DECIDING AND DOING WHAT'S RIGHT FOR PEOPLE AND PLANET:

AN INVESTIGATION OF THE ETHICS-ORIENTED LEARNING OF NOVICE ENVIRONMENTAL EDUCATORS

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ABSTRACT

This study probes the ethics-oriented reflexive deliberations of three novice environmental education practitioners in South Africa. Two of the cases examined work in a local government context, and the third in an environmental non-governmental organisation context. All three practitioners are studying a one-year professional development course in environmental education. The research asks how their ethical deliberations 'come to be what they are', at the interface of their workplace and course-based learning processes.

Working within a relational, social realist ontology, the study takes a sociocultural-historical approach to learning, development and social change. Cultural-historical activity theory (CHAT) provides theoretical tools and a descriptive language to approach the rich, qualitative data derived from workplace and course observations, extensive interviews, and document review. Critical discourse analysis was used as a secondary analytical tool to probe ethical and environmental discourses that were found to be influential in the course and workplace activity systems.

Data from the three case studies was analysed in stages. In the first stage, CHAT provided a theoretical perspective and language of description to analyse the interacting activity systems in which each learner-practitioner's ethics-oriented reflexive deliberations occurred. This provided a platform for the second stage of analysis which was framed by Margaret Archer's (1995) social realist theory of morphogenesis/ morphostasis, followed by a summative retroductive analysis, to give an account of the interplay of historically-emergent social and cultural structures and individual reflexivity in relation to the ethical dimensions of environmental education practice.

The study traces how ethics-oriented reflexive deliberations occur at the untidy, unpredictable intersection of workplace, course and personal contexts, and are strongest when they are situated in authentic contexts that resonate with learner-practitioners' 'ultimate concerns' (after Archer, 2003; 2007). In this study, the learner-practitioners' 'ultimate concerns' included family, personal well-being, social justice, cultural identity and religious commitments. The scope and depth of learner-practitioners' social-ecological knowledge was also identified as a key factor influencing ethics-oriented reflexive deliberations, although the mediation of such knowledge can be hindered by language and conceptual

barriers, amongst others. The study also noted how ethical positions circulating in the workplace, course and personal contexts were diverse, uneven and dynamic. Some ethical positions were found to be more explicitly differentiated than others, either resonating with or being overlooked by the learner-practitioners as they deliberated the ethical dimensions of their environmental education practice. In situations where there was limited depth, conceptual clarity and/ or confidence to engage directly with ethical concerns, there was a tendency towards (inadvertent) ethical relativism. Insights derived from the study suggest that these factors have limiting effects on the ethics-oriented reflexive deliberations of novice environmental educators.

These insights point to the need for ethical deliberations to be re-personalised in context and underