'existed at all'. Although not mutually exclusive, I grouped practitioners' responses into four significant themes which I discuss under the subheadings:

- Material nature
- Unspoilt nature
- Post-natural
- Moral and reflective sanctuary

4.1.1.1. Material Nature

Seven practitioners (Pat, Chris, Francis, Jules, George, Stevie and Jo) perceived nature as something that was material and could be tangibly described, using words like 'rivers', 'areas of grass', 'birds', 'trees', 'the sea' and 'water'. In this sense nature was associated with an external reality or

physical state, consisting of individual elements that were recognisable and clearly defined. For Pat, Stevie, Jules and Frances this material aspect of nature included reference to scientific paradigms and modes of understanding. Frances described nature as:

> …the physical and biological interactions. So the geology, geography, plant and animal microbiology - that sort of thing…. and atmosphere, including all those aspects and their interaction. So just those sorts of elemental nature. Yes, natural elements (9.2.12:11).

Recognizing that some practitioners defined nature by reference to scientific disciplines was important. It indicated that nature was perceived as conforming to specific empirical regularities and in many respects their conception resonated with Bonnett's (2003) sense of 'nature as cosmic order' (p.588). Nature could be captured, measured and reduced to scientific theories (Bonnett, 2003). Nature was a functioning system that was finely tuned and existed within a greater scientific order where everything 'has its place and has its rationale, has its reasons' (Jules, 9.2.12:13). Thus Pat defined nature as:

> This incredible situation where life can be sustained in a very fine tuned way. And so because of that every aspect of life, in terms of organic things, every aspect of inorganic things, is absolutely patterned and finely tuned (2.2.12:7).

Within conceptions of 'material nature' practitioners said they felt both connected and separate from nature and referenced this in two ways. Firstly, four practitioners referred to notions of Darwinian Phylogeny (Bonnett, 2003), citing connection through evolutionary relationships and by common descent from other beings:

> There's a connection and we obviously are part of the natural world because we didn't evolve ourselves you know, we didn't create, we're not part of our own construction (George, 10.2.12:17).

Separation was referenced by practitioners positing that humans had evolved away from nature:

> In the way society is these days I would say we were quite separate. Whereas in years gone by we would have been far more integrated into our environment. Back in the hunter gatherer days or even the days of the agricultural revolution where we depended upon the land for our livelihood now we seem to be separate from it and destroying it in the process (Stevie, 9.2.12:8).

This evolving away was understood more as a social or perceptual evolution and associated with people living in an 'affluent western economy' (Chris, 1.2.12:17), rather than a physical change in human anatomy. Both Stevie and Chris described how technological innovation as well as an increase in urbanisation had caused people to become distanced from nature and so 'fairly disconnected in terms of perceptions' (Chris, 1.2.12:17).

Secondly, notions of connection and separation were referenced through ecological interdependence. Practitioners perceived connection in terms of everything contributing to a greater order through the interdependent existence of organisms. Stevie said:

> We got medicines from the natural world, our food, much of our clothing, our building materials, the air we breathe - so if we as individuals thought of it in those terms, we are as one but we seem to see ourselves as separate behind an artificial barrier, like a building (9.2.12:9).

This connection however was referenced as a non-reciprocal relationship. In the quote above Stevie refers to the benefits 'we' (humans) receive from the 'natural world'. Similarly, Jules reflected on 'how critical plants and trees are to us' (9.2.12:13). Interconnection was associated with the usefulness of nature to human kind. Additionally, this notion of usefulness included expressions of separation. The natural environment was something that could be harnessed to provide resources for humans to create their own worlds that existed behind 'an artificial barrier' (Stevie, 9.2.12:9).

4.1.2.2 Unspoilt Nature

Five practitioners referred to nature as representing 'wild' (Charlie, 3.2.12:9) places that were the domain of 'wild life' (Jules, 9.2.12:11) where the 'forces of nature' (Chris, 1.2.12:9) could be experienced. Within this conception, nature was described as 'unspoilt' (Charlie, 3.2.12:10). It was virgin nature, untouched by human kind (Griffin, 2011). It was nature that had 'not been interfered with' by humans (Jules, 9.2.12:11). I consider this conception of nature, by practitioners, to reflect Bonnett's (2003) notion of 'nature as "wilderness", as wild, elemental and quintessentially beyond human control' (p.589). Within this conception, practitioners positioned themselves as disconnected or apart from nature. Nature was understood as something that was non-human. It had not been shaped by humans and had an origin and capacity for continued existence independent of human purpose and culture, Stevie for example referring to nature as 'everything that can function on its own without our interference' (9.2.12:8). Moreover, within this conception, practitioners positioned nature within an opposing context to human kind and 'man'. George described nature as:

> …anything that was there before man started messing about …so it's anything that we haven't really constructed. That is what I would consider to be natural (10.2.12:16).

Later, George went on to state 'we are encroaching onto the natural world with our construction and the natural world creeps back in.' (10.2.12:17). George was implying that people were distinct from and foreign to nature. Within this oppositional process of defining nature, humans were posited in a negative light. It was human kind that was 'messing about' with natural environments.

4.1.2.3 Post-Natural

Five practitioners questioned whether natural environments existed at all, Frances explaining: 'essentially we live in an environment that is completely man-made in many ways.' (9.2.12:10). Similarly, Robin commented:

> The natural environment … I find this quite a hard question because nothing really is natural. Even if you go up onto the High Peak, you've got bogs and marshes up there because man has in the dim and distant dug up all the trees. So what is a natural environment? The way that we live here has affected everything. It's affected our entire landscape… So the natural environment isn't actually very natural is it? … I mean even if you talk about the North Pole - how natural is that because of what we're doing is affecting the ice up there… everything we do impacts on everything globally (6.3.12:6).

Both Francis and Robin's comments call to mind Gidden's (1994) premise that 'nature no longer exists' (p.11) in that they were inferring that human activity pervades everywhere, both directly and indirectly. On reflection I consider this post-natural theme to bear resemblance to the unspoilt nature theme (see above) because practitioners constructed representations of nature through a process of opposition and contrast with humans. Practitioners made the assumption that if a human element was contained then a phenomena could not be deemed natural. The distinction in this construct however is that the ideal of a natural world apart, a virgin nature represented by notions of purity and independence and untouched by humans had been corrupted. What potentially remained in practitioners' minds was a 'post-natural world' (Mckibben, 2003:62) an irredeemably violated nature. Perceiving natural environments as non-existent has important implications. It indicates that in the minds of practitioners there has been a shift in power in that humans are now modifiers of all environments (Bonnett, 2003), whereby as Mckibben (2003) states: 'We are in charge now, like it or not. As a species we are as gods – our reach global' (p.84).

4.1.2.4 Moral and Reflective Sanctuary

Bonnett (2003) makes reference to nature as sanctuary in his sense of 'nature as wilderness' (p.589). In my research, three practitioners suggested that natural environments provided a restorative value and represented a place of sanctuary and absolution from the challenges and complexities of life:

> It's where my emotions can be put in perspective so that if I'm angry or upset and I'm outdoors they are then tempered by and

> rebalanced by either the fact there's a howling gale blowing or there's a beautiful sunny day or it's a starlit night or whatever and it puts what I'm feeling into perspective and it calms it or it releases it in some way (Chris, 1.2.12:9).

Nature constituted a place where practitioners could reflect on their lives and put things back into order that had become adrift, Jules noting 'you come right back down and you think life's OK.' (9.2.12:14). 'Bathing in the sea' (Jules), 'walking in the woods' (Frances) or 'staring out at a starlit night' (Chris) enabled practitioners to temper and rebalance their lives. Nature in this sense was not a material soulless place. Nature was bestowed with a moral influence and represented places of virtue where the human soul could be put in order (Bonnett, 2003).

Within this sense, practitioners on the one hand perceived themselves as connected to or 'as one' with nature. Frances stated:

> I go out for a long walk. You really feel at one with the fields or you walk through the woods and you're looking up through the canopy and you've got a sense of all the things going on around you. And you feel you can be a part of that (9.2.12:15).

There was however also a notion of separation imbibed in this representation of nature, Frances going on to state '… but at the end of the day I'm going home. I'm removing myself from that environment' (9.2.12:15). Nature as moral sanctuary then was a place only to be visited, the reference to returning 'home', at the end of the day to a human world, implying a degree of separation from nature (Bonnett, 2003).

4.1.2.5 Summarising Perspectives on Nature

Two observations can be made regarding practitioners' conceptions of nature. Firstly, practitioners' understanding of nature was highly complex. Despite this complexity however, practitioners conceived themselves more disconnected than connected with nature. This was particularly prevalent within the senses of 'unspoilt nature' and 'post-natural' yet there were also

references to separation in practitioners' expression of 'material nature' and 'moral and reflective sanctuary'. Within 'material nature' practitioners perceived themselves as having evolved away from nature. Within 'moral and reflective sanctuary', natural environments were conceived as places to be visited rather than being inextricably intertwined with human dwelling. This emphasis on separation has implications for the main research question. If nature is perceived as separate then innovative environmental pedagogies, that place human kind as an integral part of natural communities, might represent an alien concept for some practitioners (Barrat, 2011). Innovative environmental pedagogies underpinned by a relational ontology might be considered problematic.

Secondly, two of the four perspectives ('unspoilt nature' and 'post-natural') were defined or reified through a process of opposition. Thus for example in 'unspoilt nature' (section 4.1.2.2) George defined 'natural' by referencing an oppositional construct of 'man'. In this sense then a form of 'dualism' (Thompson, 2008,) was being expressed by practitioners. Importantly, Thompson (2008) posits that there is an 'up-down relationship' inherent within dualistic thought. During the process of constructing definitions, one phenomenon is ascribed greater value than the other, within which there is a dominator and a subjugated. Evidence of a dominator and subjugated relationship can be cited in practitioners' construct of 'post-natural' (section 4.1.2.3) where humans were positioned as modifiers of all environments. Humans were perceived as the ones in control and were associated with the 'up value' (Thompson, 2008). Defining nature in this way has significance for the main research question. In the literature review I explained how innovative environmental pedagogies were underpinned by conceptions of mutuality and equality between species. If practitioners contrastingly associated a greater value to humans than other species, then it is likely they will consider innovative environmental pedagogies problematic. It is to a deeper analysis of practitioners' value associations with nature that I now turn.

4.1.3 Nature's Value

In this section I explore whether practitioners predominantly associate nature with an intrinsic or instrumental value. Bai and Scutt (2009) define intrinsic value as:

> Valuing something not for its utility or instrumental value to us, but for its own existential integrity and legitimacy of right to *be for itself* (sic) (p.95).

Based on this, I understand intrinsic value to represent the essential worth of a phenomenon. It is the value that is central to a thing's very existence that a phenomenon possesses 'for its own sake' (Bonnett, 2003:630). In this sense, the value conferred is independent of whether or not the phenomenon satisfies the needs of a valuer. Contrastingly I understand 'instrumental value' to be a value that a phenomenon possesses in contributing to the proliferation of another. Value is not placed on a phenomenon for its own sake (Bonnett, 2003). Instead, value is perceived as being derived by and dependent upon satisfying the needs of a valuer. There is a hierarchical value association implied, a valuer ascribing value to a phenomenon based on the extent to which worth or usefulness is derived (Bai and Scutt, 2009).

Within my research, practitioners overwhelmingly associated an instrumental rather than intrinsic value to nature. References to an instrumental value were particularly pronounced during discussions themed around 'should we conserve nature and if so why?' Ten practitioners exclusively related their concern to the impact a loss of a natural phenomenon would have on the human condition. References to nature being preserved for nature's own sake were noticeably absent from practitioners' responses. Two themes became apparent during discussions around 'should we conserve nature and if so why?'

The first related to notions of human morality and ethic. Two practitioners (George and Francis) posited that preserving nature was important because this affirms to humans that they possess the capacity to be compassionate

towards other beings. Instrumental value was referenced through the notion that respect and fair treatment of nature enabled people to feel better. It was a measure of a person's 'goodness', George commenting:

> I think it also matters in a reflection of who we are as a people and our attitude. It's not healthy for us to not give a shit... and the creep starts with not caring about a few insects in Madagascar and ends up with not caring about people who live in bungalows … so I think there's an attitude thing, you know... without getting moralistic, something about the goodness of people (10.2.12:15).

To some degree a deontological environmental ethic was being expressed that has resonance with the ethics of Immanuel Kant (1949). Practitioners perceived it unreasonable to be cruel or uncaring because maltreatment of other species would denigrate the people who did this (Stables, 2007). Bonnett (2003) suggests that although a moral ethic potentially leads to an enhanced sense of nature's worth, there are issues with this position, particularly when a conflict of interest is realized. With regard to the quote above, one might question what would happen if the needs of insects impacted on the interests of people.

The second theme related to how nature contributes to human well-being. This theme was manifested in two ways. Firstly, eight practitioners reiterated the importance of ecological dependence and emphasised how natural systems contribute towards environmental equilibrium. Practitioners suggested that a loss of natural phenomenon or species might affect the balance of systems as a whole, George stating:

> People say they won't miss insects but my understanding is that without insects we'd all be dead because of everything that goes on in the background with what they do and how their actions affect the balance of systems (10.2.12:15).

For some practitioners, discussions on changes to environmental equilibrium were referenced within a context of 'climate change' (Chris, 1.2.12:14), 'global warming' (Robin, 6.3.12:9) or 'rising sea levels' (Jamie, 3.2.12:33). Concerns

regarding changes to environmental equilibrium, however, were repeatedly referenced in terms of how this might affect the human condition. Negative impacts on nature were not mentioned. Jamie stating:

> We're living the lives we want, flying off everywhere and then there's all the rising sea levels and then you've got the people in the developing world who, are losing their land through the rising sea levels through no fault of their own (3.2.12:34).

Secondly, the theme of nature contributing to human well-being was referenced in relation to 'natural resources' (Chris, 1.2.12:14). Natural environments were conceived as a source of health benefits for humans. Three practitioners (Jamie, Chris and Stevie) posited that if nature was degraded, certain species or elements might be lost that potentially contribute to human well-being, Chris stating:

> We're losing however many acres of rain forest and we don't have a clue what species are in there and how useful they might be (1.2.12:15).

No direct concern was expressed regarding the loss of natural phenomenon for its own intrinsic worth. Instead, thoughts focussed on humans being disadvantaged through losing 'a positive benefit we may never find out about' (Stevie, 9.2.12:9). There was intimation of an instrumental worth of nature. Value was perceived in a way of contributing to human condition or health. This understanding may well carry with it a high regard for nature for reasons of human interest. It also positions nature as extremely vulnerable and fragile on those occasions when a use cannot be identified (Bonnett, 2003).

In this section I have reported that practitioners overwhelmingly assign an instrumental value to nature. By referencing the value of nature to human relevance, practitioners are indicating that human beings are the central and most significant species on planet earth. Humans are the ones that matter and are of prime importance. The assumption that nature is predominantly associated with an instrumental value has implications for my main research

question. I am mindful of Bonnett's (2003) assertion that a person's underlying stance on nature's value will influence the knowledge and understanding considered relevant in environmental pedagogy. In associating an instrumental value with nature, practitioners might correspondingly consider innovative environmental pedagogies that champion an intrinsic value association with nature to be inappropriate. In the next section, I discuss the environmental pedagogies that practitioners favoured prior to the point of intervention.

4.2 Environmental Pedagogies

This analysis of practitioners' existing perspectives on environmental pedagogy is important for two reasons. Firstly, I wanted to see whether practitioners uncritically integrated ESD into their practice and so potentially supported approaches that privileged anthropocentric values, individual action and/or an economic imperative. If they did, this would indicate that at the start of my research there is a rhetoric-reality gap between the innovative environmental pedagogies advocated by theorists and the realities of teaching in a local government adult community education service. Secondly, I wanted to explore the possibility that practitioners already integrated innovative environmental pedagogies within their practice. If this was the case, it was important to identify, share and discuss amongst practitioners the nature of their innovations. In this section I apply Heron and Reason's (1997) extended epistemology as my analytical framework when considering whether practitioners already involved innovative environmental pedagogies within their practice.

During my research, five key themes emerged. These are discussed under the subheadings of:

- Cross-curricularity
- Information drop
- Resource focus
- Analysis and the outdoors
- Sensory writing

4.2.1 Cross-curricularity

There was consensus amongst practitioners that EE should be cross-curricular or 'embedded' (Chris, 1.2.12:19). George stated:

> If you want to maximise the influence of the issue, then you have to work it into all courses. You have to make it part of the fabric of what you do as educators (10.2.12:11).

I considered these references to 'embedded' and 'work it into all courses' important because it indicated that practitioners were willing to integrate EE into their practice. I soon realised however, that although practitioners supported cross-curricular approaches, their interpretations of 'embedded' learning varied. For some practitioners, conceptions of 'embedded' were superficial and relied predominantly on the conveying of messages relating to energy efficiency and wise use of resources. As I will explicate within sections 4.2.2 (Information Drop) and 4.2.3 (Resource Focus), this superficial conception of integration did not include references to innovation in EE practice. For other practitioners, notions of nature were deeply contextualised within the subject areas they taught, whereby learners were provided with opportunities to re-vision nature (Clover et al 2010), and 'break from the already assumed' relationships with nature (Clover and Hall, 2010:164). I discuss these approaches in section 4.2.4 (Analysis and the Outdoors) and 4.2.5 (Sensory Writing).

4.2.2 Information Drop

Six practitioners reported they integrated EE into their subject area by talking about or passing information on to the learner. Practitioners' focus was on energy efficiency and recycling practices. Some practitioners (George, Jules and Jo), said they made limited reference to recycling and energy efficiency practices whilst teaching. They only mentioned or 'talked about' (George, 10.2.12:19) this theme at appropriate times. Jules reported 'I just drop things in now and again when we are having a little quiet time' (9.2.12:18). Other practitioners (Val, Francis and Robin) described how they regularly made reference to recycling and energy efficiency practices within their subject

area. Robin noting that 'it's something you drip feed in' (6.3.12:17) and Val explained:

> I can quite nicely drip in about packaging, recycling, re-using, about the air miles that they use for food, about supporting local businesses, about growing your own food (5.3.12:13).

Initially I decided this approach demonstrated that practitioners valued transmissive pedagogical practices. This was because of the emphasis they placed on conveying information to the learner. Practitioners seemed more focussed on pedagogical processes that stressed the content of information rather than the experience of learning. They referenced how they would 'drip feed' or 'drop in' information and intimated that the information was only passed or transmitted in one direction. Within this, practitioners occupied a role of knowledge provider, the learners being the receivers of information. I took this to mean that practitioners favoured a 'banking concept of education' (Freire, 1970:58), a linear and transmissive approach that positions the teacher as the epistemological authority and the learners as the uncritical receptacle[27]. Importantly, practitioners asserted that after conveying information, learners would respond differently. They would act on the information practitioners provided and change their attitudes and behaviours. Learners would take *individual* responsibility for their actions and recycle, turn lights off, use less paper and burn less fossil fuel. Thus Val explained that:

> The more people you tell, the theory behind it is just that little bit of pang of conscience. Just makes people think differently. Some people would never have considered throwing something away as having an impact on somebody somewhere. And it does and it's just as simple as that (5.3.12:11).

Although I initially thought that practitioners preferred transmissive pedagogical processes that focussed on individual behavioural change, I was also aware of a complexity. This related to the difference I observed when practitioners described the pedagogical approaches they involved when

[27]See section 2.2.3.

teaching their subject specialism. Thus many of the practitioners (Francis, George, Jules, Jo and Robin) who referenced transmissive approaches when integrating EE into teaching, contrastingly referred to the importance of privileging learner knowledge and experience when discussing teaching practice within their subject area. Jules commenting that:

> When you're teaching [yoga] you learn from your students as much as they learn from you, particularly [with] the older ones who have got a lot more life experience and that's good (9.2.12:29).

Jules went on to explain how her yoga teaching depended on a multifaceted dialogic process, where learners were encouraged to contribute their personal experiences and versions of truth. Learners would discuss and demonstrate the poses or asanas that they had learnt whilst attending other classes or though their wider life experiences. Whilst reflecting on the multi-directional nature of learning, Jules commented 'so it's coming from lots of places - I'm like a sponge.' (9.2.12:29). By using the word sponge, Jules was intimating she was absorbing the knowledge from learners as much as they were from her. Moreover, during our discussions she repeatedly positioned herself as a co-learner rather than teacher and voiced an accordance to practices that foreground learner knowledge and experience. There was complexity being demonstrated then. On the one hand, Jules referred to transmissive teaching styles when discussing the integration of environmental pedagogies into practice. On the other, she emphasised the importance of learner experience when teaching yoga.

In view of the main research question, I was interested in identifying why this complexity existed. I considered various reasons during this early stage of my research. I thought one explanation could be attributed to the influence of practitioners' beliefs. Within the research literature Cotton (2006a) reports that teachers' beliefs impact significantly on the environmental pedagogies adopted. Similarly, within my study, I considered it possible that practitioners' deeply held normative values might exact an influence. In section 4.3 I reported that practitioners privileged the human imperative over nature. To

meet the expressed needs of learners, practitioners may conceivably have marginalized environmental considerations within their teaching. I thought a second explanation might relate to external pressures that serve to constrain the extent to which practitioners integrate EE into teaching. Cotton (2006a), comments on how 'external examinations, parental pressures and school structure' impact on teachers' pedagogical approaches (p.78). Fazio and Karrow (2013) and Grace and Sharp (2000) also report on institutional influences[28]. Additionally, within the wider literature, researchers have reported on the influence performance measures exact on teachers (Ball, 1998, Avis, 2003, Coffield and Edwards, 2009). Jo, George and Robin all taught accredited courses and needed to comply with their organisations' success and achievement rate targets. Rather than risking achievement targets, they may have decided they were only able to 'talk', 'point out' or 'explain' about environmental matters at appropriate times. There may have also been other reasons for the complexity and at this stage of the research I was aware that there was a need for further discussion and exploration. This was carried out during the active interventionist phase of the research and the outcomes of these discussions are included in section 5.1 and 5.2.

4.2.3 Resource Focus

In this section I analyse the significance of practitioners focussing on resource usage when integrating EE into practice. Practitioners referenced two processes when discussing how they contextualised matters relating to resource usage in their teaching practice. The first was associated with talking about recycling and energy efficiency practices whilst teaching and was referenced in the last section. The second process was not so much to do with their actual teaching but related to the use of resources in the servicing, organisation and maintenance of their courses. I will briefly discuss this second process before considering the significance of practitioners focussing on resource usage.

[28] See section 2.3.1.

Seven practitioners (Val, George, Robin, Chris, Charlie, Jo and Jules) posited that by recycling or reducing physical resource use they would exhibit good practice towards the environment. They suggested this was not only 'more cost effective' and 'would be helpful to the environment' (Val, 5.3.12:13) but represented an implicit process of 'awareness raising' (Chris, 1.2.12:26). In this sense the very act of saving energy and recycling constituted a way of integrating EE into practice. Practitioners cited four ways they engaged energy efficiency and recycling practices. The first related to the reduction of energy consumption within buildings used whilst teaching. Chris for example drew attention to raising 'awareness of environmentalism in the ways in which we use our buildings, [and] the consumption within those buildings' (1.2.12:26) and Robin noted the importance of 'turning off lights when you go out of the room' (6.3.12:13). The second was connected with the physical location of courses. Practitioners suggested relocating classes so that most learners could walk or cycle rather than drive to their lesson:

> Things like putting on courses where people are able to walk, where they're in local areas, where they're accessible through public transport so that you're minimising the impact of that class on the environment (George, 10.2.12:25).

The third was associated with the teaching resources used in class. In particular this related to reducing the amount of paper used. Fourthly, practitioners commented on the sourcing of teaching resources. They emphasised procurement from local providers and using recycled materials. Chris noted:

> If you are a tutor who is leading a particular course it's to do with the resources that you require to deliver the course, where they're sourced from, what their lifetime impact is or how re-useable they are or whether they're recycled (1.2.12:26).

Many practitioners suggested that the application of technological solutions within their practice contributed significantly towards energy efficiency. They emphasised the value of computer technology. Jo for example discussed the

use of ‘webinars’ in her practice and suggested that by conducting meetings on the internet, she was now travelling less, noting ‘…it saves time, saves fuel, saves the environment.’ (13.2.12:21). Similarly, George explained the benefits of:

> …doing handouts on PDF’s [portable document files] that you send to people on the email instead of printing everything, using a whiteboard instead of a flipchart so you don’t waste paper (10.2.12:25).

This emphasis on recycling, energy efficiency and technological innovation, resonates strongly with approaches advocated within ESD (see section 1.1.1 and 1.1.2). Practitioners were framing EE within a context that emphasised the ‘wise use’ of earth’s resources (Pinchot, 2004:17). Indeed, practitioners’ language was very much dominated by words and phrases like ‘resources’, ‘not wasteful’, ‘materials’, ‘save time’, ‘save fuel’, ‘saves heating’ and ‘cost effective’. The messages inherent within their language had more to do with encouraging economic efficiency than developing an understanding of nature. For three practitioners, the reference to economic efficiency extended to an association between EE and the supporting of local businesses. Thus whilst discussing EE approaches, Chris emphasised the importance of:

> …taking it back into a sustainability rather than just a natural environment point of view. You know, the relationships that are built with local business in our delivery of courses, where you get materials from or if you’re getting somebody to come in and speak to you, where they work for, who they are and making our learning offer relevant to local businesses (1.2.12:26).

There was a blurring of meaning (Jickling and Wals, 2008) that was taking place in conceptions of EE, discussions morphing from education about the environment and nature into references to business and maximising efficiency. In privileging economic efficiency and resource effectiveness, practitioners were by default silencing other messages and meanings. There is a question here then of *whose knowledge* practitioners were foregrounding

and *which knowledge* was veiled (Apple, 1981). This has two implications for the main research question.

Firstly, the emphasis on resource usage implicitly foregrounds the human imperative. I state this because there was a focus on discussing approaches that encouraged learners to conserve energy resources that serviced human need. Additionally, there were references to economic efficiency and the supporting of local businesses. Contrastingly, there were very limited references made to nature within the responses provided by the practitioners. Developing a close acquaintance (Bonnett, 2003) with nature was not something that was in the mindset of the practitioners. In consideration of this, I realised there was a need for sensitive discussion about innovative environmental pedagogies that aimed to integrate experiential and presentational ways of knowing nature into practice, as these approaches might appear inappropriate to practitioners. In particular I felt this consideration poignant because of the earlier findings in section 4.1.3 where I reported that practitioners demonstrated a strong allegiance to anthropocentric perceptions that privileged human need over nature.

The second relates to the consideration of criticality within EE. During discussions, practitioners made no reference to approaches that asked learners to examine social and political reasons for environmental damage. Thus, although practitioners talked to learners about walking rather than driving to courses, no mention was made of approaches that encouraged a critical evaluation of transport systems and consideration of the impacts on local environments. I sensed during our early discussions, though, that this absence of criticality was not due to practitioners outwardly working to steer learners away from questioning the structure of society. Instead it was more to do with practitioners' concerns regarding the 'politicisation' (George, 16.3.12:10) of education. Thus in workshop one, Robin commented that she felt confident or safe in discussing matters relating to the use of resources, noting that 'things like recycling and not wasting things, I see that as quite non-political and I'm comfortable with that sort of thing', (8.3.12:12). She went onto note, however, that 'when it gets onto a higher level' (8.3.12:12), she

would question whether she was 'being too political' (8.3.12:12). Although these concerns were only hinted at, they provided an early indication within the research that the integration of propositional and practical ways of knowing (Heron and Reason, 1997), that encouraged learners to critically reflect on normative cultural constructs and to take action in support of nature, would be perceived as problematic by practitioners. These initial references drew attention to a need for further discussion with practitioners regarding their conceptions of what they perceived as 'too political' in EE. These discussions took place in workshop two and three and the follow-up interviews and the findings are presented in section 5.2.2.

4.2.4 Analysis and the Outdoors

In the previous section I reported that most practitioners made very limited reference to environmental pedagogies that encourage learners to reflect on nature and that are socially-critical. There were, though, three practitioners who included approaches that provided learners with opportunities to reflect on nature. Two practitioners, Pat and Stevie, did this through scientific analysis. This theme is discussed next. I focus on analysing only one of these examples (Pat's) as this will enable me to add depth and provide further insight to my interpretation. The third practitioner contextualised notions of nature within a creative writing course and I discuss her approach in section 4.2.5

During our initial interview, Pat explained that he taught a variety of science and maths classes. Some focussed on family learning, where parents and children would learn together. Others were only for adults and ranged from entry level to level two. Pat followed a syllabus for each course but within this was keen to engender a greater affinity for nature. He saw his role as a practitioner in 'opening people's horizons and views, widening their experience and helping them to enjoy the whole of what our planet has to give' (2.2.12:8). Pat contextualised environmental learning within many classes he taught. He gave an example of a lesson from a family learning maths class. In this lesson, Pat included opportunities for learners to extend

their awareness and understanding of nature. To do this he asked learners to identify examples in nature that conformed to certain proportions or mathematical rules, stating:

> I give them a whole lesson developing proportion in different ways and show them how absolutely miraculously proportions are found in nature and how you can actually measure natural things and see mathematical equations. And they are absolutely thrilled they think 'we never knew this' …. They can do drawings for instance constructing rectangles that a snail can fit into and then you discover the same proportions are for a sunflower. So that's the sort of stuff you can do in mathematics (2.2.12:19).

In particular Pat asked learners to analyse how many elements within nature complied with a mathematical rule termed the 'golden ratio'. This ratio is represented by the Greek letter 'phi', and Pat explained that it is manifested in nature in the form of a spiral. Pat described how learners were asked to identify evidence of the golden ratio within nature during a visit to a local woodland area:

> You go to trees and you look at the leaves on the tree and I say to them [learners] 'if you were to look on the top of the plant looking down would you see the leaves underneath each other would they grow underneath each other - why not?' So they [learners] talk about the light. …Now surely there must be an optimum angle to get every leaf to catch as much light as possible, so let's measure that angle against the other angle of the 360 degrees. You are bringing in degrees, protractors, even little children can look at their parents doing it and see what they are doing and get the idea even if they haven't done angles at schools. Then you divide with a calculator - 137.5 by 222.5 and you come out with 0.6 - again the 'golden ratio'. So for every living species of tree or plant, to catch the maximum light, they organise the leaves in the same ratio as snails, shells, sunflower seeds and pine cones. Isn't this incredible? So that would be an example of using proportions, ratio in mathematics - to see it in reality and see those patterns in our own environment (2.2.12:22).

Arguably, Pat's approach could be interpreted as encouraging a conception of nature as one that complies with 'blind universal laws' (Bonnet, 2007:714). The trees in the woodland that Pat and the learners visited were being

reduced to a mathematical ratio, and their particularity and individuality was being veiled by learners applying mathematical constructs and laws. Learners were asked to prove the existence of the golden ratio and define and generalise nature through the application of mathematical constructs. I considered Pat's approach important for two reasons however.

Firstly, he emphasised the value of outdoor experience in contributing to learning about nature, commenting that 'It is one thing to teach it in the classroom, another thing is to go for a little walk and show it happening and the latter is the best' (2.2.12:10). This emphasis on outdoor learning indicates that Pat was engendering amongst learners a sense of experiential knowing (Heron and Reason, 1997). He was encouraging a 'kind of first-hand knowledge of nature' (Orr, 1994:52) through 'direct face to face encounters' (Reason, 1998:44):

> If you can experience something first-hand and in a practical way, it's far better than the theory. So to see things, to design a little outdoor experience, to learn these things and to see them actually happening is far better (Pat, 2.2.12:10).

Pat explained he was trying to convey an understanding of the 'awesome aspect' (2.2.12:22) of nature by engaging learners in direct face-to-face encounters and by asking them to explore the complexity, integrity and interconnections with nature. He was engendering amongst learners a deeper sense of awe and reverence towards nature in terms of 'knowing through empathy and resonance' (Reason, 1998:44)

Secondly, Pat encouraged amongst learners a sense of presentational knowing (Heron and Reason, 1997). Learners were asked to reflect on their first-hand encounters with nature, internalise their experiences and explore representations of their initial impressions through artistic interpretation. During the visit to the local woodland, learners collected leaves, petals, pine needles and grasses and from these created their own artistic representations

of the golden ratio in spiral form. Next, they were asked to present these images to the rest of their group. Pat was not only developing the notion of acquaintance with natural phenomenon through initial face-to-face encounter but, was also encouraging the integration of artistic impression that enabled a more intimate and expressive knowledge of nature to be experienced where 'thought is taken to include feelings' (Horwood, 1991:23).

Pat's approach has significance for the main research question. Firstly, his approach illustrates that there were already examples of practice within the adult community education service where I worked that sought to engender amongst learners two (experiential and presentational) of Heron and Reason's (1997) four epistemological ways of knowing. Within a maths setting, he was actively encouraging learners to engage, express their feelings and get closer by acquaintance with nature (Bonnett, 2003). Secondly, Pat was willing to share his example of practice with other colleagues. Having this example of practice, that integrated experiential and presentational ways of knowing nature within a maths class, proved invaluable during the period of intervention. It could be discussed and reflected upon by other practitioners and the relevance to other learning settings considered.

4.2.5 Sensory Writing

Jamie also involved approaches within her teaching that sought to develop amongst learners a sense of experiential and presentational knowing (Heron and Reason 1997). Her approach represents a separate theme to Pat's though, because of the emphasis she placed on coming to know nature through reflection on multiple-sensory experience. Jamie taught creative writing and she described how in one of these courses (Writing Inspired by Your Surroundings), she asks learners to explore their environment through the use of senses other than sight. To do this, she initially invites learners to 'walk around outside and look at the different buildings and the natural environment' (3.2.12:31). Depending on the location of the course this would include a visit to woodlands, open spaces or historic buildings. During these phases of exploration, she asks learners to close their eyes, to stand or sit

quietly and experience in another way their immediate environment. Next, she invites learners to write stories about their experiences and to recite these to the rest of their learning group. Jamie explained that, by engaging learners in this activity, she was encouraging other senses to come to the fore, noting that:

> …it's very easy to go to a place and think, 'Oh yeah,' whereas when you say to them 'what sounds can you hear?', 'what can you smell?' 'What does the place feel like?' (3.2.12:26).

Additionally, Jamie described a technique which she uses to encourage learners to critically reflect on the senses they mainly use when exploring an environment:

> I get them to describe something and then I get them to take different coloured pens and underline the different senses they've used. So it's sound, taste, touch and smell. And a lot of them they'll just tend to have one colour. 'Cause they're all in different colours, it's very easy to see the sense they've most used and, 'Oh, I've only used the sense of sight.' I said, 'Yes, I was hoping you'd say...' because that's what people tend to write about - what they can see. But obviously if you're, sitting here and if all of your other senses were blocked out it'd be quite strange. So I get them to try and think about more than what you see around you (3.2.12:27).

Jamie commented that her main focus was on progressing learners to a position where they could begin to sense realities and phenomena that at other times may have remained unexplored. She posited how 'it's very easy to ignore the little things' (3.2.12:27), the faint smell of summered herbs, or the sound of jewelled water washing over a flooded bank. Jamie suggested that by encouraging critical reflection on sense, a door is opened through which learners can experience and describe their environments in different ways, 'It opens their [learners] eyes to new ways of describing things – and it does make them more aware' (3.2.12:30).

Like Pat, Jamie was encouraging learners to develop experiential knowledge through 'actually meeting and feeling the presence' of a natural phenomenon

(Heron, 1996a:33). Similarly, she encouraged learners to develop presentational knowledge (Heron and Reason, 1997) by asking them to create stories relating to their sensed experiences and then to share these with other members of their learning group. What is particularly important about Jamie's approach is that learners were asked to critically reflect on their own personal ways of perceiving nature and to foreground feelings from senses other than sight (i.e. sound, touch, smell, taste). By doing this, learners were creating their own tacit knowledge about nature, which was additional to their sighted experience. It was individualised, particular and specific to the context of their sensing. In this way, learners were encouraged to re-vision nature and to perceive it in a new light, as special and unique to the moment of their sensing the experience. In much the same way as Thompson (2008) emphasises developing a 'new relationship' (p.96) with nature, Jamie enabled learners to re-sense and explore 'new ways' (Jamie, 3.2.12:30) of perceiving nature.

Although Jamie provided opportunity for learners to re-vision their relationships with nature, however, it emerged during discussions that her approach was underpinned by anthropocentric intentions. Jamie explained that her main objective within the 'Writing Inspired by Your Surroundings' course revolved around developing learners creative writing skills. Encouraging learners to reflect on and engender deeper relationships with nature did not constitute one of Jamie's identified learning objectives. Importantly, she ascribed a use to natural environments, in that they contributed to the development of learners writing skills, and posited that the focus of the course was on 'using the environment and place around you to inspire more stories' (3.2.12:27). Jamie later added 'although you're looking at the environment, what you're learning are the techniques you can use in any form of writing' (3.2.12:29). There was evidence here, within the fabric of the course, that an instrumental value or usefulness was being associated with nature.

Despite this concern, Jamie's approach provided an important contribution to the research. Her approach further illustrated that examples of practice that

engendered experiential and presentational ways of knowing (Heron and Reason, 1997) already exist within the adult community education service where I work. Like Pat, Jamie was also willing to share her example of practice with other practitioners. I considered this particularly important because of her focus on foregrounding learners' felt experiences from senses other than sight.

4.3 Conclusion

I consider there to be three important observations that can be drawn out from these early findings. Firstly, all practitioners perceived themselves as more separate than connected to nature and predominantly associated an instrumental value with nature. These perceptions and values expressed by practitioners are significantly discordant to those extolled within innovative environmental pedagogies that place human kind as an integral part of the natural community and emphasise an inherent intrinsic value toward nature. Secondly, at the start of my research there is indication of a rhetoric-reality gap between the innovative environmental pedagogies proposed by theorists and the realities of teaching in a local government adult community education service. Most practitioners integrated transmissive environmental pedagogies into practice that had a resource focus. Thirdly, although there is indication of a rhetoric-reality gap, three practitioners integrated environmental pedagogies into practice that engendered learners' experiential and presentational ways of knowing (Heron and Reason, 1997). These examples of practice were offered up to other practitioners to reflect upon during the period of intervention. In the next chapter I will analyse and report on practitioners' responses to these and other examples of practice that were introduced during the period of intervention.

Chapter 5: Findings Post Intervention

In this chapter the analysis focuses on consideration of supplementary research questions two and three:

2. What environmental pedagogies did practitioners favour post the period of intervention?
3. Do practitioners identify problems with integrating innovative environmental pedagogies into practice and if so what might these be?

The findings in this chapter are derived from data obtained during and after the period of intervention and attention, at this time, was on encouraging practitioners to engage in critical reflection and action on how they integrated environmental pedagogy into practice (Heron and Reason, 1997). During the intervention I introduced practitioners to seven examples of practice in EE (see sections 3.2.5 & 6). Six of these contained elements of innovation. One exemplified ESD. Practitioners were asked to a) reflect critically on these examples, b) reflect on their own practice and c) consider what actions they might take in changing their practice in environmental pedagogy following their critical reflection. In section 5.2 I report on the actions practitioners took after the period of intervention. Section 5.3 addresses the concerns practitioners expressed over innovative environmental pedagogies. In the concluding section I summarise the key findings and outline considerations for the main research question.

5.1 Practitioners' Actions Following the Intervention

Some practitioners responded by taking no action following the period of intervention. They continued with the environmental pedagogies they integrated into practice prior to the intervention. For other practitioners, the process of critical reflection resulted in action and a change in practice. The environmental pedagogy they favoured pre-intervention differed from the one they integrated post-intervention. However, the extent to which these newly integrated approaches encouraged learners to reflect on their relationships

with nature varied. In consideration of the actions taken, four significant themes emerged which I discuss under the subheadings:

- Continuing the themes of resource focus and information drop
- Knowing nature through experience
- Developing a sense of practical knowing
- Retaining but not re-evaluating nature

5.1.1 Continuing the Themes of Resource Focus and Information Drop

Pre-intervention, five practitioners (George, Val, Jo, Chris and Jules) emphasised the themes of 'information drop'[29] and 'resource focus' [30]. They made no change to their practice post the period of intervention. Val stated 'I didn't feel there were many changes that I wanted to make' (9.5.12:5). For these practitioners, they continued to favour transmissive environmental pedagogies that resonated closely with Freire's 'banking concept' (1970:58) of education (see section 2.2.3). The focus of this transmission of information was on resource usage and on encouraging learners to save energy, recycle and avoid waste.

In making no change, George, Jules, Chris, Jo and Val, had provided a negative response to the main research question 'Can innovative environmental pedagogies be integrated into the practice of teaching in the local government adult community education service in which I work?' They had indicated that the integration of innovative environmental pedagogies was problematic and had decided not to include practices that encouraged reflection on nature and were socially-critical. I was interested in identifying why they continued to favour transmissive environmental pedagogies that focussed on encouraging learners to save energy, recycle and avoid waste and it is to an exploration of these reasons I now turn. To add depth and provide further insight to my analysis, I focus on an explication of one of the practitioners' reasons, George. I focus on George because she was willing to

[29] See section 4.2.3.
[30] See section 4.2.4.

be involved in a series of discussions post the period of intervention which provided a rich source of data.

During these discussions George explained how the research had encouraged her to enter into a reflexive process regarding the environmental pedagogies she involved within her practice, stating 'I have really thought about what I'm doing'. George indicated that at the end of this process, she decided to make only limited changes to her practice:

> All I have done really is place slightly more emphasis on things that I probably would have mentioned before, like recycling and avoiding waste (29.6.12:7).

During the second workshop though, George had raised concerns about environmental pedagogies that focussed on the transmission of information from practitioner to learner:

> I think the advantage is you can pass on lots of information very quickly but the disadvantage is that it then relies on people to actually do something and people don't always do something. So however much you talk about recycling, people don't change their behaviour. So you are relying on the information to actually overcome people's apathy and create some momentum. I think that is a very high expectation (16.3.12:4).

I asked George why she continued with environmental pedagogies that relied on the transmission of information even though in an earlier discussion she had expressed reservations about this approach. George gave three inter-related reasons. The first was associated with practitioner isolation. George taught two plumbing courses at two schools in rural areas in the evening. Few other courses were taught on the same evening at either school. Because of this she rarely met or engaged in creative discussion with other practitioners about curriculum developments. In addition, George explained that she was 'the only person teaching this subject [DIY and plumbing]' (29.6.12:3) within the service. This was a limiting factor for George because

she felt there were no other practitioners, with specific content knowledge of her subject area, with whom she could share and develop ideas and so found it difficult to think of ways of combining innovative theories in environmental pedagogy into practice:

> If I was teaching a subject that lots of other people were teaching, so if I was teaching ICT or a language or something I would probably be more used to a collaborative approach and to having planning meetings to plan your approach (29.6.12:3).

George explained that her isolation resulted in her making assumptions about how she could integrate environmental pedagogy into practice:

> I've just assumed that this was the best way of working in terms of teaching the learners about reuse and recycling and teaching them the value of materials (13.10.14:2).

References to basing the integration of environmental pedagogies on assumptions draws attention to George's second reason. George discussed how her personally held beliefs and values influenced her practice. She explained that she focussed on conveying messages relating to recycling and avoiding waste, because:

> …those issues are important to me. I can't talk to people about plumbing without mentioning that you should be reusing and recycling… That's the way I feel... That's what comes across in the way that I teach. It's not that I'm picking that up from the syllabus or guidelines from our adult community education service (13.10.14:2).

George went on to suggest that teaching practices and approaches are:

> …hugely coloured by the person delivering the course and the values that the person holds dear or feels strongly about. I can't ignore the issues that I feel are relevant (13.10.14:3).

The third reason was associated with George's perception of the relevance of integrating environmental pedagogies into practice. Although George accepted that her focus on recycling, reusing and avoiding waste was influenced by her own beliefs and values, she justified her position by stating:

> It's not just a personal thing. In construction generally and plumbing specifically there are regulations to do with energy efficiency and waste and although not on the syllabus, I don't feel I can teach plumbing without making reference to…things that are relevant and important and backed up with legislation (13.10.14:1).

George was suggesting that she could legitimately convey information relating to recycling, reusing and avoiding waste because this information was essential for legislative reasons. Learners would find this information relevant when working as plumbers or carrying out DIY. Conversely, she did not perceive approaches accordant with innovative environmental pedagogies to be relevant to learners.

George's explanation of why she continued to favour the integration of a transmissive environmental pedagogy into practice has significance for the main research question in three ways. The first relates to the reference George made to practitioner isolation and lack of peer support. Neither Grace and Sharp (2000), Cotton (2006a) or Fazio and Karrow (2013) make reference to practitioner isolation within their research. Within my study, reference to concerns of isolation were widespread. Five practitioners reported that they felt isolated in their work and rarely or never discussed practice with colleagues or peers whilst working in adult community education. George's experience demonstrates that this can be a significant influence in deterring practitioners from considering integrating innovative environmental pedagogies into practice. Secondly, George's response illustrates how practitioner beliefs and values play a significant role in determining the environmental pedagogies that are integrated into practice. The research by Cotton (2006a) also found that teachers' beliefs significantly influenced the approaches they adopted. Crucially, throughout the research however, many practitioners including George drew attention to the importance of teacher

neutrality (Cotton, 2006a). They emphasised concern over practitioners expressing personal beliefs and values to learners. George's example indicates there is a complexity within practitioner perceptions of when values and beliefs can legitimately be integrated into practice and when they cannot. I will discuss this complexity in detail in section 5.2.2.

Thirdly, George's concern regarding relevance was not an isolated concern. During the research, six practitioners questioned the relevance of integrating innovative environmental pedagogies into the subject area they taught. Their concerns were two fold. Firstly, four practitioners raised concerns over relevance to the learning objectives identified within their course syllabus. Secondly, five practitioners expressed concern over relevance to the learning needs of people attending adult community education classes. I explore these concerns further in section 5.2.1

5.1.2 Knowing Nature Through Experience

Two practitioners (Robin and Francis) who pre-intervention emphasised the themes of 'information drop[31] and 'resource focus'[32] revised their practice so that learners directly engaged in face-to-face interaction with nature. Both practitioners revised their practice in two ways. Firstly, they began to critically self-reflect on their pre-existing approaches that focussed on the transmission of information from the practitioner to the learner. Francis, for example, commented 'I'm giving them, telling them information. I'm telling them the facts. I'm… being directive myself' (9.5.12:8). In recognising the transmissive emphasis in their pre-existing practice, Robin and Francis explained how they now favoured environmental pedagogies that encouraged learners to be actively engaged in learning. They referred to practices that included 'observation' and 'analysis' and involved learners 'thinking for themselves', Francis stating 'I am trying to develop it so it would be more hands-on and they [learners] would explore a bit more' (9.5.12:9). Secondly, Robin and Francis made more reference to nature in that their revised pedagogical approaches encouraged learners to observe and explore nature. For

[31] See section 4.2.2.
[32] See section 4.2.3.

example, Robin described how, after reflection on her practice, she wanted to 'push the idea of getting out of the classroom' (21.6.12:30) and engaged approaches that involved learning outdoors. Nature was more apparent or had a greater physical presence in the pedagogical approaches both practitioners favoured post-intervention.

Although nature had a greater physical presence, however, these revised pedagogical approaches by Robin and Francis did not actively engage learners in a process of critical reflection on relationships with nature. Learners were not encouraged to internalise their experiences, re-evaluate their relationships with nature and engage in action in support of nature. I considered this finding significant for the main research question. It demonstrated that although practitioners took purposeful action to revise their approach, this did not necessarily result in innovative environmental pedagogies being integrated into practice. Instead, despite the increased physical presence of nature, Francis and Robin's practices affirmed an understanding that natural environments represented a resource for human use. To illustrate my interpretation, I will discuss in detail Robin's revised practice. I focus on Robin because like George she was willing to be involved in a series of discussions post the period of intervention and this provided a rich source of data.

Robin described how, following the intervention, she revised a Functional Skills maths class so that it included an 'integrated maths activity based in an outdoor learning environment… that incorporated exploration, observation and independent thinking' (20.6.12:1). The activity took place in a local park, 'a short walk from the adult community education centre' (20.6.12:1) where learners attended their maths course. Robin described how a river ran through the park. There were trees and open grassed areas as well as a children's play area, band stand and pond. Robin explained that the learners visited the park during a two-hour class. Learners were asked to observe 'natural as well as man-made objects' (21.6.12:10) and complete 'a range of tasks that related to the learner's learning goals' (21.6.12:1). This involved counting and recording various elements and comparing the phenomena they

identified with 2 D and 3 D mathematical shapes including a triangle, a rectangle, a cube, a sphere, a circle and a cylinder. Learners were later asked to analyse the shapes they identified in the park and consider how these complied with certain mathematical formulae and rules.

By asking learners to physically visit the park and observe the trees, water, animals, rocks and other phenomena, Robin, like Pat and Jamie (see chapter four), was encouraging a 'kind of first-hand knowledge of nature' (Orr, 1994:52). She was engendering 'experiential knowing' amongst learners by involving them in 'direct face-to-face encounters' with nature (Reason, 1998:44). However, unlike Pat's and Jamie's approaches, Robin did not refer to any ways in which her revised practice required learners to reflect on their first-hand encounters. They were not asked to internalise their experiences or to explore representations of their feelings through talk, text or image (Nicol, 2002). Nor were learners asked to share their personal reflections with other learners and, during this process, consider and reconsider how they valued nature. In this sense Robin did not progress her approach further so that it encouraged learners to develop presentational knowing (Heron and Reason, 1997). Instead she focused the lesson towards meeting criteria within the functional skills maths syllabus and she explained that her main objective for visiting the park was so learners could 'use the local environment for learning functional skills' (21.6.14:2). In particular she explained how she wanted to focus on:

> …consolidating the maths skills - so it was addition, shape, tally systems … [by]…taking learning out of the environment where they [learners] were familiar to see if they could transfer those skills to another situation [the park]. Sometimes they're sitting at a desk and they're doing their maths and one of the difficulties with functional skills is you've got to transfer those skills into real life situations. I was trying to see if that worked and it did (21.6.12:9).

Robin's example of practice is significant for the main research question for two reasons. Firstly, it demonstrates that her concern for meeting the requirements of an externally accredited syllabus subjugated an intention for

encouraging ‘a more thoughtful engagement’ with nature (Curthoys, 2007:75). Thus, although Robin amended her practice so that learners were able to develop experiential knowledge by engaging them directly with natural phenomena, she did not progress their understanding by including activities that encouraged learners to reflect on and express their feelings. Instead she focussed on ‘consolidating’ (21.6.12:9) functional maths skills and directed learners towards classifying phenomena within the park through the application of mathematical constructs. Robin’s concern for adhering to an externally accredited syllabus confirms Grace and Sharp (2000) and Fazio and Karrow’s (2013) findings that there are institutional constraints that impact on practitioner’s choice of how they integrate environmental pedagogy into practice. Importantly, during my research I found that Robin was not the only practitioner who prioritised the need to adhere to an accredited syllabus over an intention to integrate innovative environmental pedagogies. There were several other practitioners who cited this influence. I further explore the impact of syllabus on practitioners’ actions in section 5.2.1

The second reason relates to the repeated references Robin made to ‘using’ nature to consolidate learners’ maths skills. In doing this Robin was presenting nature as a resource that supported learning rather than a focus of learning within her revised practice (Piersol, 2010). This positioning of nature as a resource for learning reflects the findings in section 4.1.3 where I reported that practitioners predominantly associate nature with an instrumental value (Bai and Scutt, 2009). There is indication here that Robin’s approaches to practice are significantly influenced by the values that inform her understanding of nature. Thus, although Robin amended her practice and engaged learners in direct face-to-face contact with natural elements, her approach continued to reflect her pre-existing normative assumptions regarding nature providing a resource for human use (Bonnett, 2003). In this sense, Robin’s example confirms Cotton’s (2006) findings that practitioners personally held values and beliefs impact significantly on the pedagogical approaches favoured.

5.1.3 Developing a Sense of Practical Knowing

After the intervention, two practitioners (Pat and Charlie) provided examples of practice that positioned nature as the central focus for learning.
In both examples, learners in their classes were encouraged to explore deeply their relationships with nature. Importantly their approaches sought to progress learners' understandings of nature beyond experiential and presentational knowing and towards a level of awareness that included 'practical knowing' (Heron and Reason, 1997). For this reason, I consider both practitioners' pedagogies to be innovative and now discuss Pat's example to illustrate why.

During the third workshop, Pat discussed the changes he made to a lesson from a non-examined family learning science course in which both parents and children would learn together. The lesson originally focussed on developing a scientific understanding of 'food chains' and involved a visit to a local pond, close to where many of the learners lived. During this visit, learners made scientific observations, using 'spotter charts' and 'resource books' (9.5.12:3) to identify various species that lived in the pond. By including an element of the outdoors, Pat was already encouraging the development amongst learners of experiential knowing within this original lesson. Through being engaged in direct face-to-face contact with the pond environment, in terms of the sights, the smells and the sounds, learners were provided with an opportunity in which they could immerse (Orr, 1994) themselves in a more-than-human world (Stables, 2007). However, following his involvement within the research, Pat revised the course so that learners could reflect more deeply on these initial first-hand experiences. In particular he refocused the lesson so learners developed a critical awareness of the causes of pollution on food chains in natural environments. Pat explained he made these changes because he wanted to raise awareness about the impact of human action on nature and so had begun to look at approaches that encouraged learners to:

> …take ideas into their community and be willing to, and if they are interested to, do something about it. To look at ways in which they

> [learners] could try and improve situations regarding the environment in their community (20.7.12:6).

To achieve this focus, Pat made the following amendments to the lesson on food chains. Firstly, in addition to scientific observation, Pat included an exercise that asked learners to 'take time to allow a few minutes' quiet' so that they could 'look and listen to the environment' (9.5.12:3) whilst they were within the vicinity of the pond. Following this quiet time, learners were encouraged to 'draw an aspect of this environment' or to 'write a poem of what they [the learner] see and hear' (9.5.12:3). By integrating creative expression into a lesson that included scientific analysis, Pat was encouraging learners to develop a broad and interdisciplinarity awareness of the pond environment. He was fostering an understanding that was rooted in both objective and subjective interpretation (Orr, 1994). Importantly, on returning to the classroom, Pat asked the learners to share and talk about their poems and pictures with other members of the class. By doing this, he was developing, amongst learners, a sense of presentational knowing (Heron and Reason 1997). Learners were encouraged to 'make meaning' (Nicol, 2002:215) out of their own personal experiences and by sharing these ideas and engaging in authentic dialogue (Clover, 2002) with other members of the class, construct their local knowledge of the pond environment. In this sense then knowledge of a particular natural environment was fostered through learners' own personal experience and developed through 'meaningful relationships' with nature (Piersol, 2010:202).

The second change Pat made was in his inclusion of an activity entitled 'The Pond Game'. This was a practical classroom based exercise where learners were required to engage in role-play. Pat explained 'In the pond game, the idea is to demonstrate food chains and how they are destroyed with pollution' (20.7.12:6). During this game, learners were provided with information sheets about the different plant and animal species they had already observed and identified in the local pond (for example, 'reeds', 'mites', 'caddis fly larvae' and 'stickleback' fish). Each learner was asked to take on the role of one of these species and imagine what it would be like living in the pond and how they

would get their food. Pat explained he later introduced a 'poison card' to the game. He then asked learners to consider and discuss how this would affect the pond environment and how the poison would affect them as a species living in the pond. At the end of the exercise Pat included information sheets and details of websites where learners could find out more about food chains and the impact of pollution on nature.

By engaging learners in the pond game and providing additional information sheets, Pat was encouraging learners to explore conceptions of the pond environment 'beyond that of their experiential and presentational knowing' (Nicol, 2002:217). He was, in addition, developing amongst learners a sense of 'propositional knowing' (Heron and Reason, 1997:278). This is a way of knowing that is 'not accessible by direct experience alone' (Nicol, 2002:218) Instead, knowledge is further developed by the introduction of theories that are external to the learners' own initial sense making of an experience. Additionally, by asking learners to imagine they were a fish, caddis fly larvae or water plant, Pat was encouraging learners to conceive the pond environment from another being's perspective. Thus he was making less distinct the differences between self (the learner) and other (nature) and attempting to 'give voice' (Bonnet, 2003:587) to natural phenomena by asking how other beings might feel if the pond was polluted. He was developing, amongst learners, notions of empathy and reinforcing the idea that the pond environment was not a distant object of study (Weston, 2004). Instead the pond consisted of a community of beings who were vulnerable to the effects of pollution (Thompson, 2008).

The final amendment Pat made was in his inclusion of a second visit to the pond environment. This took place after the learners had worked through the pond game exercise. During this visit they were asked to identify any evidence of pollution. This exercise included both visual checks for rubbish in the pond as well as more scientific analysis that involved measuring the acidity of the water. If learners found signs of pollution, Pat encouraged them to identify the causes. He would also discuss with them options for 'further action in terms of raising environmental awareness' (20.7.12:5). This further

action could potentially take on a variety of forms, yet always included a collective and local community element:

> If you're working in a pond environment, locally, with a group, say in family learning science, or environmental science it could be to petition against local pollution in this habitat. An example of this is to organise a friend's clearing day (20.7.12:7).

Although Pat intimated that an outcome of the lesson might involve some form of community action, he emphasised that his role was one of a 'facilitator' rather than activist (20.7.12:17). He explained that his main focus was on raising awareness about environmental problems and on encouraging learners to consider potential solutions. He wanted to develop learner confidence by enabling them to feel they had a 'voice' (20.7.12:18) in their community:

> The idea is to bring it out of the people, so what the tutor is saying is 'this is what you have said, this is what you think, these are your ideas, now let's see how you can develop your ideas' (20.7.12:18).

Pat's focus on acting as facilitator and on encouraging learners to find their own solutions to environmental problems is important because it indicates his intention to develop, amongst learners, a sense of 'practical knowing' (Heron and Reason, 1997:281). He aimed to empower learners by fostering an understanding that they possessed the ability and *knew how* to construct their own solutions to identified problems. This intent on empowerment was initially set in place by Pat encouraging the learners to co-construct their own knowledge about the local pond environment (Clover and Hall, 2010). By doing this Pat was promoting an awareness that 'the truth is not out there but is accessible to the individual who can enter into it' and create it (Nicol, 2002:219). Additionally, he was developing learners' 'intellectual confidence' (Blackburn, 2000:10) by encouraging them to create their own 'meaningful contextual knowledge' which they could harness to question the effects of pollution on nature (Kyburz-Graber, 1999:417). Once the learners developed this knowledge, he then invited them to consider their own solutions to the

environmental problems they identified. In effect, he was communicating to the learners that they were 'creative subjects' (Blackburn, 2010:8) rather than passive objects (Nicol, 2002). They had the capacity to transform an environmental issue by taking considered actions that were informed by the accumulation of meaningful contextual knowledge (Nicol, 2002).

Pat's approach is significant for the main research question because by encouraging learners to develop experiential, presentational, propositional and practical knowledge about a pond environment, he was integrating an approach into practice that was innovative. His example illustrates that innovative environmental pedagogies *can* be integrated into practice. However Pat, along with Charlie, represented anomalies within my research. They were the *only* practitioners that supported the integration of innovative environmental pedagogies into practice.

5.1.4 Retaining but Not Re-evaluating Nature

Two practitioners (Jamie and Stevie), who pre-intervention included approaches that engendered experiential and presentational knowing, made no change to their practice after the period of intervention:

> I have decided to keep my lessons as they were. I will continue to change them slightly to further improve the delivery and benefit for learners; but the approach I will keep the same (Jamie, 28.4.12:1).

By keeping the same approach Jamie and Stevie were indicating they had decided not to include practices that engendered propositional and practical ways of knowing. Importantly, they continued with practices which positioned nature as a resource for human use[33]. Consequently, I did not define their post-intervention practice as innovative and so concluded that Jamie and Stevie were in effect providing a negative response to the main research question.

[33] See section 4.4.5 where I discuss.

Jamie and Stevie explained they had not made any changes because of concerns they harboured regarding the integration of innovative environmental pedagogies into practice. The first was over relevance. Jamie explained that she could justify asking learners to go outside and reflect on their senses because this allowed them to develop their creative writing skills. She could not justify encouraging learners to think deeply and re-evaluate relationships with nature or consider 'wider issues', because she did not think this was 'relevant' to the learning aims within the class (16.8.12:13). The second concern was over notions of 'neutrality' (Cotton, 2006a). Unlike Pat, Jamie and Stevie explained that they did not want to encourage or 'influence' learners toward taking action in support of nature as this contravened their notions of remaining neutral in teaching. I will discuss each of these concerns next.

5.2 Problematising Innovative Environmental Pedagogies.

In this section, I discuss the findings relating to research question three: 'Do practitioners identify problems with integrating innovative environmental pedagogies into practice and if so what might these be?' This question serves two purposes. Firstly, it encourages me to engage in my own critical reflexivity (Heron and Reason, 1997). I know I am passionate about nature and, although this passion has motivated me towards undertaking my research, I realise it might also render me blind toward certain difficulties associated with integrating innovative environmental pedagogies into practice. Listening to practitioners' concerns enables me to critically reflect on my own personally held assumptions and question whether I am justified in asking practitioners to integrate innovative environmental pedagogies into practice. Secondly, in the previous section I reported that only two of the eleven practitioners actually integrated innovative environmental pedagogies into their practices. Most did not. Although some of the reasons for practitioners not integrating innovative environmental pedagogies were explored earlier, in this next section I build on these initial investigations. The third supplementary research question focuses my attention on probing further why a rhetoric-reality gap exists within the service in which I work. In the course of

my inquiry two themes emerged, relevance and neutrality, which I discuss next.

5.2.1 Relevance

Six practitioners questioned the relevance of integrating innovative environmental pedagogies into practice. Their concerns were two fold. One related to relevance regarding course syllabus, the other concerned relevance to learners.

5.2.1.1 Course Syllabus

Four practitioners (Pat, Jo, George and Robin) questioned the relevance of integrating innovative environmental pedagogies into courses that had specific assessment or accreditation criteria. Within these courses practitioners said they felt under pressure to adhere to a set syllabus and their focus was on ensuring that each learner achieved their qualification aim. They explained they would not integrate innovative environmental pedagogies within accredited courses unless reference was specifically made within the examination syllabus to this area of learning, Pat noting:

> Bring in green issues where they are on the curriculum. Otherwise don't bother because you haven't got the time. And it's not just the time. It's being fair to the student (20.7.12:5).

Pat's comment is significant because he was one of the few practitioners to integrate innovative environmental pedagogies into practice. He stated he was able to include experiential, presentational, propositional and practical knowledge within the example discussed earlier because this was a non-accredited course. He explained that in contrast, the demands of adhering to an examination syllabus constrained him in the approaches he was able to integrate in accredited courses. Importantly, practitioners indicated that their concern for ensuring learners achieved their qualifications was underpinned by a requirement to meet specific performance targets set by the Skills Funding Agency (SFA). During a follow-up interview, Robin described how she felt under continual pressure to meet the achievement targets or minimum

levels of performance set by the SFA and intimated that this constrained her degree of autonomy in class:

> I think we are a lot more exam driven. We've always been target driven but we're more exams driven than before. There's a lot of pressure within skills for life and there's also this pressure, you know getting learners up a level each year and meeting our targets…We're just so hands tied by the Skills Funding Agency (21.6.13:26).

The concern expressed over relevance to exams syllabus and performance targets is significant for the main research question because it draws attention to how institutional constraints limit the degree of flexibility and autonomy that practitioners can exercise over a subject. My findings add weight to the research by Grace and Sharp (2000) and Fazio and Karrow (2013) that institutional constraints contribute to a rhetoric-reality gap. Performance targets encouraged practitioners to focus their attention on the learning aims, objectives and activities within their classes associated with measured outcomes. This subjugated, or at the very least, constrained the emphasis practitioners placed on integrating innovative environmental pedagogies because this form of activity did not contribute to the measured outcomes.

5.2.1.2 Learner Needs

Five practitioners (Val, George, Robin, Jamie and Jo) questioned if innovative environmental pedagogies were relevant to the needs of learners. They stressed that learners were attending courses in order to develop specific skills and knowledge within the subject area they were interested in. Practitioners considered approaches that encouraged reflection on nature and were socially-critical to be additional to the reason why learners attended a course, George stating:

> It's about relevance, really. I mean the learners have come [to the classes] to acquire certain skills. They haven't come to learn to save the planet! (29.6.12:7).

Concern regarding relevance to learner need is not specifically referenced in the literature discussed in chapter two. My research shows that for this group of practitioners working within adult community education, concerns over relevance to learners' needs significantly influenced the extent to which innovative environmental pedagogies were integrated into practice. Indeed, George gave this as one of the main reasons for not integrating innovative environmental pedagogies into practice. She explained that learners attended her DIY course because they wanted to develop technical skills in DIY. She could not 'see the benefit to learners' (29.6.12:14) of integrating environmental pedagogies that encouraged reflection on nature and were socially-critical. More-so, she felt it was wrong to be asked to 'shoe horn' (29.6.12:14) innovative environmental pedagogies into the subject areas she taught. Jamie too cited relevance to learner need as a main reason for not integrating innovative environmental pedagogies. Jamie justified engendering experiential and presentational knowledge through her practice because, by exploring nature, she thought learners could further develop their creative writing skills. She could not justify including approaches that engendered propositional and practical knowing about nature, however, because:

> I'd wonder whether some of it was necessary for what I was doing… whether it would be relevant. I wouldn't necessarily think it's the place in a creative writing class…It's not really why the learners have come to the class. We're wanting to concentrate perhaps on a story which includes the environment but we're not delving into the wider issues (16.8.12:13).

This finding is significant for the main research question because it indicates that unless practitioners can identify relevance to the learner, any consideration towards the integration of innovative environmental pedagogies is unrealistic. Although this stance taken by practitioners could to some degree be interpreted as an anthropocentric one, critically it draws attention to an important issue voiced by Jickling (1992), and Jickling and Wals (2008). This relates to a question of whether learner need should be subjugated by an intention to inculcate amongst learners a specific '*a priori*' understanding over relationships with nature (Jickling and Wals, 2008). To do this might arguably

lay any approach open to criticisms of practitioners using education to fulfil a particular underlying agenda. Indeed, this concern was expressed by a number of practitioners during my research. I explore this concern further within the next section.

5.2.2 Neutrality

Seven practitioners intimated that it was important for them to adopt an unbiased or neutral position whilst teaching. They posited they should not attempt to inculcate amongst learners a certain set of beliefs or be 'lobbying for a particular cause' (Chris, 15.3.12:10) and that it was important not to 'proselytize' (Jules, 9.2.12:20) or become 'evangelistic' (Chris, 17.7.13:1) about nature. Practitioners explained that their concern over maintaining an unbiased and neutral position rendered innovative environmental pedagogies as problematic. Two subthemes emerged on concerns over neutrality.

Firstly, five practitioners expressed concern over how innovative environmental pedagogies sought to engender an intrinsic value association with nature. They thought the notion of encouraging learners to re-evaluate their relationships with nature and to nurture empathy towards natural environments represented an 'extremist' pro-environmental view (George, 13.10.14:5). Practitioners used emotive or 'loaded' language (Fien, 2000) like 'passionate ecologist' (Chris, 15.3.12:14) or 'tree hugger' (Val, 15.3.12:15) to refer to educators who advocated for intrinsic value associations with nature. They went on to define a tree hugger as 'somebody who listens to the heart beat of a tree' (Stevie, 15.3.12:12) or:

> …somebody who is more interested in the natural environment than people. It's all about the environment. It's all about protecting the environment for environments sake rather than the benefit of people. I think you should be protecting the environment for the benefit of people long term (Robin, 11.12.14:1).

These five practitioners sought to distance themselves from this perspective, Val stating 'I'm not a tree hugger' (15.3.12:15). The sensitivity expressed by practitioners towards influencing learners over adopting a pro-environmental

stance resonates with Cotton's (2006a) research. Cotton reported that teachers involved in her research wanted to 'avoid influencing students' attitudes or imposing any kind of pro-environmental agenda' (ibid:67). Importantly, this finding caused me to engage in much critical reflexivity and I began to question whether I was justified in asking practitioners to integrate into practice environmental pedagogies that sought to engender intrinsic value associations with nature. In particular, the comment from George 'I can't help feeling that meaning is being imposed' (16.3.12:13) caused me to question my intentions. In EE literature, various critics (Jickling, 1992; Jickling and Wals, 2008) have advocated that the role of education should be to encourage independent thought rather than impose a 'preferred message' (Jickling and Wals, 2008:7). Yet, although practitioners' responses caused me to question my intention to integrate innovative environmental pedagogies, I felt that their concerns needed to be placed into context because, during our discussions, a degree of complexity emerged over their notion of influence and neutrality. Thus the five practitioners who expressed concern over influencing learners towards an intrinsic value association with nature contrastingly reported that they were 'comfortable' (Robin, 8.3.12:12) influencing learners towards adopting energy efficiency and recycling practices:

> I think there are things that you can influence them [learners] with and other things that you shouldn't … So it's OK to say 'Put your paper in the recycling bin, not in the general waste bin' that's fine, no one's going to have any issues with that (Robin, 21.6.12:23).

Practitioners said they felt comfortable influencing learners towards adopting energy efficiency and recycling practices because this was 'normal' practice and represented 'perfect common sense' (George,13.10.14:4). It was normative behaviour and so notions of neutrality were not challenged:

> I think it becomes part of everyday practice… When you keep doing something over and over again it becomes normal doesn't it… And normal is what you do without thinking about it. You feel there is an expectation to do it. An expectation by everybody, yourself and other people (Robin, 11.12.14:1).

Robin added:

> It's OK to put forward certain ideas that I would consider to be normal practice (11.12.14:2).

The justification of influencing learners by reference to practices considered normal is significant. Critical EE theorists (Fien, 1999; Postma, 2002) argue that a justification of practices based on such grounds ignores the dominant normative value-orientation that underpins education specifically and society generally. From a socially-critical perspective, the idea of maintaining an unbiased position is little more than an illusion. There is always an issue of influence and of imposing meaning in education (Apple, 1996) and, as discussed in the introduction, this is no more apparent than within the economistic and anthropocentric messages contained within ESD. What is important then about practitioners reporting that one approach is 'extreme' and the other 'normal' is that it demonstrates the significant role that beliefs play in influencing decisions regarding the environmental pedagogies that are integrated into practice. This further substantiates the initial findings discussed earlier within this chapter (section 5.1.1 and 5.1.2) as well as those within Cotton's (2006a) research.

The second subtheme to emerge was associated with practitioners' concerns over encouraging learners to take socially-critical action in support of nature. Six practitioners reported that they did not support or felt 'uncomfortable' (Stevie, 15.3.12:12) with the notion of encouraging learners to take action on environmental issues. They suggested this represented the 'politicisation' (George, 16.3.12:10) of education and questioned whether such an approach was appropriate within the service in which they worked:

> I have to say this doesn't resemble what I consider to be adult education... This whole sort of politicisation and stirring up and causing action and that kind of stuff doesn't fit into anything that I understand to be what adult education delivers (George, 16.3.12:10).

This finding supports the research of Cotton (2006a) who reported that teachers in her research expressed severe reservations over influencing students towards taking part in socially-critical action. Importantly, within my research, practitioners repeatedly positioned the notion of socially-critical action within a negative context. Socially-critical action was described as something that was dangerous. It involved 'risk taking' (Jo, 18.7.12:19), 'stirring up' (George, 16.3.12:10), and 'confrontations' (Stevie, 9.5.12:14). Concern was expressed that socially-critical action would lead to possible civil unrest and 'violence' (Robin, 11.12.14:3). Increasingly during discussions, practitioners stressed how the notion of encouraging learners to engage in socially-critical action made them feel extremely anxious, Stevie commenting:

> I'm not a very radical person so this whole idea is something that scares me rotten. So, if someone is going to ask me to do something like that I will go and run in a corner (9.5.12:14).

When I asked practitioners to explain where their anxieties originated from, they identified three sources. Firstly, four practitioners (Robin, George, Jo and Chris) drew attention to a fear of receiving disapproval from learners. Thus Jo commented that encouraging learners to become involved in socially-critical action within the classes she taught would be tantamount to 'sticking your neck out and you could get one learner who could be quite opposed to it or several learners' (18.7.12:19). Secondly, five practitioners (Robin, Stevie, Jules, Jo and Chris) referred to a fear of organisational reproof. They were concerned that they would be perceived as an 'agitator' (Robin, 11.12.14:3) or labelled as subversive by other members of staff who worked within their organisation. Practitioners referred to 'ground rules' (Stevie, 15.3.12:9) and local government 'policies' (ibid:9) that required staff to uphold a neutral position and not influence learners. They were concerned that encouraging socially-critical action would risk contravening these, Chris commenting:

> …it is all about rules isn't it? It's about what is considered to be OK and what everybody else is doing, cause a lot of us want to just fit in with what gives a peaceful life (15.3.12:11).

This fear regarding organisation reproof was augmented by their experiences of practitioner isolation. In section 5.1.1 I reported on George's references to practitioner isolation and how this constrained her in developing her environmental pedagogy. The reference to isolation, whilst discussing concerns over socially-critical action, was slightly different however in that practitioner's described how this contributed to them feeling disempowered or even exposed and vulnerable to organisational reproof, Robin stating:

> Tutors don't get together, there's not even a staff room where people talk about things casually over a cup of coffee…People are very much working in isolation and when people are working in isolation they're more conscious of what they're doing as an individual. They don't know what other people are doing. If they start doing something a bit different, how is it going to be viewed (Robin, 11.12.14:3)?

Thirdly, three practitioners (Robin, Stevie and Jules) referenced a fear of societal reproof. This was referenced in two ways. Thus, practitioners drew attention to overt constraints in terms of laws or government acts that prevented them from encouraging learners to engage in socially-critical pro-environmental action. Additionally, references to this fear were framed within the context of hidden or covert constraints that pervade society and influence the very thoughts and intentions of practitioners:

> I think that it is a society thing. I'm trying to analyse it now. It's how you are perceived by other people…It's a sort of restraint that has come through education. Probably through the government – because for their reasons they don't want people to think for themselves…There is this fear. When you look at the number of big protests that you see on the news now compared to when we were in our late teens and 20's. There were all sorts - CND, there were marches, there was lobbying, gay rights. There was a lot of political activity and I think it was put down by the government. And people became frightened of lobbying, frightened of putting their name to a cause. Maybe, because a lot of tutors are our generation, we have come through all of that. Maybe we have this fear about actually aligning ourselves with a particular view point. And there is this fear of being part of a lobby that its seen as some sort of political agitation that could be bordering on the illegal but it probably isn't (Robin,11.12.14:6).

The fear of reproof from learners, the organisation or society is significant. For the six practitioners who expressed concern, the pervasiveness of this fear served to constrain their choices and effectively posit approaches that encouraged learners to take part in socially-critical action as something that was off-limits. In the research literature, Cotton (2006a) reports similar findings. Thus she found that a fear of reproof from the school authorities, other teaching staff and students contributed towards teachers avoiding encouraging socially-critical pro-environmental action. Recognition of these concerns amongst teachers caused her to question the appropriateness of integrating approaches that encouraged pupils to take action on environmental issues.

5.3 Conclusion

Within this chapter I reported that two practitioners integrated innovative environmental pedagogies into practice. Both Pat and Charlie amended their practice so that learners were encouraged to deeply explore their relationships with nature and consider action in support of nature. Yet, although two practitioners integrated innovative environmental pedagogies into practice, the majority did not. On the whole, the integration of innovative environmental pedagogies was problematic amongst this group of practitioners and my findings add weight to pre-existing research that reports on a rhetoric-reality gap within EE (Grace and Sharp, 2000; Cotton, 2006a; Fazio and Karrow, 2013). Additionally, my findings show that there are both institutional constraints and subjective influences that contribute towards a rhetoric-reality gap within the service in which I work. In the next chapter I critically reflect on these constraints and influences and consider the implications they have for the research literature as well as my research aims and main research question.

Chapter 6: Discussion

My research aims to investigate whether innovative environmental pedagogies that encourage learners to reflect on relationships with nature and are socially-critical can be integrated into practice within the service in which I work. To help me progress towards this aim I have focused throughout my research on a process of reflection and action. I used action research in my methodology. In my findings I reported on the actions and choices practitioners made following critical reflection on practice and theory. My theoretical framework is informed by Heron and Reason's (1997) extended epistemology which recognises the significance of critical reflection and action. Within this chapter I continue this process. In section 6.1 I reflect on my research aim and main research question 'Can innovative environmental pedagogies be integrated into practice in the service in which I work?' I begin by considering whether my findings confirm Stevenson's (2007a) assertion that there is a rhetoric-reality gap between theory and practice in EE. Next I discuss the main constraints and influences that contribute to innovative environmental pedagogies being considered problematic. I draw out the key points, compare these to the research literature and ponder the implications for my research aim and main research question. In section 6.2 I discuss the actions that I might take in response to innovative environmental pedagogies being problematised by the practitioners involved in my research. I refer to action here in terms of how I might think as well as act differently following critical reflection on my findings. To aid me in this discussion, I draw on Heron and Reason's (1997) extended epistemology to focus on re-visioning my interpretation of innovative environmental pedagogies before concluding in section 6.3.

6.1 Reflections - The Rhetoric-Reality Gap

At the start of my research, most practitioners, emphasised transmissive pedagogical practices in EE that resembled Freire's (1970) 'banking concept' of education and advocated for individual rather than collective socially-critical action. Additionally, their environmental pedagogies privileged a resource focus and associated nature with an instrumental value. This reality was significantly different from the rhetoric of innovative environmental

pedagogies. After the intervention, five practitioners continued with their original practice. Four other practitioners, although integrating experiential and presentational knowledge, continued to position nature as a resource within their environmental pedagogy. Additionally, they did not support socially-critical action in environmental pedagogy. On reflection, my findings indicate that most practitioners did not integrate innovative environmental pedagogies and my research adds weight to the assertion by Stevenson (2007a) that there is a 'rhetoric-reality gap' (p.139) between theory and practice in EE. Although much academic theory proposes that 'we can use education as a tool to create more vocal and vibrant ecological citizens and work collectively for socio-political environmental change' (Clover et al, 2010:17), my findings show that most practitioners in my sample do not support this aim. There are however anomalies to this rhetoric-reality gap. Two practitioners integrated innovative environmental pedagogies into practice. They sought to engender experiential, presentational, propositional and practical knowing (Heron and Reason, 1997). This evidences that although a rhetoric-reality gap exists, some practitioners in this study are able to negotiate the influences that subvert the integration of innovative environmental pedagogies.

In the previous two chapters I reported on the reasons why innovative environmental pedagogies might be problematic for many practitioners. Reflecting on these reasons enables me to reach a more nuanced understanding of how the influences and constraints might be negotiated and how correspondingly innovative environmental pedagogies might be integrated into practice. In recognition of my findings and the literature that has gone before, I detail my discussion under two themes:

- Institutional constraints
- Subjective influences

6.1.1 Institutional Constraints

Fazio and Karrow (2013), discuss how the 'constraining nature of schools' (p.640) in the form of 'class schedule', 'planning time' and 'funding for materials' (p.644) contribute to a rhetoric-reality gap. Grace and Sharp (2000) also report on institutional constraints. I too identify institutional constraints. There are differences, however, between those I identify and the ones which the above researchers report on. Firstly, I reported on practitioner isolation. This constraint is not referenced by Fazio and Karrow or Grace and Sharp. In the wider literature, however, Massy et al (1994) report on the mitigating influence of practitioner isolation on pedagogical innovation in North American Universities. Additionally, Viskovik (2005) contends that practitioner isolation 'perpetuate[s] traditional teaching methods' and limits the 'propagation' of innovative practice in tertiary institutions within New Zealand (p.390). In my research, practitioners did not meet to discuss practice with colleagues. They developed curriculum materials and taught on their own. They did not share ideas, engage in creative discourse or critically reflect on personally held values with their peers. Consequently, opportunities for creative discourse in EE were stifled.

Secondly, I reported that the rigours of adhering to performance measures and an external examination syllabus constrained practitioners in their choice of environmental pedagogy. This influence is not discussed by Grace and Sharp. Fazio and Karrow make reference to how state testing and government imposed performance targets impacts on teachers' choices regarding environmental pedagogy, but they consider this to be of limited significance in comparison to the other constraints they report on (class schedule, planning time and funding for materials). Contrastingly in my study this constraint was significant. My findings resonate more strongly with Gruenewald and Manteaw (2007) and Stevenson (2007b). Thus, Stevenson in his theoretical paper discusses how the predominance of a neo-liberal discourse in education in Western industrialised nations has precipitated a focus on accountability and state testing in schools in North America. He suggests this in turn has led to a 'narrowing of the purposes of schooling and the processes of teaching and learning' (2007b:270) and has contributed to

environmental education being muted, distorted and marginalised within the curriculum in schools in the USA. A similar process occurs in the service where I work and my findings show how neo-liberal discourses in the form of success rate targets and performance measure technologies mitigate against the integration of innovative environmental pedagogies (Stevenson, 2007b). In striving to meet success rate targets on accredited courses, practitioners prioritise content and practice aligned with the examinations syllabus. They focus on the learning aims, objectives and activities associated with measured outcomes. This subjugates or at least constrains the integration of innovative environmental pedagogies. In some cases, innovative environmental pedagogies were not integrated at all. Experiential, presentational, propositional and practical knowledge was not considered relevant to the examination syllabus. In other cases, practitioners integrated elements of innovative environmental pedagogies (i.e. experiential and presentational knowledge) but only when a use or relevance to an examination syllabus and the associated performance measures could be demonstrated.

Importantly, Fazio and Karrow and Grace and Sharp assert that 'teachers can effectively negotiate' (Fazio and Karrow, 2013:647) the constraints and address the rhetoric-reality gap if they are provided with appropriate 'school-based support' (ibid:646). Thus Fazio and Karrow suggest how the constraints of 'limited planning time' and 'lack of resources' can be addressed through providing 'exemplar lessons that can be [combined] with mandated curriculum', 'release time to help develop EE lessons and resources', 'in-school time for cross grade/subject teacher collaboration' and 'financial assistance for environmental initiatives' (p.646). Although I do not contest the value of these supports, my findings challenge the assertion that the rhetoric-reality gap can be negotiated so easily. My findings demonstrate that practitioners' values and beliefs might not be negotiated so easily and that these significantly influence the environmental pedagogies they integrate into practice.

6.1.2 Subjective Influences

In my findings, I identified three ways in which practitioners' values and beliefs influence their choice of environmental pedagogy. I discuss these next under the subheadings of learner need, relationships to nature and neutrality.

6.1.2.1 Learner Need

Practitioner belief in prioritising learner need significantly mitigated against the integration of innovative environmental pedagogies. Practitioners would only integrate experiential, presentational, propositional and practical knowing if relevance to learner need could be identified. This subjective influence is not referenced in the literature by Cotton (2006a) or Kyburz-Graber (1999). Their research however was conducted within schools, whereas mine is conducted within an adult community education service. In the wider adult education literature Edwards (2001) discusses how 'the meeting of learner needs' has become an 'unquestioned orthodoxy' (p.37) in adult community education:

> Placing learners at the heart of the learning process, assessing and meeting their needs is taken to be a progressive step in which learner-centred approaches mean that persons are able to learn what is relevant for them in ways that are appropriate (ibid).

From my own professional experience, I understand why practitioners believe in prioritising learner need in adult education. Some learners who attend courses in our adult community education service have had significant breaks from learning and, on returning, lack confidence in their ability to learn effectively (Knowles, 1973). Others have had negative experiences of education in their early lives and fear similar encounters when returning to learn (Kiely et al, 2004). Practitioners work to address these fears and concerns by encouraging adult learners to share in the responsibility for choosing the content and methods of learning. By developing courses that are relevant and reflect learner need, practitioners aim to engender learner confidence and valorise their self-esteem (Kiely et al, 2004). My thoughts resonate strongly with the notion of prioritising learner need and placing learners at the heart of the learning process. Moreover, my understanding of

innovative environmental pedagogies is informed by theories that advocate for learning programmes to be developed around the needs of learners (Freire, 1970, Dewey 1938/1991). Yet, although I see the value in prioritising learner need, I am acutely aware of the tension this creates in environmental pedagogy. By prioritising leaner needs, we risk silencing the needs of nature. As my research progressed I became more critically reflexive about the unquestioned orthodoxy of meeting learner need. I asked myself "who decides on learner needs?"

Firstly, if it is the learner, then on what do learners base their decisions? Are they just explicitly conscious *known* needs that learners have had the opportunity to identify through past experience and subjective interpretation? If this is so, then does this mean, as educators, we will always be responding to learners *known* rather than *unconscious* needs? Importantly, in the EE literature, various luminaries have commented on the predominance of rationalistic and neo-liberalist ways of knowing in Western society (Bonnett, 2003; Gruenewald, 2004). Might the predominance of these ways of knowing influence learners in their conceptions of *known* needs? Furthermore, as educators, if we respond only to learners' *known* needs, then are we, by default, colluding with these dominant ways of knowing that permeate Western society and that influence learners' ways of thinking? Although valorising experience and subjectivity, Heron and Reason's (1997) theoretical framework reminds me of the importance of complementing learners' interpretations with propositional knowledge so learners can explore the world beyond their horizon of previous experience. After reflecting on their framework I believe that, as well as responding to *known* needs, we should additionally be encouraging learners to look beyond previous horizons and to explore *unknown* needs regarding their relationships with nature.

Secondly, if it is practitioners who decide on learner needs, then what might colour their interpretations? In the previous chapter I reported on how two institutional constraints (practitioner isolation and performance measures) influence practitioners in how they understand, develop and make meaning of innovative environmental pedagogies. Might these institutional constraints

also influence practitioners' interpretations of learner need? Thus in chapter five, I reported how Robin felt under continual pressure to meet government imposed performance targets. This pressure influenced Robin towards focusing on the need for learners to achieve their qualifications in mathematics. Other needs of learners, that included exploring relationships with nature, were correspondingly marginalised.

In the previous chapter I additionally discussed how personal beliefs influence practitioners in how they understand, develop and make meaning of innovative environmental pedagogies. Consequently, might practitioner's own subjective values and beliefs also influence their interpretations of learner need? Jo, Stevie, Robin, Jules, George and Chris, for example, associated socially-critical action with violence, confrontations and civil unrest. If practitioners frame socially-critical action in this way, then it is possible to see how they would perceive such action as being discordant with the needs of learners. In the next two sections I further explore how practitioner beliefs about nature and neutrality influenced their understanding of innovative environmental pedagogies.

6.1.2.2 Relationships to Nature

In chapter four I reported that practitioners conceived themselves to be more disconnected than connected with nature. Moreover, nature was overwhelmingly prescribed an instrumental value by practitioners (Bai and Scutt, 2009). I consider this unveiling of practitioners' value relationships to nature of crucial importance as it enables me to develop a more thoughtful understanding of the reasons for a rhetoric-reality gap. My findings confirm Bonnett's (2003) claim that a person's 'underlying stance on nature's value will determine the kinds of knowledge and understanding to be considered relevant' in EE (p.556). My findings suggest that an instrumental value association influenced practitioners in two ways. Firstly, on the whole, where practitioners included nature in their lessons, nature was not positioned as a *focus of learning* (Piersol, 2010) but as a *resource for learning*[34]. When most

[34] With the exception of Pat and Charlie – see section 5.1.3.

practitioners integrated experiential and presentational knowledge into practice, their motivation for doing so was not because they wanted to engender amongst learners a sense of nature as 'self-arising' (Bonnett, 2007:712) or as '*subject'* (Kuhl, 2011:110) possessing intrinsic value. Instead, their motivation was on '*using'* nature as a learning resource[35]. Most practitioners would only integrate experiential and presentational knowledge if a use or contribution to the learning outcomes of the class could be demonstrated. Secondly, an instrumental value association influenced practitioners towards positioning innovative environmental pedagogies as extreme[36]. Many practitioners found the notion of engendering intimate relationships with nature to be challenging. They were troubled by suggestions of engaging in dialogical relations with other beings. Earlier in the literature review I reported that Barratt (2011) discusses how:

> …relational ontology still makes many uncomfortable. It challenges the privileged place of the human and is not easily explained within the assumptions of Western frameworks of knowing or Cartesian Science (p.126).

I concur with Barratt's (2011) assertion and believe that in my research many practitioners felt uncomfortable with suggestions of engaging relational ontologies in environmental pedagogy because these approaches challenged deeply held assumptions over human-nature relations. Gruenewald (2004) suggests that anthropocentric and rationalistic interpretations of nature 'persist because the discourses that perpetuate them circulate everywhere in culture and are embedded in material products of our thoughts and actions' (p.86). Through undertaking my research, I have come to understand how environmental pedagogies that associate nature with an instrumental value maintain dominance in the adult education service in which I work. I set out to work with fellow practitioners with the aim of considering how together we might challenge dominant discourses that subjugate nature to an instrumental value. Yet, on the whole, this aim has been mitigated because an

[35] See section 4.2.5, 5.1.2 and 5.1.4.
[36] See section 5.2.2.

instrumental value association towards nature remains dominant within the thoughts and actions of many practitioners.

There is, however, an anomaly in my findings which casts uncertainty on the extent to which practitioner beliefs about nature influence their choice of environmental pedagogy and consequently I suggest that further research is required. Pat and Charlie both integrated innovative environmental pedagogies into practice after the period of intervention. Yet during discussions they, like other practitioners, considered themselves more disconnected than connected with nature. Indeed, Pat went to some lengths to explain how he believed nature conformed to specific empirical regularities and could be defined through scientific theory. There might be several reasons for the anomaly. Firstly, I might have misinterpreted Pat and Charlie's reflections on relationships with nature, though during the research I took care in recording and listening closely to their perceptions and understandings. Secondly, I might have misinterpreted the environmental pedagogies that Pat and Charlie integrated following the period of intervention. Yet, throughout the research I took care in exploring how practitioners make meaning of environmental pedagogy and additionally I applied Heron and Reason's (1997) extended epistemology as a framework. Thirdly, it might be that Pat and Charlie reconsidered their relationships with nature during the period of the research. I am unable to report on this however, because I did not return at the end of my research to explore practitioners' conceptions of nature and investigate if changes had occurred. I now consider this a limitation of the study. Discussing practitioners' conceptions of nature toward the end of the study might have provided additional valuable data.

6.1.2.3 Neutrality

Seven practitioners expressed reservations about influencing learners and most practitioners said they should adopt an unbiased or neutral position whilst teaching. This belief in neutrality was a significant barrier to integrating innovative environmental pedagogies into practice. My findings concur with Cotton's (2006a) research. Cotton found that teachers' beliefs regarding

neutrality mitigated against the integration of socially-critical EE into practice and contributed significantly to a rhetoric-reality gap. Her participants reported that 'they, as teachers, should not impose their own views on their students' and 'were wary of even stating their own views in lessons, apparently because of an underlying fear of indoctrination' (p.74). My findings differ to Cotton's however, in that she reported how the teacher's strategy for avoiding influence was to 'expose' students to *as many* view points as possible so they would 'provide a balanced picture of environmental issues' (ibid:72). In my research practitioners wanted to avoid influencing learners by marginalising and *not* including certain views or environmental pedagogies. I describe next how practitioners expressed reservations over the inclusion of two environmental pedagogies.

Firstly, five practitioners expressed concerns over including environmental pedagogies that encouraged learners to explore more intimate relationships with nature. They believed that encouraging learners to re-evaluate their relationships with nature and nurture empathy towards natural environments represented an 'extremist' (George, 13.10.14: p.5) and biased pro-environmental view. In maintaining their 'neutral' stance, practitioners felt it was wrong to influence learners towards this 'extremist' practice. There was a strong link between their commitment to neutrality and their belief that engendering intimate relationships with nature was extreme. When I asked practitioners why they considered engendering relationships with nature extreme, their responses were rhetorical and they used 'loaded' language like 'evangelistic' and 'tree hugger' to refer to educators that advocated for intrinsic value associations with nature (see section 5.2.2). Practitioners resorted to metaphors that had no concrete grounding to justify their position. Fien (2000) discusses how 'loaded' (p.188) language plays an influential and powerful role in marginalising and subverting the integration of alternative approaches in environmental education:

> …the use of such vocabulary may be interpreted as an attempt to construct others as unworthy commentators who 'champion' ideas,

> rather than `argue' for them and whose work cannot be described as a `serious discussion' (p.188).

During my discussions with practitioners', I could see how their 'loaded' language represented 'legitimizing beliefs' (Freire, 1972:135). These were powerful metaphors or 'myths' (Freire, 1972) that legitimised practitioners' exclusion of approaches that encouraged learners to explore intimate relationships with nature.

Secondly, six practitioners expressed severe reservations over including environmental pedagogies that influenced learners to take socially-critical action. These findings challenge earlier research by Grace and Sharp (2000) who found that a high proportion of teachers supported environmental pedagogies that encouraged learners 'taking part in action for the environment' (p.338). Initially, as in the discussion above, practitioners used loaded language to justify their stance. Socially-critical action was considered to be dangerous and involved 'confrontations' (Stevie, 9.5.12:14). As practitioners and I explored their reservations more deeply, however, they began to make reference to various fears. Fear of reprisal from learners, colleagues, their employer or from society. On reflection, I find it significant that they provided no examples of where staff had actually been reprimanded for including socially-critical environmental pedagogies in teaching. This was a fear that existed in the ether as intangible, hypothetical, yet powerful and controlling. Practitioners feared they might be seen to be doing something wrong, even if they were not. In his paper 'A Foucauldian Analysis of Environmental Education', Gruenewald (2004) draws on the theory of 'panopticonism' (Foucault, 1977) to explain how 'socially and ecologically transformative' (p.71) environmental pedagogies become marginalised in schools in North America. Central to this theory is the notion of 'unverifiable surveillance' (p.82) and Gruenewald (2004) upholds that, amongst many teachers, there exists a constant fear of being scrutinized, observed and reported on. In response, teachers engage in 'act[s] of self-discipline' (p.82) and comply with the status quo. It is plausible that in my research

practitioners' fear of learners engaging in socially-critical action may demonstrate panopticonism. In chapter five I reported that practitioners made reference to local government rules and national government acts when they reflected on the source of their fears over engaging learners in socially-critical action in support of the environment. Indeed, the 1996 Education Act unequivocally prohibits the 'promotion of partisan political views in the teaching of any subject' (GB, statutes, 1996:406). Although requiring further research, such an act may contribute to practitioners' fear of doing something wrong if they engage learners in socially-critical action. In chapter five, I also reported how isolation contributed to practitioners feeling exposed and vulnerable to organisational reproof if they were to 'start doing something a bit different' (Robin, 11.12.14:3). Foucault (1977) explains that isolation plays a substantive and powerful role in influencing subjects towards succumbing to panoptic modes of discipline.

Additionally, in my research I found that for some practitioners, their notion of teacher influence was complex. Five practitioners who raised concerns about encouraging learners to explore intimate relationships with nature or take socially-critical action reported they were 'comfortable' with influencing learners towards taking individual action on recycling and saving energy. Their justification for using influence in this way was because recycling was considered 'normal' and represented 'perfect common sense'. This did not challenge their idea of remaining neutral. This raised an interesting interaction between neutrality and normality. Practitioners appeared to be comfortable to use their influence to engender among learners the beliefs, values and actions that sat within the scope of their learned normality, but wished to remain firmly neutral in avoiding influencing learners in areas outside their view of normality.

Through my research, I have come to understand how discourses on educational neutrality form a powerful disciplining effect by influencing what practitioners consider is possible and in limiting their horizons in visioning

what might be possible in environmental pedagogy (Foucault 1977). Significantly, the notion of neutrality is itself not a neutral one (Bonnett, 2003). It is a construct underpinned by rationalistic and objective ways of knowing and informed by reasoning that denies the inclusion of subjective value in environmental pedagogy. Yet this construct represents an unquestioned orthodoxy for many of the practitioners involved in my study. It governs their actions and forms part of their mentality (Foucault 1977), to such an extent, that several practitioners expressed extreme anxiety when discussing the idea of influencing learners towards taking action in support of nature. My own thoughts are that as educators, we should problematise the notion of neutrality and question the rationalistic and objective ways of knowing that inform this concept. Bonnett (2003) asks whether:

> In a social, economic and political climate that privileges consumerism and the 'free market' and in which … a certain violation of nature is systemic, …can environmental education afford to be procedurally neutral when so many other powerful influences in modern Western society - including some within education - are not (p.699)?

I concur with Bonnett (2003) and in my concluding chapter briefly explore alternatives to policies on neutrality.

The strong influencing effect of practitioners' beliefs and the institutional constraints discussed in section 6.1.1, present me with an emerging issue that I find difficult to reconcile. On the one hand I can accept there is a rhetoric-reality gap (Stevenson, 2007a) in the service in which I work and put aside my intentions to integrate innovative environmental pedagogies into practice. This would be deeply unsatisfactory however. Through reading scholarly articles and after much critical reflection I understand the importance of integrating innovative environmental pedagogies into educational practice.

Encouraging learners to reflect intimately on nature and engage in socially-critical action is a belief that I am now committed towards. On the other hand, I could become more 'agentic' (Reason, 2006:192) in encouraging practitioners to integrate innovative environmental pedagogies. Reason (2006) defines agentic action as the 'expression' of one's own versions of truth through 'self-assertion and self-expansion' (p.192). This option would also be deeply unsatisfactory. It would be tantamount to an imposition of my beliefs and values upon practitioners. According to Nicol (2012), impositions alienate, disempower and isolate people. Moreover, Reason (2006) warns that the act of imposing one's version of 'truth', of becoming agentic, implicitly privileges individualistic rather than collective ways of knowing. I see my work as uniting rather than dividing humans-humans and humans-nature, of being collective and participative, rather than individualistic. By becoming too agentic, I run the risk of unsettling the ways of knowing that I work to affirm. For some time this emerging issue presented me with an impasse. Recently I have begun to think differently about my main research question, however. Reflecting on Heron and Reason's (1997) theoretical framework has encouraged me to consider a more nuanced understanding of 'Can innovative environmental pedagogies be integrated into practice in the service in which I work?' in a way that helps me to negotiate the impasse. In the next section I discuss my actions, in terms of how I might think or act differently to my main research question and my interpretation of innovative environmental pedagogies, in response to my findings. I discuss these under two themes:

- Being pragmatic
- Integration as emergence

6.2 Action

6.2.1 Being Pragmatic

Heron and Reason's (1997) extended epistemology is underpinned by a 'participative worldview' (p.275) which upholds that differences between people can be understood and reconciled through shared critical reflection. Their theoretical framework also stresses the significance of experiential knowing and of grounding our interpretations in lived experience. Further,

Reason (1998) advises that researchers involved in participative action research will 'at times be required to let go of their own vision to allow for the multiple visions that may develop' (p.156). Heron and Reason's (1997) theoretical framework therefore reminds me that innovative environmental pedagogies are best integrated through collaboration with practitioners and through maintaining a stance which is inherently pragmatic.

Calls for pragmatism are also referenced in the EE literature by Stables and Scott (2001), Cotton (2006a) and Fazio and Karrow (2013) when considering how to negotiate the rhetoric-reality gap. Stables and Scott (2001) reflect on the constraints that mitigate the integration into practice of environmental pedagogies informed by 'deep ecological and socially-critical responses' (p.270). They suggest that although:

> …we must have our regulative ideals (truth, beauty, nature, sustainability) …we are most effective on acting on them when we abandon attempts at absolute and enduring understanding.

They recommend that:

> We are all capable of modifying our actions in the short term by informed reflection. In that, we are arguing that 'doing what we should' must relate to 'doing what we can', our approach to curriculum planning, even in EE, is pragmatic (p.274).

At the end of my research I now realise my understanding of innovative environmental pedagogies is an absolute one because for an approach to be counted as innovative, I have earlier argued that it has to conform to specific criteria. Thus, in the literature review I posited that innovative environmental pedagogies should encourage learners to reflect on nature *and* engage in socially-critical action. Further, I explicated how innovative environmental pedagogies should comprise of experiential, presentational, propositional *and* practical knowledge. My research however, recognises that there are institutional constraints and subjective influences that inform practitioners'

choices. With this in mind I now contend that an understanding of innovative environmental pedagogies must not be absolute but should be *grounded* (Heron and Reason, 1997) in the lived experiences and contexts of each practitioner. This is not to suggest that I let go of my vision entirely, for there is much in the literature that justifies this stance, but that flexibility is required. If there is to be flexibility however, some clarity is needed on what this might involve. Heron and Reason (1997) discuss how their extended epistemology is positioned within an emergent context. I find this emergent context helpful when considering flexibility in innovative environmental pedagogies and I discuss this next.

6.2.2 Integration as Emergence

Heron and Reason (1997) explain how through cycles of critical reflection and action, we gradually come to acknowledge and accommodate emergent ways of knowing. Nicol (2013) discusses this emergent context, whilst drawing on Heron and Reason's (1997) theory of epistemological diversity. He posits that the integration into practice of Heron and Reason's (1997) extended epistemology is dependent on a teacher's 'readiness' (p.52), to internalise, wrestle with and explore experiential, presentational, propositional and practical ways of knowing. Nicol's (2013) references to 'readiness' are significant because they draw attention to the importance for me to listen to practitioners' beliefs and work with the contexts within which they position themselves and within which they are positioned. Following my research, I now realise that many practitioners were not at a point of *conscientization* (Freire, 1972) where they would, for example, question their anthropocentric beliefs. This does not mean that I should put aside my intentions to integrate innovative environmental pedagogies but instead I should consider practitioners' actions over a much broader timescale that accommodates their readiness to question the status quo.

Taken from this stance, flexibility to the impasse I referred to earlier is attained and my research perceived in a developmental context. The integration of innovative environmental pedagogies becomes framed as an 'emergent process of engagement' that 'evolves over time' (Reason, 2006:189) through

ongoing critical reflection. Importantly this notion of emergence speaks to me in a language of hope and possibility. It encourages me to think that although practitioners might initially reject integrating experiential, presentational, propositional and/or practical ways of knowing into practice, they may not always continue to do so. This emergent process is evident in the practices of participants Robin and Francis who, pre-intervention, emphasised transmissive pedagogical practices in EE that positioned nature as invisible. Post-intervention they integrated experiential and presentational ways of knowing into practice. Although nature was positioned as a resource within their revised teaching, I now consider this change in practice to represent an emergent process toward integrating innovative environmental pedagogies in that nature now has a presence in their teaching. Further evidence of emergence might also be demonstrated in a discussion I had with Robin at the end of the research period. Throughout the research Robin had repeatedly voiced concern about encouraging socially-critical action amongst learners. In our final meeting she began to question her concerns and herself thus:

> Why can't you be political and support this whole collective idea? There is this fear of being too political or fear of being one sided. Why should you be frightened about influencing people about something (11.12.14:5)?

Although by the end of the research Robin had not integrated innovative environmental pedagogies, this nevertheless represents an example of emergence and the development of her *conscientization* (Freire,1972) as she begins to question her pre-existing beliefs and contemplate engaging with socially-critical responses. In the final concluding chapter, amongst other topics, I highlight recommendations for practice that might encourage a process of emergence toward integrating innovative environmental pedagogies.

6.3 Conclusion

In this chapter I have drawn out the main points from my findings and considered these in the context of the wider literature. My findings add weight to the assertion by Stevenson (2007a) that there is a rhetoric-reality gap between theory and practice in EE. Additionally, my findings show that there are subjective influences as well as institutional constraints that contribute to a rhetoric-reality gap. In section 6.2 I considered how my findings have encouraged me to develop a more nuanced understanding of how innovative environmental pedagogies might be integrated into practice. In the next chapter I consider the implications of my findings in a much broader context in terms of how they contribute to knowledge within the field of EE and what they might mean for policy, practice and further research.

Chapter 7: Conclusion

This chapter provides an opportunity for me to reflect on what I have learnt and what contribution I have made to the field. My research aimed to investigate whether innovative environmental pedagogies that encourage learners to reflect on relationships with nature and are socially-critical can be integrated into practice within the service where I work. To discover such meaning my research explored how eleven practitioners understand, develop and make sense of innovative environmental pedagogies. I begin this chapter by reminding the reader of the research questions and associated key findings. Next, I discuss the strengths and limitations of my study and consider the contribution to knowledge. I then provide recommendations for policy, practice and research. Finally, I reflect on my learning journey before concluding.

7.1 Research Questions

Supplementary research question 1*: What notions of nature and approaches to environmental pedagogy are supported by practitioners at the start of the research?*

a.) Notions of Nature

Practitioners conceived themselves to be more disconnected than connected with nature. Nature was overwhelmingly prescribed an instrumental value (Bai and Scutt, 2009). The value associations expressed by practitioners within my research reflect Bonnett's (2003) assertion that nature is predominantly positioned 'either as an externality or as a set of infinitely exploitable resources' (p.559). Moreover, my findings confirm Bonnett's (2003) claim that a person's 'underlying stance on nature's value will determine the kinds of knowledge and understanding to be considered relevant' (p.556) in EE. I consider this unveiling of practitioners' value relationships to nature significant as it has enabled a more thoughtful understanding of the reasons for a rhetoric-reality gap.

b.) Environmental pedagogies

At the start of my research most practitioners integrated environmental pedagogies into practice that associated nature with an instrumental value

and reflected a resource focus. Moreover, they favoured transmissive pedagogical practices in EE that resembled Freire's 'banking concept' of education and supported individual rather than collective socially-critical action. This provided an early indication of a rhetoric-reality gap in EE within the service in which I work (Stevenson 2007a).

Supplementary research question 2*: What environmental pedagogies did practitioners favour post the period of intervention?*

Two practitioners integrated innovative environmental pedagogies into practice post the period of intervention. They negotiated the various influences and constraints that subvert the integration of innovative environmental pedagogies into practice. Most practitioners however did not integrate innovative environmental pedagogies into practice and my findings add weight to the assertion by Stevenson (2007a) that there is a rhetoric-reality gap between theory and practice in EE. This research question enabled me to begin teasing through the reasons for a rhetoric-reality gap. Like Fazio and Karrrow (2013) and Grace and Sharp (2000) I reported on institutional constraints, yet my findings also differed to theirs. I reported on practitioner isolation, they did not. My study found the rigours of adhering to performance measures and an external examination syllabus significant, they did not.

Supplementary research question 3*: Do practitioners identify problems with integrating innovative environmental pedagogies into practice and if so what might these be?*

In this research question I explored more deeply the reasons why practitioners did not integrate innovative environmental pedagogies into practice. My research found that practitioners' values and beliefs significantly influence their choice of environmental pedagogy. My findings support research by Cotton (2006a) and Kyburz-Graber (1999) who reported that teachers' beliefs regarding neutrality mitigated against the integration of socially-critical EE into practice. Additionally, my study extends their research because I reported on how practitioners' beliefs about privileging learner need and value relationships with nature contribute to a rhetoric-reality gap in EE.

***Main research question**: Can innovative environmental pedagogies be integrated into the practice of teaching in the local government adult community education service in which I work?*

My findings suggest that the integration of innovative environmental pedagogies is problematic. Thus despite much academic theory proposing that 'together we can use education as a tool to create more vocal and vibrant ecological citizens and work collectively for socio-political environmental change' (Clover et al, 2010:17) my findings show that in my sample, most practitioners do not, at least in the short term, support this aim. Although the integration of innovative environmental pedagogies is problematic, however, by reflecting on my theoretical framework, I have begun to consider a more pragmatic and flexible approach toward my main research question. I now perceive the integration of innovative environmental pedagogies as an 'emergent process of engagement' that 'evolves over time' (Reason, 2006:189). It is dependent on encouraging each practitioner to critically reflect on their deeply held beliefs and the institutional constraints that limit their choices so that over time they might consider integrating innovative environmental pedagogies into practice. In section 7.5.2 I discuss the recommendations for practice that might encourage a process of emergence toward integrating innovative environmental pedagogies.

7.2 Strengths and Limitations of My Research

7.2.1 Strengths

There are three strengths. Firstly, my study adds to a small body of existing literature that explores the reasons for a rhetoric-reality gap in EE. Secondly, my theoretical framework resonates strongly with my methodology and supports the practical methods required to address my research aims and questions. Heron and Reason's (1997) extended epistemology gives primacy to experiential knowing. This has constantly reinforced in my mind the significance of listening to practitioners' voices and reflecting on how their experiences in teaching might affect interpretations of innovative environmental pedagogy. Listening and giving voice to practitioners has enabled me to document their fears and beliefs and illuminate the reasons for a rhetoric-reality gap in the adult community education service where I work.

Thirdly, Heron and Reason's (1997) extended epistemology provided a framework for conceptualising innovative environmental pedagogies. It provided a structure for me to analyse and document the extent to which practice in EE might be considered innovative.

7.2.2 Limitations

My research is a small study and this is an important limitation. The responses provided by eleven practitioners involved in my research may not be typical of other staff in other adult community education contexts. In recognizing this I have taken care not to generalise my findings to the broader adult community education practitioner community. The methodological limitations of my research are explored in detail in chapter three and in consideration of space I will not reiterate them here. I will however elaborate on the limitations of my understanding of innovative environmental pedagogies. I accept that my understanding is subjective. It is informed by approaches that are socially-critical and encourage reflection on nature and is framed within Heron and Reason's (1997) extended epistemology. In adopting this position, I have potentially limited my understanding and closed down the possibilities of *what might be* in terms of innovative practice in EE. I have tempered this limitation, though, by engaging in critical reflection and by repeatedly challenging my own positionality and ethical judgements that inform my research (Gewirtz and Cribb, 2006). In section 5.2.2 I discussed and reflected on a concern that I was imposing a pro-environmental worldview (Jickling, 1992). In section 6.1, I questioned my aim to integrate innovative environmental pedagogies. I explained how on reflection of the findings I was challenged by an emerging issue that led me to choose between becoming agentic or relinquishing my aim. Recognising this issue caused me to adopt a more pragmatic and flexible position within which the integration of innovative environmental pedagogies is considered within a context of emergence. More recently I have realised an additional limitation. My study has been guided by previous research into the rhetoric-reality gap in EE. This research focused my attention on identifying the constraints that mitigate *against* the integration of innovative environmental pedagogies. Yet in doing this, my attention correspondingly became drawn away from enquiring into the circumstances

that resulted in two practitioners integrating innovative environmental pedagogies into practice. I now consider this to be an important limitation upon my research but in addition suggest that analysing the influences that contribute to, rather than mitigate against, the integration of innovative environmental pedagogies would provide an important starting point for a future research project. In section 7.6 I expand on this further.

7.3 Contribution to Knowledge

My research makes an original contribution to knowledge in three ways. Firstly, it documents the reasons for a rhetoric-reality gap in EE in a local government adult community education service. Few other research projects illuminate the reasons for a rhetoric-reality gap and those that do, focus on the experiences of practitioners working within schools (Kyburz-Graber, 1999; Grace and Sharp, 2000; Cotton, 2006a; Fazzio and Karrow, 2013). Secondly, my study adds weight to Fazio and Karrow (2013) and Grace and Sharps (2000) research in that I identify institutional constraints that augment a rhetoric-reality gap. My research extends beyond theirs in that it documents how curriculum innovation is constrained by practitioners' concerns about adhering to externally imposed performance measures. Additionally, it illuminates the isolation that many practitioners experience and the impact this has on curriculum innovation. Thirdly, like Cotton (2006a), my study draws attention to the significance of practitioner beliefs and supports her assertion that concerns with neutrality and learner influence contribute to a rhetoric-reality gap. My research extends beyond hers, though, in that I document practitioners' concerns for privileging learner need. My research also made visible practitioners' value associations with nature and so contributed to an understanding of how these in turn influence pedagogical choices. I have identified no other studies that report on practitioners' value associations with nature, yet my findings suggest these represent a significant influence and substantiate Bonnett's (2003) assertion that a person's 'underlying stance on nature's value will determine the kinds of knowledge and understanding to be considered relevant' (p.556). By making practitioners' beliefs visible, this study confirms the complexity associated with integrating innovative environmental pedagogies into practice (Cotton 2006a).

7.4 Recommendations for Policy and Practice

7.4.1 Policy

There are three recommendations for policy. Firstly, in my introduction I made the case that there has been an '*a priori* elevation' of Brundtland type ESD to the 'status of a privileged doctrine' by the UK government (Jickling and Wals, 2008:8). If this dominant doctrine is to be unsettled, there needs to be an acknowledgment within government departments and policy documents of the issues associated with ESD. In other words, I am suggesting that government departments promote critical reflexivity and problematise the anthropocentric and individualistic meanings that underpin policy. This would provide an indication to staff within adult community education that there is no single 'truth' or privileged doctrine and that alternative approaches can be considered. Secondly, my findings highlighted the limiting effect that government-imposed performance targets have on curriculum innovation. In recognition of this I recommend that the SFA and BIS review their policy on setting performance targets and consider alternative quality assurance initiatives that promote rather than constrain innovation. Although requiring further research, this might involve gauging an adult community education services quality primarily on the '*educational values'* that it aims to engender amongst learners (Elliott, 2012:56). Like Elliott I do not believe these should be:

> …instrumental values like 'effectiveness' and 'efficiency' but conceptualizations of the human potentials which an educational process aims to foster and develop in pupils [and adult learners], for example, potentials for understanding the meaning and significance of certain kinds of events and situations; for critical, reflective and imaginative thinking… for intelligent and wise action in complex and unpredictable… situations (p.56).

Thirdly I suggest that policies on teacher neutrality be critically reviewed. In my findings I reported that many practitioners expressed concern over contravening local and national government policy on neutrality. This contributed to innovative environmental pedagogies being marginalised. Like many critical pedagogues (Apple, 1996; Gramsci, 1971; Girroux, 1997), I

consider the idea of maintaining a neutral position in education to be an illusion. Consequently, I argue that policies should recognise the myth of neutrality and objectivity. Government policies should acknowledge that there is always an issue of influence and of imposing meaning in education (Carr, 2000). Rather than having government education acts that prohibit the 'promotion of partisan political views' (GB, statutes, 1996:406), I recommend that legislation should actively seek to inspire a culture of debate where different views and values can be brought to the table and critically reflected on by educators and learners (Postma, 2002). Policies should focus on encouraging transparency, rather than neutrality, in EE. I see this notion of transparency in terms of educators being open and critically reflective of their own positionality and additionally of educators becoming active in encouraging learners to be open and critically reflective of the moral and ethical stances that they too support.

In making these policy recommendations, I am reminded of the advice of Weiss (1991) who contends 'It takes an extraordinary concatenation of circumstances for research to influence policy directly' (p.308). In particular I realise that UK government education policy is underpinned by an economic agenda that accords with a performative culture and requires learners to adhere to the status quo (Ball, 2009). It is unlikely therefore that the recommendations outlined above will be considered by politicians and government officials and this is why as environmental educators we must contemplate 'doing what we can' (Stables and Scott, 2001:274) in local settings and practices. This leads me to my recommendations for practice.

7.4.2 Practice.

In the discussion chapter I reflected on my findings and subsequently considered a more nuanced and thoughtful understanding of how innovative environmental pedagogies might be integrated into practice. I discussed two actions. I explained how I would be more flexible and pragmatic in my interpretation of pedagogical innovation in EE. Furthermore, I would consider the integration of innovative environmental pedagogies as an emergent

process that accommodated the situated context of each practitioner. Although I do not wish to generalise about my findings, I offer these two actions as recommendations for practice to environmental educators who seek to integrate innovative environmental pedagogies into practice in local government adult community education settings.

Additionally, I offer one more recommendation for practice. The notion of framing the integration of innovative environmental pedagogies as an emergent process draws my attention to the significance of educational research and educational practice being more closely aligned. In the methodology, I explained that my study was limited because I had engaged in a single cycle of reflection, action and reflection. I now realise the significance of engendering a culture of *ongoing* research in practice where practitioners are immersed in a continuous process of inquiry that involves multiple cycles of reflection and action. By engendering a culture of ongoing research in practice, practitioners might further problematise their normative assumptions and challenge their fears over engaging learners in socially-critical action. They would be encouraged to continue their journey of *conscientization* (Freire, 1972). I am aware that engaging multiple cycles of action and reflection may give rise to concerns over practical considerations regarding time and physical resource. Indeed, it was for this reason that I engaged a single cycle. I now realise however that I had concerns over time because I subconsciously perceived my research and practice to be separate. Ironically this was despite me engaging in an inquiry that sought to unveil the disjuncture between rhetoric and reality (Heron and Reason, 1997). With hindsight I now understand that educational research and educational practice should be deeply conjoined in our minds so they are not perceived as separate entities (Reason, 2006). As practitioners *and* researchers, we should be continuously 'living life as inquiry' (Marshall, 1999:156). To aid this process, in my future practice, I will foster the development of cooperative inquiry meetings within the service in which I work. Such meetings enable practitioners to come together, discuss and critically reflect on the meanings that inform their practice in environmental pedagogy and so 'strive for the emergence of consciousness and critical intervention in reality' (Freire,

1972:68). Cooperative inquiry meetings will help to address the isolation amongst practitioners that stifles creativity and will nurture support and confidence in integrating innovative environmental pedagogies. Additionally, I will encourage practitioners to bring examples of practice to pre-existing meetings that are already part of the fabric of the organisation in which I work (i.e. team meetings, curriculum meetings and staff development events) so that we can further discuss, problematise and consider how innovative environmental pedagogies might be integrated into practice.

7.5 Recommendations for Further Research

I propose three ways my study might inform future research. Firstly, there is a need for additional research into how practitioners understand, develop and make meaning of innovative environmental pedagogies. As far as I am aware, mine is the only research that focuses on the practical experiences and perceptions of practitioners working within the field of adult community education. Moreover, my study concentrated on a small sample of practitioners from a specific local government adult community education service. Engaging with practitioners in another adult community education organisation (i.e. the Workers Educational Association or private training providers) or one in a different location might have unveiled other problems and complexities associated with integrating innovative environmental pedagogies. Practitioners might not be so heavily influenced by the demands of adhering to government imposed performance targets. They might not be so isolated in their practice. They might not have to strictly adhere to organisational regulations on neutrality in practice. My data therefore should be viewed in a provisional context and further research is required to either substantiate or refute my findings.

Secondly, my research revealed the extent that practitioners' beliefs influenced their choice of environmental pedagogy. As well as concerns with neutrality, privileging learner need and practitioners' value relationships to nature are significant. Mine is the only research that reports on these latter two influences. Further research might explore the complexities of how dominant beliefs permeate through society and influence practitioner's choice

of environmental pedagogy. To uncover such meaning I recommend grounding this research in an interpretive paradigm, based on narrative inquiry. This would enable practitioners deeply held subjectivities regarding nature and learner need to be explored and unveiled. Additionally, I suggest that this research engages with a small sample of three or four practitioners. In my research I worked with eleven practitioners but on reflection found this too many and at times experienced considerable data overload.

Thirdly, I recognise my study stopped short of exploring the positive influences that contributed to two practitioners (Pat and Charlie) integrating innovative environmental pedagogies into practice. A further recommendation would be to conduct research that inquires more deeply into the experiences of practitioners like Pat[37]. At the close of my study, Pat had integrated innovative environmental pedagogies into practice. Like the research outlined above, I recommend that this further research adopt an interpretative paradigm so that practitioners' subjectivities and constructs of innovative environmental pedagogies can be fully explored. This research could focus on unveiling how some practitioners are able to rebuff the fears others experience over engaging learners in socially-critical action. It could inquire into the support mechanisms and value systems that build confidence in practitioners so they feel empowered to question and challenge dominant discourses. It could delve into what motivates practitioners towards encouraging learners to explore intimate relationships with nature.

7.6 My Learning Journey

My research journey has been challenging and insightful. I began my research with a naïve agentic (Reason, 2006) understanding in that I assumed that the practitioners and I were united in a common cause that focussed on integrating innovative environmental pedagogies into practice. I soon began to realise that this was not the case. What I had assumed was a common cause was in fact *my* cause. Many practitioners expressed doubts about engaging learners in socially-critical action. More-so, they questioned

[37] See section 5.1.3.

assumptions about an inherent intrinsic value association with nature. As I listened to practitioners' doubts and critical responses I became immersed in a world of deep inner reflection and self-questioning. I emerged realising I should not shy away from critical responses. Instead I must welcome them, engage with them and in the middle ground of dialogue with practitioners, search for new ways of seeing and thinking (Reason, 2006). This was an important learning process for me, in that as my research progressed, I became less concerned with my own *agency* and more concerned with a *communion* (Heron and Reason, 1997) of understanding between myself and practitioners. I do not mean here that I put aside my own agency or vision, for, as I have outlined in chapter two, there is much within academic literature to justify the integration of innovative environmental pedagogies that encourage learners to reflect on relationships with nature and are socially-critical. What I do mean is that if I am serious about integrating innovative environmental pedagogies into practice, I must continue to work closely with practitioners so that I foreground their views and practical experiences. It is only by doing this that I will foster the conditions within which new ways of thinking in EE can emerge in the service in which I work.

7.7 Conclusion

This has been my first major research project. Despite my limited experience, I feel my research has achieved its aim in providing an insight into how eleven local government adult community education practitioners make meaning of innovative environmental pedagogies. In making this claim, I accept that my research has been coloured by my own positionality. This is one that is underpinned by an interpretive paradigm and informed by Heron and Reason's (1997) theoretical framework. Adopting Heron and Reason's (1997) extended epistemology, however, has given direction and focus to my research. Early on, it provided me with a framework for conceptualising innovative environmental pedagogies. Throughout my research it reminded me of the importance of grounding my conceptions of innovative environmental pedagogy in the experiential realities and situative contexts of the practitioners. Additionally, it encouraged me to be critically reflexive to challenge my personally held beliefs and to consider a more pragmatic

interpretation that perceives the integration of innovative pedagogies as an emergent process. I hope my research can in some small way provide valuable information to other educators, researchers and policy makers who have an interest in the integration of innovative environmental pedagogies into teaching practice within local government adult community education settings.

References

Abram, D. (1996). *The spell of the sensuous*. New York: Vintage Books.

Affifi, R. (2011). What Weston's Spider and My Shorebirds Might Mean for Bateson's Mind: Some Educational Wanderings in Interspecies Curricula, *Canadian Journal of Environmental Education*, 16, 46-58.

Apple, M. (1981). *Ideology and Curriculum.* New York: Routledge.

Avis, J. (2003). Re-thinking trust in a performative culture: the case of education, *Journal of Education Policy*, 18(3), 315-332.

Bai, H. and Scutt, G. (2009). Touching the Earth with the Heart of Enlightened Mind: The Buddhist Practice of Mindfulness for Environmental Education, *Canadian Journal of Environmental Education,* 14, 92-106.

Ball, S. (1998). Big Policies/Small World: an introduction to international perspectives in education policy, *Comparative Education,* 34(2), 119–130.

Ball, S. (2009). Privatising education, privatising education policy, privatising educational research: network governance and the 'competition state'**,** *Journal of Education Policy.* 24(1), 83–99.

Barrett, M. J. (2011). Doing Animist Research in Academia: A Methodological Framework, *Canadian Journal of Environmental Education*, 16, 123-141.

Barton, l. and Clough, P. (Eds) (1995). *Making Difficulties: research and the construction of SEN.* London, Paul, Chapman.

Bassey, M. (1999). *Case Study Research in Educational Settings*. Buckingham: Open University Press.

Bell, D. R. (2004). Creating Green Citizens? Political Liberalism and Environmental Education, *Journal of Philosophy of Education*, 38(1), 37-53.

Bell, J. (1999). *Doing Your Research Project: a guide for first-time researchers in education and social science* (3rd ed.). Buckingham: Open University Press.

Bevins, S. and Wilkinson, N. (2009). Sustainability Across the Curriculum, *Journal of Education for Sustainable Development,* 3(2), 221–225.

Blackburn, J. (2000). Understanding Paulo Freire: reflections on the origins, concepts, and possible pitfalls of his educational approach, *Community Development Journal*, 35(1), 3-15.

Bonnett, M. (1999). Education for Sustainable Development: a coherent philosophy for environmental education? *Cambridge Journal of Education*, 29(3), 313-324.

Bonnett, M. (2003). Introduction: A Tangled Web, *Journal of Philosophy of Education*, 37(4), 551-562.

Bonnett, M. (2003). Metaphysics, Education and Environmental Concern, *Journal of Philosophy of Education*, 37(4), 563-575.

Bonnett, M. (2003). Notions of Nature, *Journal of Philosophy of Education*, 37(4), 577-592.

Bonnett, M. (2003). Nature as Primordial Reality, *Journal of Philosophy of Education*, 37(4). 613-628.

Bonnett, M. (2003). Nature's Intrinsic Value, *Journal of Philosophy of Education*, 37(4). 629-639.

Bonnett, M. (2003). Nature and Knowing, *Journal of Philosophy of Education*, 37(4), 641-655.

Bonnett, M. (2007). Environmental education and the issue of nature, *Journal of Curriculum Studies,* 39(2), 707–721.

Bowers, C. A. (2002). Toward an eco-justice pedagogy. *Environmental Education Research*, 8(1), 21–34.

Bowl, M. and Tobias, R. (2012). Learning From the Past, Organizing for the Future: Adult and Community Education in Aotearoa New Zealand, *Adult Education Quarterly*, 62(3), 272-286.

Brewer, R. (2007). *Your PhD Thesis, How to plan, draft, revise and edit your thesis,* Abergele: Studymates.

Callicott, J. B. (1987). *Companion to 'A Sand County Almanac', Interpretive and Critical Essays*, Madison-Wisconsin: University of Wisconsin Press.

Capra, F. (1996). *The Web of Life*. London: Penguin

Capra, F. (1997). *The Web of Life: A New Synthesis of Mind and Matter.* London: Flamingo/HarperCollins.

Carr, W. (1998). The Curriculum in and for a Democratic Society. *Journal of Curriculum Studies*, 6(3), 323-340.

Carr, W. (2000). Partisanship in Education Research. *Oxford Review of Education*, 26(3), 437-439.

Chamberlain, P. Bornat, J. and Wengraf, T. (2000). *The Turn to Biographical Methods in the Social Sciences.* London: Routledge.

Clough, P. and Nutbrown, C. (2002). *A Student's Guide to Methodology*. London: Sage.

Clover, D. (2002). “Traversing the Gap: Conscientazacion, Educative-Activism and Environmental Adult Education”, *Environmental Education Research*, 8(3), 315-323.

Clover, D. (2003). Environmental Adult Education: Critique and Creativity in a Globalizing World, *New Directions for Adult and Continuing Education*, 99(3) 5-15.

Clover, D et al. (2010). *The Nature of Transformation,* Rotterdam: Sense.

Clover, D. and Hall, B. (2010). Critique, Create, and Act: Environmental Adult and Social Movement Learning in an Era of Climate Change. In: F. Kagawa and D. Selby, (Eds.), *Education and Climate Change, Living and Learning in Interesting Times*. London: Routledge.

Clover, D. and Hill, L. H. (2003). Learning Patterns of Landscape and Life, *New Directions for Adult and Continuing Education*, 99(3), 89-96.

Coffield, F. and Edward, S. (2009). Rolling out ‘good’, ‘best’ and ‘excellent’ practice. What next? Perfect practice? *British Educational Research Journal,* 35(3), 371-390.

Corman, L. (2011). Impossible Subjects: The Figure of the Animal in Paulo Freire’s Pedagogy of the Oppressed. *Canadian Journal of Environmental Education*, 16, 29-45.

Cotton, D. (2006a). Implementing curriculum guidance on environmental education: the importance of teachers’ beliefs. *Journal of Curriculum Studies*, 38(1), 67-83.

Cotton, D. (2006b). Teaching controversial environmental issues: neutrality and balance in the reality of the classroom. *Educational Research*, 48(2), 223-241.

Creswell, J. W. (2009). *Research Design*, 3rd edition. London: Sage Publications.

Curthoys, L. P. (2007). Finding a Place of One’s Own: Reflections on Teaching In and With Place, *Canadian Journal of Environmental Education*, 12, 68-79.

Davis, M., Kiely, R. and Askham, J. (2009). InSITEs into practitioner research: findings from a research-based ESOL teacher professional development programme, *Studies in the Education of Adults,* 41(2).

Denscombe, M. (2003). *The Good Research Guide: for small-scale social research projects* (2nd ed.). Buckingham: Open University Press.

Derrida, J. (1967). *Writing and Difference*. London: Routledge.

Dewey, J. (1963). *Experience and Education*. London: Collier-MacMillan.

Doll, W. E. (1993). *A Post-Modern Perspective on Curriculum*. New York: Teachers College Press.

Edwards, R. (2001). Meeting individual learner needs: power, subject, subjection. In: C. Paetcher, M. Preedy, D. Scott, J. Soler (Eds.), *Knowledge, Power and Learning*, London: Sage, 37-46.

Ellias, J. L. and Merriam, S. B. (1995). *Philosophical Foundations of Adult Education, 2nd edition*. Malabar, Florida: Krieger Publishing.

Elliott, J. (Ed.) (2012). *Reconstructing Teacher Education, Teacher Development, 2nd edition*, Abingdon: Routledge.

Evelyn, E. (2004). Telling stories of research, *Studies in the Education of Adults*, 36(1), 86–110.

Evernden, N. (1992). *The social creature of nature*. Baltimore: The John Hopkins University Press.

Fawcett, L. (2000). Ethical imaging: Ecofeminst possibilities and environmental learning. *Canadian Journal of Environmental Education*, 5, 134-149.

Fazio, X. and Karrow, D. (2013). Negotiating the constraints of schools: environmental education practices within a school district, *Environmental Education Research*, 19(5), 639-655.

Feng, L. (2010). *Sustainability Education Curricula: Three Case Study Masters Programmes in England and China.* Unpublished Thesis, University of Sheffield.

Fien, J. (Ed). (1993). *Environmental Education: A pathway to sustainability.* Victoria: Deakin University.

Fien, J. (1999). Towards a Map of Commitment: A Socially Critical Approach to Geographical Education, *International Research in Geographical and Environmental Education*, 8(2), 140-158.

Fien, J. (2000). 'Education for the Environment: A critique' – an analysis, *Environmental Education Research*, 6(2), 179-192.

Firestone, W. A. (1993). Alternative Arguments for Generalizing from Data as Applied to Qualitative Research. *Educational Research*, 22(4), 16-23.

Foucault, M. (1977). *Discipline and punish: The birth of the prison*. New York: Vintage Books.

Freire, P. (1970). *Pedagogy of the Oppressed*, trans. M. B. Ramos. New York: Continuum.

Freire, P. (1971). *L'education: Practique de la Liberte*, Les Editions du Cerf, Paris, France.

Freire, P. (1972). *Cultural Action for Freedom*, Hammondsworth: Penguin.

Freire, P. (2004). *Pedagogy of Hope*. New York: Continuum.

Fromm, E. (1973). *The Anatomy of Human Destructiveness*. New York: Open Road Integrated Media.

Gadamer, H.G. (1975). *Truth and Method*. London: Sheed and Ward.

Gayford, C.G. (2001). Education for sustainability: An approach to the professional development of teachers: *European Journal of Teacher Education*, 24(3), 313–327.

Gayford, C.G. (2003). Participatory Methods and Reflective Practice Applied to Research in Education for Sustainability: *Canadian Journal of Environmental Education*, 8(1), 129–142.

Gewirtz, S and Cribb, A. (2006). What to do about values in social research: the case for ethical reflexivity in the sociology of education, *British Journal of Sociology of Education*, 27(2), 141–155.

Giddens, A. (1994). *Beyond Left and Right: The Future of Radical Politics*. Cambridge: Blackwell/Polity.

Giroux, H. A. (1997). *Pedagogy and the Politics of Hope: Theory, Culture and Schooling*. Boulder CO: Westview Press.

Glaser, B. G. and Strauss, A. L. (1967). *The discovery of grounded theory: strategies for qualitative research.* Chicago: Aldine.

Gough, S. and Scott, W. (2006). Education and sustainable development: a political analysis, *Educational Review,* 58(3), 273–290.

Grace, M. and Sharp, J. (2000). Exploring the Actual and Potential Rhetoric-Reality Gaps in Environmental Education and their Implications for Pre-service Teacher Training, *Environmental Education Research*, 6(4), 331-345.

Gramsci, A. (1971). *Selections from the prison notebooks of Antonio Gramsci*, Hoare, Q, and Smith, G. N. (Eds.), London, England: ElecBook.

Grey-Donald, J. and Selby, D. (2008). Introduction. In: Gray-Donald, J and Selby, D. (Eds.) *Green Frontiers: Environmental Educators Dancing Away from Mechanism,* Rotterdam: Sense. 1-8.

Greenbank, P. (2003). The role of values in educational research; the case for reflexivity, *British Educational Research Journal*, 29(6), 791-801.

Griffin, S. (1995). *The Eros of Everyday Life*. New York: Doubleday.

Griffin, J. (2011). *On the Origin of Beauty: Ecophilosophy in the Light of Traditional Wisdom.* London: World Wisdom.

Grix, J. (2004). *The Foundations of Research*. Hampshire: Palgrave.

Gruenewald, D. (2004). A Foucauldian Analysis of Environmental Education: Toward the Socioecological Challenge of the Earth Charter, *Curriculum Inquiry*, 34(1), 71-104.

Gruenewald, D. and Manteaw, B. O. (2007). Oil and water still: how 'No Child Left Behind' limits and distorts environmental education in US schools, *Environmental Education Research*, 13(2), 171-188.

Guba, E. G. (1981). Criteria for assessing the trustworthiness of naturalistic inquiries, *Educational Communication and Technology Journal*, 29(1), 75-91.

Heidegger, M. (1927/1962). *Being and Time*, Blackwell Publishing: Oxford.

Heron, J. (1981). Philosophical basis for a new paradigm. In: P. Reason and J. Rowan (Eds.), *Human inquiry: A source-book of new paradigm research*, Chichester: Wiley, 19-36.

Heron, J. (1988). Validity in cooperative inquiry. In: P. Reason (Ed.), *Human inquiry in action*, London: Sage, 40-59.

Heron, J. (1996a). *Cooperative Inquiry: Research into the Human Condition.* London: Sage.

Heron, J. (1996b). Quality as primacy of the practical. *Qualitative Inquiry*, *2*(1), 41-56.

Heron, J and Reason, P. (1997). A Participatory Inquiry Paradigm, *Qualitative Inquiry*, 3(3), 274-294.

Heron, J. and Reason, P. (2001). The practice of cooperative inquiry: research with rather than on people. In: P. Reason and H. Bradbury (Eds.), *Handbook of action research: participative inquiry and practice*, London: Sage, 179-188.

Hill, L. H. and Johnston, J. D. (2003). Adult Education and Humanity's Relationship with Nature Reflected in Language, Metaphor, and Spirituality: A Call to Action, *New Directions for Adult and Continuing Education*, 99(3), 17-26.

HM Government. (2005a). *From Here to Sustainability: The Learning and Skills Council's Strategy for Sustainable Development*, London: LSC.

HM Government. (2005b). *From here to Sustainability: The Learning and Skills Council's Strategy for Sustainable Development, Supporting Document*, London: LSC.

HM Government. (2005c). *Securing the Future: Delivering UK sustainable development strategy*, CM 6467, Norwich: HMSO. Available online at

www.sustainabledevelopment.gov.uk/documents/publications/strategy/SecFut_complete.pdf. Accessed 09.10.10.

HM Government. (2005d). *One Future – Different Paths: The UK's shared framework for sustainable development,* London: Defra. Available online at: www.sustainabledevelopment.gov.uk/documents/publications/SD/20framework.pdf. Accessed 16.10.10.

HM Government (2009). *Department of Business, Innovation and Skills 'Sustainable Development Action Plan, 2009 – 2011'*, London: BIS.

Honderich, T. (Ed). (1995). *The Oxford companion to philosophy*. Oxford: Oxford University Press.

Horwood, B. (1991). Tasting the berries: Deep ecology and experiential education. *Journal of Experiential Education*, 14(3), 23-26.

Jickling, B. (1992). Why I don't want my children to be educated for sustainable development, *Journal of Environmental Education*, 23(4), 5-8.

Jickling, B. (2003). Environmental Education and Environmental Advocacy: revisited, *Journal of Environmental Education*, 34(2), 20-27.

Jickling, B. and Spork, H. (1998). Education for the environment: A critique. *Environmental Education Research*, 4(3), 309-327.

Jickling, B. and Wals, A. J. (2008). Globalization and environmental education: looking beyond sustainable development, *Journal of Curriculum Studies*, 40(1), 1–21.

Junyent, M. and Geli-de-Ciurana, A. M. (2008). Education for sustainability in university studies: a model for reorienting the curriculum, *British Educational Research Journal,* 34(6), 763–782.

Kahn, R. (2002). Paulo Freire and eco-justice: Updating Pedagogy of the Oppressed for the age of ecological calamity. Freire Online Journal, 1(1). Retreived from htttp://antiochla.academia.edu/RichardKahn/Papers/76691. Accessed 19.11.2014.

Kahn, R. (2008). From education for sustainable development to ecopedagogy: sustaining capitalism or sustaining life? *Green Theory and Praxis: The Journal of Ecopedagogy*, 4(1), 1-14.

Kahn, R. (2010). Critical Pedagogy, Ecoliteracy, and Planetary Crisis, The Ecopedagogy Movement, New York: Peter Lang Publishing.

Kapoor, D. (2003). Environmental Popular Education and Indigenous Social Movements in India, *New Directions for Adult and Continuing Education*, 99(3), 47-58.

Kemmis, S. (2001). Exploring the relevance of critical theory for action research: Emancipatory action research in the footsteps of Jürgen Habermas.

In: P. Reason & H. Bradbury (Eds.), *Handbook of action research: Participative inquiry and practice*. London: Sage. 91-102.

Kiely, R., Sandmann, L. R. and Truluck, J. (2004). Adult learning theory and the pursuit of adult degrees, *New Directions for Adult and Continuing Education*, 103(3), 17-30.

Kilgore, D. (2001). Critical and Postmodern Perspectives on Adult Learning, *New Directions for Adult and Continuing Education,* 89(1), 53-61.

Knowles, M. (1973). *The Adult Learner: The definitive classic in adult education human resource development*, London: Routledge.

Kristiansen, M & Bloch-Poulsen, J. (2004). Self-referentiality as a power mechanism: Towards dialogic action research. *Action Research*, *2*(4), 371-388.

Kuhl, G. J. (2011). Representing Animal-Others in Educational Research, *Canadian Journal of Environmental Education*, 16, 106-122.

Kyburz-Graber, R. (1999). Environmental Education as Critical Education: how teachers and students handle the challenge, *Cambridge Journal of Education*, 29(3), 415-432.

Lee, J. A. (1988). Seals, wolves and words: loaded language in environmental controversy. *Alternatives* 15(4), 20-29.

Leopold, A. (1949). *A Sand County Almanac*. New York: Oxford University.

Lincoln, S. Y. and Guba, E. G. (1985). *Naturalistic Inquiry*. London: Sage.

Locke, L., Silverman, S. and Spirduso, W. (2004). *Reading and Understanding Research.* London: Sage.

Lyotard, J. (1984). *The Postmodern Condition: a report on knowledge.* (G. Bennington and B. Massumi Trans.), Minneapolis: University of Minnesota Press. (Original work published 1979).

Marshall, J. (1999). Living life as inquiry. *Systematic Practice and Action Research*, *12*(2), 155-171.

Marx, K. (1983). *The Portable Karl Marx*. New York: Penguin Books.

Massy, W. F., Wilger, A. K. and Colbeck, C. (1994). Departmental Cultures and Teaching Quality: Overcoming “Hollowed” Collegiality, *Change*, 26(4), 10-20.

Maykut, P. and Morehouse, R. (1994). *Beginning Qualitative research: A philosophical and practical guide*. London: Falmer Press.

McNiff, J. (1988). *Action Research: Principles and Practice* (1st ed.). London: Routledge Falmer.

Mckibben, B (2003). *The End of Nature – Humanity, Climate Change and the Natural World.* London: Bloomsbury.

Merleau-Ponty, M. (1962). *Phenomenology of Perception*. Trans. C. Smith. London: Routledge and Keagan Paul.

Miles, M. and Huberman, A. (1994). *Qualitative Data Analysis: an expanded sourcebook* (2nd ed.). London: Sage.

Miller, J. (2008). Holistic Education and Environmental Education. In: Gray-Donald, J and Selby, D (Eds.), *Green Frontiers: Environmental Educators Dancing Away from Mechanism,* Rotterdam: Sense. 82-93.

Minh-ha, T. (1989). *Women, Native, Other. Writing Post-coloniality and Feminism,* Indiana University Press

Mortari, L. (2004). Educating to Care, *Canadian Journal of Environmental Education*, 9, 109-122.

Nash, R. F. (1989). *The Rights of Nature, A History of Environmental Ethics,* Madison-Wisconsin: The University of Wisconsin Press.

Nicol, R. (2002). Outdoor Environmental Education in the United Kingdom: A Conceptual Framework of Epistemological Diversity and Its Educational Implications. *Canadian Journal of Environmental Education*, 7(2), 207-224.

Nicol, R. (2012). Entering the Fray: The role of outdoor education in providing nature-based experiences that matter, *Educational Philosophy and Theory*, 46(5), 449-461.

Nicol, R. (2013). Fostering environmental action through outdoor education. *Educational Action Research*, 22(1), 39-56.

Oakley, J et al (2010). Animal Encounters in Environmental Education Research: Responding to the 'Question of the Animal', *Canadian Journal of Environmental Education*, 16, 86-102.

Orr, D. (1992). *Ecological Literacy: education and the transition to a postmodern world.* New York: State University of New York Press.

Orr, D. (1993). Schools for the twenty-first century. *Resurgence*, 160, 16-17.

Orr, D. (1994a). *Earth in Mind: On Education, Environment and the Human Prospect.* Washington, DC: Island Press.

Orr, D. (1994b). The marriage of mind and nature. *Resurgence*, 166, 6-7.

O'Sullivan, E. (1999). *Transformative Learning: Educational Vision for the 21st Century*. London, Zed Books.

O'Sullivan, E. and Taylor, M. (Eds.) (2004). *Learning Toward an Ecological Consciousness, Selected Transformative Practices*, New York: Palgrave MacMillan.

Otto, E. and Wohlport, A. J. (2009). Creating a Culture of Sustainability: Infusing Sustainability into the Humanities, *Journal of Education for Sustainable Development*, 3(2), 231-235.

Piersol, L. (2010). Tracking Self into Place, *Canadian Journal of Environmental Education*, 15, 198-209.

Pinchot, G. (2004). *The Fight for Conservation*. Montana: Kessinger.

Plant, M. (2001). *Developing and Evaluating a Socially-Critical Approach to Environmental Education at Philosophical and Methodological Levels in Higher Education.* Unpublished PhD thesis. Nottingham Trent University.

Postma, D. W. (2002). Taking the Future Seriously: on the inadequacies of the framework of Liberalism for environmental education. *Journal of Philosophy of Education*, 36(1), 41-56.

Raine, K. (2003). The Underlying Order: Nature and Imagination. In: McDonald, B (Ed.) *Seeing God Everywhere: Essays on Nature and The Sacred,* London: World Wisdom.

Reason, P. (1994). Three approaches to participative enquiry. In: N.K. Denzin & Y.S. Lincoln (Eds.), *Handbook of qualitative research*. London: Sage. 324–339.

Reason, P. (1996). Reflections on the purpose of human inquiry, *Qualitative Inquiry*, 2(1), 9-24.

Reason, P. (1998). A participatory world. *Resurgence*, 186, 42-44.

Reason, P. (2001). Participation, in writing, carving and teaching. *ReVision*, 23(4), 44-48.

Reason, P. (2003). Pragmatist philosophy and action research: Readings and conversation with Richard Rorty, *Action Research*, 1(1), 103-123.

Reason, P. (2006). Choice and Quality in Action Research Practice. *Journal of Management Inquiry*, 15(2), 187–203.

Reason, P. & Bradbury, H. (2001). Inquiry and participation in search of a world worthy of human aspiration. In: P. Reason & H. Bradbury (Eds.), *Handbook of action research: Participative inquiry and practice.* London: Sage. 1-14.

Reason, P. and Marshall, J. (1987). Research as personal process. In D. Boud and V. Griffin (Eds.), *Appreciating adult learning*, London: Sage, 413-419.

Reason, P. and Marshall, J. (2001). On supervising graduate research students, In P. Reason & H. Bradbury (Eds.), *Handbook of action research: Participative inquiry and practice.* London: Sage. 413-419.

Reinhartz, S. (1992). *Feminist methods in social research.* Oxford: Oxford University Press.

Rorty, R. (1979). *Philosophy and the Mirror of Nature*. Princeton: Princeton University Press.

Rudestam, K. and Newton, R. (2007). *Surviving Your Dissertation: A Comprehensive Guide to Content and Process,* London: Sage.

Russell, C., Sarick, T. and Kennelly, J. (2008). Queering Environmental Education. In: J. Gray-Donald and D. Selby (Eds.), *Green Frontiers, Environmental Educators Dancing Away from Mechanism*. Rotterdam: Sense Publishers. 142-152.

Sammel, A. (2003). An Invitation to Dialogue: Gadamer, Hermeneutic Phenomenology, and Critical Environmental Education, *Canadian Journal of Environmental Education*, 8(1), 155–168.

Sauvé, L and Berryman, T. (2005). Challenging the 'Closing Circle': Alternative Research Agendas for the ESD Decade*, Applied Environmental Education and Communication*, 4(3), 229–232.

Schofield, J.W. (1996). Survey sampling. In: Sapsford, R. and Jupp, P. *Data Collection and Analysis,* London: Sage and The Open University Press. 25-55.

Schwandt, T. (2001). *Dictionary of Qualitative Inquiry* (2nd ed.), California: Sage.

Scott and Oulton (1999). Environmental education: Arguing the case for multiple approaches, *Educational Studies,* 25(1), 89-97.

Selby, D. (1995). *Earthkind: a teacher's handbook on humane education*, London: Trentham Books.

Selby, D and Kagawa, F. (2010). Runaway Climate Change as Challenge to the Closing Circle of Education for Sustainable Development*, Journal of Education for Sustainable Development*, 4(1), 37-50.

Shaull, R. (1970). Foreword. In: P. Freire, *Pedagogy of the Oppressed*, (M. B. Ramos, trans). New York: Continuum, 9–15.

Shiva, V. (1992). Recovering the real meaning of sustainability. In: D. Cooper, and J. Palmer, (Eds.) *The Environment in Question,* London: Routledge.

Shiva, V. (2008). *Soil Not Oil: Climate Change, Peak Oil, and Food Insecurity*. London: Zed.

Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information,* 22, 63-75.

Sieber, J. (1993). The ethics and politics of sensitive research. In*:* C. Renzetti, and R. Lee, (Eds.) *Researching Sensitive Topics*. London: Sage. 135-163.

Sikes, P. (2000). 'Truth' and 'Lies' Revisited, *British Educational Research Journal*, 26(2), 257–270.

Sikes, P. (2006). On dodgy ground? Problematics and ethics in educational research, *International Journal of Research and Method in Education*, 29(1), 105–117.

Sikes, P. (2007). *Methodology, Procedures and Ethical concerns*. Reading for Sheffield EdD weekend, Sat 20th October 2008. The University of Sheffield.

Soper, K. (1995). *What is Nature?* Oxford: Blackwell.

Souto-Manning, M. (2010). *Freire, Teaching, and Learning: Culture Circles Across Contexts*. Peter Lang Publishing: New York.

Stables, A. (2007). Is Nature Immaterial? The Possibilities for Environmental Education without an Environment*, Canadian Journal of Environmental Education*, 12, 55–67.

Stables, A. and Scott, W. (2001). Post-Humanist Liberal Pragmatism? Environmental education out of modernity. *Journal of Philosophy of Education*, 35(2), 269-279.

Stevenson, R. B. (2007a). Schooling and environmental education: contradictions in purpose and practice, *Environmental Education Research*, 13(2), 139-153.

Stevenson, R.B. (2007b). Schooling and environmental/sustainability education: from discourses of policy and practice to discourses of professional learning, *Environmental Education Research*, 13(2), 265-285.

Taylor, P. (1986). *Respect for Nature: a theory of environmental ethics*, Princeton: Princeton University Press.

Tesh, S. (1988). *Hidden Arguments: political ideology and diseases prevention policy.* New Brunswick: Rutgers University.

Thompson, V. (2008). A Critical Eco-Relational Psychology for Intimate Learning Communities. In: J. Gray-Donald and D. Selby (Eds.), *Green Frontiers: Environmental Educators Dancing Away from Mechanism,* Rotterdam: Sense. 94-110.

Usher, R., Bryant, I. and Johnston, R. (1996). *Adult Education and the Postmodern Challenge: Learning Beyond the Limits*, London: Routledge

Uzzell, D. (1999). Education for Environmental Action in the Community: new roles and relationships, *Cambridge Journal of Education,* 29(3), 397-412.

UNESCO. (1980). *Environmental Education in the Light of the Tbilisi Conference: Education on the Move*, Paris: UNESCO.

Victor, P. (2008). *Managing Without Growth: Slower by Design Not Disaster*. Cheltenham: Edward Elgar.

Vulliamy, G. and Webb, R. (1992). Analysing and Validating Data in Teacher Research. In: G. Vulliamy and R. Webb (Eds.) *Teacher Research and Special Educational Needs*. London: David Fulton.

Viskovik, A. R. (2005). 'Community of Practice' as a Framework for Supporting Tertiary Teachers' Informal Workplace Learning, *Journal of Vocational Education and Training*, 57(3), 389-410.

Walter, P. (2009). Philosophies of Adult Environmental Education, *Adult Education Quarterly*, 60(1), 3–25.

Warkentin, T. (2002). It's Not Just What You Say, But How You Say It: An Exploration of the Moral Dimensions of Metaphor and the Phenomenology of Narrative, *Canadian Journal of Environmental Education*, 7(2), 241-255.

Warren, K. (2000). *Ecofeminist philosophy: A western perspective on what it is and why it matters*, Lanham, MD: Rowman and Littlefield.

WCED. (1987). *Our Common Future*. Oxford: Oxford University Press.

Weiss, C. (1991). The many meanings of research utilisation. In: D. S. Anderson and B. J. Biddle (Eds.), *Knowledge for Policy: Improving Education Through Research*, London: Falmer.

Welton, M. R. (1995). *In Defense of the Lifeworld, Critical Perspectives on Adult Learning*, Albany: State University of New York Press.

Wellington, J. (2000). *Education Research: contemporary issues and practical approaches*, London: Continuum.

Wellington, J., Bathmaker, A., Hunt, C., McCulloch, G. and Sikes, P. (2005). *Succeeding with Your Doctorate.* London: Sage.

Wellington, J. and Szczerbinski, M. (2007). *Research Methods for the Social Sciences.* London: Continuum.

Weston, A. (1992). Before environmental ethics, *Environmental Ethics*, 14, 323-240.

Weston, A. (1996a). Self-validating reduction: A theory of the devaluation of nature, *Environmental Ethics*, 18, 115-132.

Weston, A. (1996b). De-schooling environmental education, *The Canadian Journal of Environmental Education*, 1, 35-46.

Weston, A. (2004). What if teaching went wild? *Canadian Journal of Environmental Education*, 9, 31-46.

Wilber, K. (2007). *A Brief History of Everything*, 2nd edition, Boston: Shambala.

Williams, R. (1983). *Keywords: A vocabulary of culture and society*, London: HarperCollins

Wilson, E. O. (1984). *Biophilia*. Massachusetts: Harvard University Press.

Winter, C. (2007). Education for sustainable development and the secondary curriculum in English schools: rhetoric or reality? *Cambridge Journal of Education*, 37(3), 337-354.

Wolcott, H. (2001). *Writing Up Qualitative Research* (2nd ed.), London: Sage.

Appendices
Appendix A: Participant Information Letter

Dear Colleague
Re the research project: Developmental approaches to environmental education in an adult community education setting.

I would like to invite you to take part in a research project. Before deciding whether you would like to participate, it is important that you understand why the research is being done and what it will involve. The information below details the main focus of the research as well as the ways in which you will be required to participate. Please take your time to read the following information and to decide whether or not you wish to participate. If there is anything that is not clear or if you would like more information, then please do not hesitate to contact me.

Project's purpose and aim
This 2-year project aims to identify and reflect on how we, as practitioners in adult community education, integrate environmental education into teaching practices. In working towards this aim, the study has a number of objectives:

1. To critically analyse present notions of environmental education and to reflect on our current teaching practice.
2. To carry out joint practice development with other practitioners in reviewing innovative approaches to environmental education that are appropriate to adult community learning settings.
3. To identify the main barriers that inhibit and the key factors that encourage innovative practice in environmental education in cross curricula settings.

This study is very much a developmental research project in that you will be engaged in a process of critically analysing and reflecting on present teaching practices. In particular this research project intends to work with staff that are already integrating environmental education into the curriculum areas that they normally teach.

Why have you been asked to participate?
I aim to work with approximately 14 practitioners from a range of curriculum areas who are interested in integrating environmental education into practice and who wish to develop their practice further. I understand that you are keen to integrate and develop environmental education in your curriculum area and this is why I am asking if you would like to participate. Participation is entirely voluntary and no one will think any the worse of you if you decide not to take part. If you decide to take part, you have an option to withdraw at any point during the research project. You do not have to give a reason for withdrawal and this decision will have no bearing on your day to day employment.

What will happen during the research?
This is a qualitative research project that will be based around individual semi-structured interviews, group workshops and the analysis of text, reports and

documents. In connection with this, you will be asked to attend one initial meeting and 3 workshops over a 5-month period (Jan 12 – May 12). The initial meeting will take place on a 1:1 basis between you and myself as the researcher and will last approximately 60 minutes.

The remaining meetings will be as workshops and will include you (as participating staff), myself as the researcher, other tutors, programme managers and curriculum group leaders. These workshops will last for approx. 120 minutes each. There will be three workshops. In the workshops you will be asked to reflect on pre-existing practice as well as look at the various ways in which environmental education might be developed and integrated into practice in adult community education in the future. In addition, you will be asked to consider how you might revise your own practice in environmental education. During the final workshop, I would be grateful if you could present your thoughts on how you might revise your own practice to other practitioners who are participating in this research.

All meetings will be arranged at a time and in a location that is convenient for you. I would like to audio record all of our discussions at these meetings so that I can be accurate when writing about what you have said. Audio recordings made during this research will be used only for analysis within this doctoral thesis and in anonymised textural form for illustration in conference presentations and lectures. No other use will be made of these audio recordings without your written permission, and no one outside the project will be allowed access to the original recordings. To ensure confidentiality of your personal data, the following measures will be put in place:

1. Names or identifying details of respondents and the adult community education service will not be revealed in reports, communications and conversations.
2. All data from interviews and narratives from workshops will be anonymised. Pseudonyms will be used at the transcription stage.
3. Data will only be accessible by myself and kept on a pass word protected/encrypted secure area of my pc.
4. Audio materials will be kept in a locked filing cabinet in my office at home.
5. On completion of the research, all data will be destroyed.

Possible benefits and Disadvantages of taking part in this research
Whilst benefits for those participating in this project are not guaranteed, it is hoped that this work will contribute to your continued professional development (CPD), enable you to reflect on current teaching practices and provide opportunities for you to develop resources that can be used in your day to day work. Furthermore, participation will provide you with the opportunity to be involved in a progressive study that aims to further develop innovative approaches to environmental education. If you are a tutor, you will also be paid for attendance at the three workshops

There are no known foreseeable discomforts, disadvantages and risks with regard to taking part. If you have any concerns or anxieties however, please

discuss these with me. If the research stops earlier than expected the reasons will be explained to you. If you have any concerns with regard to how you are treated during the research or any anxieties with regard to what happens with the data after the project is completed, then please contact me immediately (please see my contact details at the end of this information sheet). Alternatively, you can contact my supervisor Dr Chris Winter (see below for details). If you are not satisfied with the response that you receive from either myself or Dr Chris Winter, your complaint can be investigated by the University of Sheffield Registrar and Secretary.

All the information that I collect about you, your work and your workplace during the course of this research will be kept strictly confidential. You will not be able to be identified in any reports or publications'.

What will happen to the results of the research project?

This project is self-funded, the research forming part of a doctoral thesis. Results from this research will be referenced within a doctoral thesis. There is a possibility that some of the findings within this thesis will be published within a report in a peer reviewed academic or professional journal. Some of the findings may also be referenced at conferences. You or any other person involved as participants in this study or any associated organisation that you/they work for, will not be identified in any such report, publication or conference. This research has been ethically reviewed in accordance with the University of Sheffield Ethics Review Procedure as operated in the School of Education.

Contact for further information

If you have any further questions or concerns, please do not hesitate to contact me, Jonathan Kempster, at the Area Adult Community Education Office, Fairfield Adult Community Education Centre, Victoria Park Road, Buxton, Derbyshire, SK17 6PE or telephone 01298 26961. Email EDP08JPK@Sheffield.ac.uk or Jonathan.Kempster@derbyshire.gov.uk. Alternatively, you can speak to my supervisor, Dr Chris Winter, School of Education, The University of Sheffield, Glossop Road, Sheffield, S10 2JA, tel. 01142 228142

Finally, may I take this opportunity to thank you for expressing an interest in this research project. If you decide to participate, you will be given a copy of this information sheet and a signed consent form to keep.

Kind Regards

Jonathan

Appendix B: Participant Consent Form

Title of Project: Learning the Planet: Developmental Approaches to Environmental Education in an Adult Community Education Setting.

Name of Researcher: Jonathan Kempster

Participant Identification Number for this project: Please initial box

1. I confirm that I have read and understand the information sheet dated 8th January 2012 for the above project and have had the opportunity to ask questions. ☐

2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason. C*ontact number of researcher* 01298 26961. Contact number of supervisor (Dr Chris Winter*) - 0114 2228142.* ☐

3. I understand that my responses will be anonymised before analysis. I give permission for members of the research team to have access to my anonymised responses. ☐

4. I agree to take part in the above research project. ☐

_____	_____	_____
Name of Participant (*or legal representative*)	Date	Signature
_____	_____	_____
Name of person taking consent (*if different from lead researcher*)	Date	Signature
To be signed and dated in presence of the participant		
_____	_____	_____
Lead Researcher	Date	Signature
To be signed and dated in presence of the participant		

Copies:

Once this has been signed by all parties the participant should receive a copy of the signed and dated participant consent form, the letter/pre-written script/information sheet and any other written information provided to the participants. A copy for the signed and dated consent form should be placed in the project's main record (e.g. a site file), which must be kept in a secure location.

Appendix C: Initial One-to-One Practitioner Interviews.

1. *Initial introduction and welcome.*
2. *Confirm research participant has read the research information sheet and signed the consent form.*
3. *Emphasise confidentiality and anonymity. All discussions destroyed after research stage. Whatever is discussed/stated during interviews will have no bearing on participant's work.*
4. *Briefly outline the aims of the project and the processes that the practitioner will be involved in (A.) 1:1 interview, B.) 3 x 2-hour cooperative inquiry workshops in March/April/May C.) 1 further follow up 1:1 interview).*
5. *Explain that all participants will be provided with a summary report at the end of the research.*
6. *Briefly outline the process for today's interview and confirm the participant has no objection to being audio recorded.*

<u>Practitioner Questions</u>

1. **Experiences and perspectives on education**
    a. Could you tell me how long you have worked in adult community education?

    b. Could you say a little bit about your present role in this adult community education service as well as the main tasks you are involved in? *(Probe – subject/curriculum specialism, weekly working hours, main pressures/influences on working time)*

    c. Thinking about the word education, what does that word mean to you?

    d. What do you think is the purpose of education?

    e. What do you see as your purpose as a practitioner in adult community education? *(Probe – participant views on what they think should be the main outcomes of learning for adults if these are not mentioned.)*

2. **Notions about the environment and nature**
    a. Thinking about the phrase environmental education, what does the word environment mean to you? (*Probe – participant understanding of the meaning of "natural environment".)*

    b. What do you understand by the word nature?

    c. What do you value most about the natural environment and nature? *(Probe –the parameters of what the participants value and the experiences/influences that have led them to have these*

perceptions)

d. Do you have concerns about how we, as humans, are impacting on nature and if so, what are your main concerns?

e. Do you think we should be conserving nature and if so why? *(probe the priorities if the participant provides a variety of reasons/purposes)*

f. How do you view humans in comparison to other beings? *(probe – does the participant perceive humans as separate to other species or in some way connected. If connected in what way, if separate in what way?)*

3. Raising learner's awareness

a. What role do you think education should play in raising people's awareness about environmental issues and in encouraging them to develop greater empathy/understanding to nature?

b. How 'effective' do you think you are as an educator in raising learner's awareness and in encouraging them to be more responsive to the needs of the natural environment? *(Probe – explore participant's perception of the word effectiveness in connection with their practice, discuss participants' perceptions of their main purpose/focus regarding raising learner awareness)*

c. Can you tell me the main ways in which you presently integrate environmental education into your practice? Can you give examples?
(Probe – why the participant has provided these examples in particular, the frequency which they include these approaches in their practice, the inhibitors/motivators for these approaches being included in their practice).

4. Influences on teaching practices

a. What has mainly influenced you to date in the approaches or teaching practices that you use in raising learner's awareness about nature and the environment? *(Probe – formal training, organisational training, Peer support from other colleagues, external influences re national associations etc?)*

b. What additional support do you think you would need to help you to develop your skills/practice further in this area?

5. Other

Is there anything more that you would like to share with me?

Appendix D: Key Areas for Discussion and Outline for Cooperative Inquiry Meeting 1.

Aim*: To encourage staff to reflect on their own practice and to consider the strengths and limitations of ESD.*

Outline:

- **Welcome and introductions** (JK/Group) – 10 mins – name, subject area, why you (tutors/practitioners) are interested in the research.
- **Agreeing ground rules** (JK/Group) - 10 mins
- **Discuss the structure/programme for the 3 workshops** - 10 mins. Outline the intention of the workshops/aims of research (JK) – i.e. to reflect on practice and to critically consider – innovative environmental pedagogies.
    - 1st session will be reflection on practices, setting criteria and considering ESD.
    - 2nd session group discussions and reflections on approaches that are socially-critical and encourage reflection on nature.
    - The 3rd session will be presentation and discussion of practitioners' actions following discussions in session 1 and 2 (in this there may be no change!). Explain this will be in May (6-week break)
    - Outcomes from the research to be disseminated through the organisation – i.e. at conferences (practitioners/JK), summary of findings (JK).
    - Check all practitioners are agreeable – *probe any concerns/issues* (JK)
- **Aim of session 1**
    - **Outline the aim of this session –** 5 mins (JK)
- **Activity 1** - 20 mins (Group)
        - In groups of 2, think of a group of learners you work with and describe them to your partner.
        - With these learners in mind, discuss:
            - How do you want them to learn (examples stated in interviews are" facilitation", "hands on", "outside"

– *JK to probe and encourage critical reflection on use of terms*)?

- What is the purpose of education for them (examples stated in interview are “getting people into jobs”, “furthering yourself and learning through yourself”, “building up confidence” and a “force for change” – *JK to probe and encourage critical reflection on use of terms*)?
- What key understandings do you want them to develop through environmental education (examples stated in interview are “helping people to respect what is around them”, “recycling” and “being careful with resources” – *JK to probe what is meant by each of these terms with the group – how do they define each*)?
- Each group feeds back to main group their key thoughts. (*JK to encourage critical reflection*)

- **Activity 2** - 20 mins (Group)
    - Based on group discussions, each group then develops their own criteria for critically reviewing the various approaches that are to be introduced in the workshops. (*JK - need to emphasise that criteria will no doubt vary between practitioners – so they do not all need to be the same. The key element is reflection and deciding on their own criteria*).

- Coffee Break

- **Introducing the approaches** (JK) 10 mins
    - Aim is to review various approaches and see how they might apply to each practitioners setting. Outline that initially we will consider ESD before then discussing approaches that make

nature more visible in teaching and those that are socially-critical

- JK to Emphasise!!!
  - that no one approach is necessarily any better or more appropriate than another. This is collaborative research so it's for group members to decide through critical reflection and discussion.
  - that approaches/examples are not separate and distinct - their edges are blurred but each approach/example has a different emphasis.
  - that a certain approach might work better for one practitioner than another, depending on their subject area and personal preferences.
  - that its likely staff will already be engaging one or several of these approaches. Part of this process is about recognising and sharing what we are already doing. Encouraging you as practitioners to think and reflect, both philosophically and practically about your own practice.

- **Introduce ESD** (JK) 10 mins
  - **Activity 3** (Group) 30 mins
  - Introduce example.
  - In groups of 2, practitioners to reflect on the example and consider the strengths and limitations of this approach
  - Practitioners to also discuss whether this approach is familiar to them – whether they already integrate this into their practice.
  - After 20 mins, groups to feedback to the whole group (*JK to probe and encourage critical reflection*).

- **Concluding thoughts and reflections on first session (Group).** JK to confirm time and reiterate purpose of the next meeting.

Appendix E: Key Areas for Discussion and Outline for Cooperative Inquiry Meeting 2.

Aim: *To encourage staff to discuss and reflect on practices that are socially-critical and encourage reflection on nature.*

- **Introduction –** 10 mins
    - Briefly recap on last week (JK/group). Revisit discussion re ESD – groups to summarise key strengths/limitations of ESD *(JK – explain to group that I'd like us to continue this process of critical reflection on practices by considering approaches that engender a close relationship with nature and that are socially critical).*

- **Reflecting on relationships with nature/making nature more visible in learning** *(JK to introduce notion of reflecting on relationships with nature - refer to Bonnett, 2007*).
    - Initially discuss experiential outdoor learning (*JK - refer to Aldo Leopold/David Orr, 1994 etc*) – 10 mins
    - Pat to discuss his example with the group – 10 mins
    - **Activity 1** – In groups of 2/3, practitioners to reflect on the example provided by Pat and the notion of experiential outdoor learning – 20 mins.
        - Practitioners to consider whether this approach is familiar to them – do they already include it within practice?
        - Practitioners to consider the strengths and limitations of this approach.
        - Practitioners to consider how they might apply this approach to their practice if they are not already doing so (*JK to emphasise they may not find this approach appropriate and so there is no expectation they should apply this approach*)
        - Each group to feedback to the whole group (*JK to probe and encourage critical reflection*)

- Coffee break
    - Introduce notion of sensory/relational learning (*JK refer to examples of Fawcett (2000) and Weston (2004)*) -10 mins.
    - Jamie to discuss her example with the group – 10 mins.
    - **Activity 2** – in groups of 2/3, practitioners to reflect on examples provided and the notion of sensory/relational learning - 20 mins.
        - Practitioners to consider whether this approach is familiar to them – do they already include it within practice?
        - Practitioners to consider the strengths and limitations of this approach.
        - Practitioners to consider how they might apply this approach to their practice if they are not already doing so (*JK to emphasise they may not find this approach appropriate and so there is no expectation they should apply this approach*)
        - Each group to feedback to the whole group (*JK to probe and encourage critical reflection*)

- **Socially-Critical Approaches**
    - JK to discuss notion of socially critical (*refer to Clover et al, 2010, Kyburz-Graber, 1999*). JK to introduce examples by Clover et al (2010) and Clover and Hall (2010) – 10 mins.
    - Activity 3 – in groups of 2/3, practitioners to discuss examples and reflect on the notion of socially-critical environmental education – 20 mins
        - Practitioners to consider whether this approach is familiar to them – do they already include it within practice?

- Practitioners to consider the strengths and limitations of this approach.
- Practitioners to consider how they might apply this approach to their practice if they are not already doing so (*JK to emphasise they may not find this approach appropriate and so there is no expectation they should apply this approach*)
- Each group to feedback to the whole group (*JK to probe and encourage critical reflection*)

- **Preparing for meeting 3 -** 10 mins
    - JK to ask practitioners to consider what action they might take following our discussions. Might they make changes – or might they continue with their present practice? Practitioners to present their thoughts at the next meeting (JK to confirm date/time/venue) – ask that:
        - If practitioners decide to make changes – ask them to bring an example of a lesson plan/scheme of work that they have changed to the next meeting.
        - If practitioners decide to take no action and make no changes to their practice – ask them to outline the reasons why for this.
        - Ask practitioners to be prepared to provide between a five and 10-minute presentation.

Appendix F: Key Areas for Discussion and Outline for Cooperative Inquiry Meeting 3.

Aim: *To discuss and reflect on the changes made to practice following the intervention.*

- **Introduction –** 20 mins. Welcome back after 6 week break and recap on key points from discussions in the previous two workshops plus the main aim of the research project (JK).
- **Agree on format for today's meeting.** Discuss order of presentations and remind participants that:
    - If they decided to make changes to practice – can they outline the changes they made and provide an example of this to the rest of the group.
    - If they decided to make no changes to their practice – ask them to outline the reasons why for this.

- **Presentations** (JK to prompt discussion and critical reflection at the end of each presentation)
- **Closing discussion** – reflect on main research question and consider the key strengths and limitations of innovative environmental pedagogies.

Appendix G: Example of ESD

(Example downloaded from the Learning and Skills Improvement Service[38] website February 26th 2012).

FAMILY LEARNING SCHEME OF WORK

Course Title: Caring for your environment
Level: E3/L1
Course Length: Six sessions of two hours per week
ECM outcomes:

Stay Safe
- ✓ Be healthy
- ✓ Enjoy and Achieve
- ✓ Make a positive contribution

Achieve economic well-being

Aims of the course:

- **To introduce families to the 3Rs and provide an overall view of sustainability**
- **Introduce families to the concept of the 3Rs (Reduce, Reuse, Recycle) and through fun activities motivate them to make the 3Rs part of their family routine**

Objectives for the programme:
By the end of the programmes parents will be able to:

- ✓ **Understand and take part in activities that promote the 3Rs**
- ✓ **Know what is happening in the local area to promote looking after the environment**
- ✓ **Take part in activities with their children that care for the environment at home and in the community**
- ✓ **Develop new skills and understanding**

Differentiation
Activities will have a range of possible outcomes to allow learners to achieve at their own level and reach their potential
Health and Safety
Risk assessments should be carried out for each session and advice for home activities included
Literacy and numeracy
Speaking and listening activities are integrated into the course. There are also opportunities to develop numeracy skills through data collection, recording and money handling
Assessment and IAG
IAG to be provided, a skills and knowledge check will be carried out that is relevant to course.

Session	Learning Outcome/Generic Outcomes	Teaching and Learning activity.	Resources/Assessment

[38] The Learning and Skills Improvement Service's (LSIS) focus was to 'support and improve achievement in the Further Education and Skills sector' (LSIS website, p.1). LSIS was funded by HM Governments department for Business, Innovation and Skills. Funding for LSIS ceased in August 2013.

1: **What is Sustainable Development?** **What do we mean by Reduce, Reuse and Recycle?**	**Learning Outcomes**: Identify how we can reduce, re-use, recycle, and why we need to do this. Will be able to identify a range of environmentally friendly symbols Create a recycling container from waste items. Make a chart using waste materials. **Generic Outcomes:** • Improved communication • Changed behaviours	1. Introduction to the course – What do we mean by sustainable development. 2. What is meant by reduce, reuse, and recycle? 3. Complete initial assessment to find out what learners know using a 3 R's quiz. 4. Feed-back as a group and share knowledge. Discuss the content of the course and agree group and individual targets for ILP's. 5. Discuss the purpose of environmentally friendly symbols 6. Make a box to collect old batteries using small Pringles-type drum and decorating with images cut from catalogues, sticking with paste. Discuss where the collected batteries can then be recycled 7. Make a 3 R's record to use at home – cut out text from newspapers to make headings for three columns and stick on left-over wallpaper **Home activity:** Draw pictures of items reduced, recycled and reused on 3 R's record and bring to next session. Challenge- how many different things can you add?	**Resources** Course outline Sustainable development factsheet 3 R's factsheet 3 R's quiz Initial assessment/ ILP Quiz Whiteboard Symbols sheet Glue Brushes Catalogues / Newspapers Scissors Pringle drums or similar Rolls of old wallpaper **Assessment:** Contributions to discussion and outcome of quiz Participation in games Recycling container and chart produced

2: **Reuse**	**Learning Outcomes:** Identify how a range of items can be reused. Make a carrier bag holder, using recycled materials. Recognise how reusing an item is better than recycling it. **Generic Outcomes:** • Changed relationships with family and the community • New Skills • Changed behaviours	1. Feedback and discussion on 3 R's record: Did they throw away less as a result of thinking about 3Rs? How could they measure this? (See home activity.) 2. Group junk art Make a group sculpture(s) from recycled materials which can be displayed in school or community centre to promote the 3Rs message (Art Start or Scrap could help?) 3. Discuss carrier bag problem. 4. Carrier bag holder Make carrier bag holder using old trousers, jumpers or long-sleeved tops to take home. 5. Discuss which is better: reuse or recycle? 6. Each family or group research how different items e.g. furniture, toys, can be reused and look at web sites such as Freecycle – share research 7. Find out about local scrap project **Home activity.** Bags in the bin challenge – Keep a tally of bags put in dustbin during each week of the course. Can you halve the amount by the end of the course?	**Resources** Completed 3 R's records Collection of items for junk art Materials for carrier bag holders Access to computers **Assessment:** Tutor observation of scrap challenge Carrier bag holder produced Contribution to discussion

Session 3: Recycling	**Learning Outcomes:** Sort rubbish into correct categories ready for recycling. Identify what happens to recycling and waste. Recognise the importance of using items made from recycled materials. **Generic Outcomes:** • Changed relationships with family and community • New skills • Changed behaviour	1. Feed-back on home activity: make a group tally chart of bags of rubbish but discuss why some families will have more rubbish than others. The idea is to cut down the amount we throw away. **2. Activity – Waste audit** Using 2 or 3 bags of someone's rubbish work in groups to sort into recycling goods and non-recycling goods. Provide support to distinguish types of plastic that can be recycled. Look at how groups have sorted rubbish and discuss what is left over – can any of this be recycled in other ways? Where will the waste go? What happens to the different types of recyclables e.g. newspaper? 3. Play a game to match recycling to things they can be used to make. Include less obvious. Emphasise need to buy products made from recycled materials. **Home activity.** Challenge: Keep a record of how many *different* things you can recycle this week? How many things did you use made from recycled materials?	Range of bags of rubbish! Gloves (not latex) Tarp or old shower curtains to put waste onto Recycling boxes Local authority rules on recycling Items made from recycled materials – newspaper plant pots, juice carton purses Matching recycling game **Assessment:** Feedback on home activity Tutor observation of waste audit Contribution to discussions

Appendix H: Example from Weston (2004).
Extracts taken from page 34-44 of 'What if Teaching Went Wild?'

[What] I propose is that even in the so thoroughly humanized and academic setting as a classroom we *can* work toward and embody a radically different practice and philosophy of (environmental) education… Even-and maybe to some degree *especially*- within the conventional spaces and modes of teaching, it is still possible to unsettle our deeply-felt sense of disconnection from the world, and to begin to reconnect… I now want to propose some very specific and practical teaching strategies along these lines…

The first of these is very simple: open the blinds and whenever possible, open the windows. Do this in a dramatic way, noting as you do it, that it is sure peculiar that we are asked to teach and learn about the natural world in spaces more and more cut off from it. I am constantly struck by how inattentive we are to the structure of physical space generally and, as teachers, to classroom space. A visiting Martian anthropologist would be amazed by our practice of teaching young people about their belonging to the world in rooms that are as enthusiastically as possible sealed off from anything but themselves, even to the extent of keeping the blinds closed and the windows shut…

Teaching outside is a natural next step. This usually takes more work. "Going outside" on the school yard or on campus depends on suitable spaces… Back in the classroom, hopefully with natural light and air, I propose that we need more "natural" things around us. I have formed the habit of picking up little rocks or other small tokens (striking twig formations, feathers, sometimes the skull of a bird or a small mammal that places itself in my path) from the mountains or woods or shores I visit… So I take rocks or other such items into my classrooms. Often I offer each student such a token. Bring in a variety and let people pick those that call to them. Then invite them to think about, maybe even to investigate, that rocks history. What is it made of, how is it formed? Ideally, then, even this littlest of things becomes a link to a much bigger history, a much bigger story, a visible, ever-present, almost ritual reminder that the Earth is bigger than we are, that we live at the intersection of vastly different kinds of stories…

Sometimes I hand around a bowl of daisies, pansies, nasturtiums, and the like, along with my bowl of rocks, and ask every-one present to pick one of each. The colour, the softness, the smell of the flowers all immediately appeal. I ask everyone to breathe deep the smell of their flowers (and the rocks, sometimes, for rocks too may smell). And then maybe to think a little more about this matter of smell, too. Unlike what we see or hear, what we smell or touch does not stand at a distance. What you smell is already a part of you, is physically inside you. When you smell the flower the flower comes into you. Same with the rock: when you touch a rock, the rock touches you back. Holding rock or flower, in this sense, is like holding hands with the

world, except that with the world itself there is no way to let go. In this sense we are all, always, literally in "communion" with the larger world. At least this is one quite concrete way of thinking about the interconnection of life with all other life and with the whole world…

Still the story I am telling does not yet include the wild creatures, and in some ways they are the most crucial of all: they are the ones with whom we can most readily and immediately identify – and they are the ones who animate our landscapes and our dreams. Surely we need them too, yet it is not clear how to invoke them…

Most of us may recognise that there are "bugs" all around us most of the time. Ordinarily we may think nothing of all this insect life right around us, or just find them annoying (we get "bugged"). Only a small mental flip, though, and they may emerge in quite a different light. Consider what it is like when you think you are alone and then discover that someone else is with you, perhaps even watching you. Hegel pointed out that self-consciousness does not and cannot arise when we are alone, but only and necessarily when we are with others, or at least when others are, as it were, with us: we see ourselves for the first time from another point of view. Couldn't something quite similar be true when we recognise that even when we sit in our wholly human-defined space, pursuing our intellectual agendas with single-minded passion, there are right around us other awarenesses, with other agendas, aware of us even if we are not aware of them? A spider, say, thus emerges as another form of awareness, another presence, a co-inhabitant of what we thought was "our" space, an independent being from whose point of view we can perhaps come to see ourselves in a new way.

The probable presence of insects thus makes possible a real perspective-shift… I invite my students now to look around, right where they are, in search of whatever insect life they may find. Don't move them, I say, certainly don't harm them: just see who's around. When they're really likely to be present, it's not at all so hard to look at things their way, to take their point of view… Sometimes one or two will show themselves at this point, and I can invite them down onto my hand or shoulder. In any case, the groups challenge is to find the rest. So this is not an experiment I say. We're not just trying to take the viewpoint of a spider in theory, but in fact. They're here, they know where *you* are even if you don't know where *they* are and I want you to find them and make their acquaintance. Look for their spindly legs sticking out from underneath chair fames or behind curtains or… well, where? Where would you go in this room if you were a spider?

It should be clear that I am not speaking of bringing spiders or other insects into the classroom as exhibits, appropriated and confined for our scientific or merely curious inspection. This is a philosophical, even phenomenological, experiment, not Show and Tell. The aim is to attend to how it changes our sense of this space when we discover such Others *already* present, co-inhabiting this space we were so sure was only our own, elusive but

independent, on much more equal terms. The more-than-human world isn't merely a safely controlled, distant object of study, but is all around us (in addition to *being* us) all the time, even so close as the spider that may at this moment be under your chair or laying eggs in the corner. Looked at in the right way, this can be an enchanting thought, and I have seen groups of young people take to it with enthusiasm, adults are sometimes a little slower, or more mixed, but for all of us, somehow or other, it opens a new sort of door in the mind.'

Appendix I: Examples from Clover et al (2010).

Example 1: Zen of consumerism: "waste r us" (p.78).
Time: 2 hours
Purpose: To look at the politics of consumerism and the impact of our activities on a healthy community.
Requirement: Walmart, Zellers, Toys R Us or any large department stores; pair off into women and men (if possible). Task sheets are divided into columns – Need/Want/Amount/Type/Necessity/Lifespan. Facilitators identify aisle and/or areas to be used ahead of time.
How to:

A) Each pair takes three aisles and using the forms provided, lists 15 items under the columns:
    a. Is this a need or want?
    b. Describe the amount, type of packaging, and its' purpose.
    c. Estimate the life expectancy of the item after you get it home.
    d. Where does it end up?
B) Participants return to venue and each pair reports back on their findings and responds to the following suggested questions:
    a. Any new discoveries from this activity?
    b. How would you summarize your experience?
    c. What are some of the negative implications of consumerism on your community?
    d. What actions could be taken individually and collectively to deal with these negative aspects?

Example 2: Corporations R Us? (p.80)
Time: 1 hour
Purpose: To engage in a creative and fun activity which analyses advertising mantras, socialization and consumerism.
Requirements: Pieces of Flip chart paper and markers.
How to:

A) Participants are given catalogues for inspiration. They are divided into small groups and asked to create poems, skits, short stories, murals and/or songs using key words or slogans found in the catalogues. Some ideas:
    a. A skit around the slogan "The More You Buy the More You Save"
    b. A "Consumer" song.
    c. A poem on "The Lowest Price is the Law"
    d. A short story on "Buy One Get One Free".
    e. A Mural comprised of cut outs from the catalogues words, slogans, phrases, perfect models, etc.
B) Participants share their activities [and]
C) Discuss the role and effect of advertising on society and the rest of nature.

Appendix J: Example from Clover and Hall (2010).
This shortened extract has been taken from Clover et al (2010:97).

'**The Positive Energy Quilts: The Story of a Visual Protest.**
On March 2nd, 2006, approximately 400 people attended a public meeting sponsored by the Nanaimo Citizens Organizing Committee to discuss the proposed BC Hydro plan – in collaboration with two corporations in the United States – to build a gas-fired power plant at Duke Point, Nanaimo, B.C. and put into place some steps to build an informed public opposition. One of the ideas put forward as a way to reach out to the broader community was a quilting project.

A group made up of 20 women activists, quilters and artists from Vancouver Island and Gabriola Island came together and decided to send out small squares of cloth to people and/or groups throughout the two communities. No firm guidelines were given, people were simply asked to express what they felt about the power plant through words or images and to send the piece of cloth back to the group. This was a chance for people who often do not attend meetings or get involved in activism in the community, to have a voice. Once all the quilt squares were returned, the women gathered together and spent a chaotic few hours arranging and rearranging the squares. The result was five banner-sized quilts that contained a diversity of creative images/messages from the public about the power plant and the community.

In order to make a stronger public statement, encourage more people to talk about the issue and interact with them, the women decided to engage in what they referred to as "public quilting". They began by quilting in front of Art Works, a mellow little art shop on Gabriola, complete with Cappuccino Bar. It was then decided that to make more of an impact, they should move to the library and then to the front of the arts centre in the city centre of Nanaimo. When B.C Hydro organised its first major public meeting downtown, the women sat outside sewing around the fountain. That was, as one woman remarked, "the only time the police noticed us." It is legal, by the way, to quilt in public!

Some of the people who drew images onto the quilt squares took a softer approach, stitching windmills, shrimps and scallops, and solar panels to encourage the use of alternative energy sources. One group decided to use the image of tall factory-type chimneys spewing greyish smoke. At first, the women argued with this because they knew that B.C. Hydro was promising that only white steam would be emitted. There is always a contestation around environmental problems and whether or not common folk have their facts right. However, the freedom of using art is that it is not necessarily about facts but about the senses, creativity, self-expression, and emotionality. The basis of the argument from maintaining the chimneys with their black smoke was "but it is still dirty. It is still polluting and I still do not want to breath it, even if I can't see it." So it stayed.

Others who contributed squares to the quilts made much stronger political statements. These images portray community wide concerns about US

involvement and ownership in the project. For example, one image shows Uncle Sam roasting the world over livid orange flames spewing from a power plant. Another image is a stripes and stars of the US flag and with a maple leaf replacing a star and the words “No air”. Still others showed an amazing knowledge of the toxic chemicals that would be emitted from the power plant.

The quilts were displayed at community events around the island, across Canada and even in New Zealand. For a number of months, they hung in the Arts Centre and City Hall in Nanaimo. They proved to be a very creative, engaging and dynamic tool of public education, a way to encourage dialog around the local source of pollution but also, broader social and environmental issues that have an impact on the community and the world.’

Appendix K: Follow-up Semi-Structured Interviews.

1. *Recap on the aims of the study and the initial findings to date.*
2. *Briefly outline the purpose for this follow-up interview and reconfirm that the research participant has no objection to being audio recorded.*

Practitioner Questions

1. What do you think has been of most benefit to you by being involved in this project?

2. Can we discuss in more detail any changes you have made to practice since being involved in this research (*Probe – if practitioner has made no changes discuss the reasons why. If the practitioner has made changes, ask them to detail these and to consider what the benefits might be. Refer if appropriate to practitioner lesson plans/teaching resources or written narratives*)?

3. During the group workshops a lot of practitioners raised concerns about integrating socially-critical approaches into practice. Why do you think these concerns were raised (*Probe the main concerns and explore the reasons for not integrating socially-critical approaches, refer to the word "fear" that was used in the workshop*)?

4. Within the group workshops many practitioners were additionally uncertain about integrating approaches that encouraged learners to explore intimate relationships with nature. Why do you think there was this uncertainty (*Probe the main concerns, explore the term "tree hugger" that was referenced in the workshops*)?

5. Can you think of ways in which practitioner concerns and uncertainty might be alleviated?

6. Is there anything else you would like to add or are there further reflections you would like to make?

Appendix L: Approval of Research

Jonathon Kempster

Head of School
Professor Jackie Marsh

Department of Educational Studies
The Education Building
388 Glossop Road
Sheffield S10 2JA

04 November 2011

Telephone: +44 (0114) 222 8096
Fax: +44 (0114) 2228105
Email: jacquie.gillott@sheffield.ac.uk

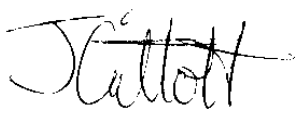
Dear Jonathan

Re: Learning the Planet: Developmental Approaches to Environmental Education in an Adult Community Education Setting.

Thank you for your application for ethical review for the above project. The reviewers have now considered this and have agreed that your application be approved with the following optional amendments.
(Please see below reviewers' comments)

7. Approved with the following suggested, optional amendments (i.e. it is left to the discretion of the applicant whether or not to accept the amendments and, if accepted, the ethics reviewers do not need to see the amendments):
Dates need to be checked on consent form and information sheet – not sure whether these still applicable

Yours sincerely



Mrs Jacquie Gillott
Programme Secretary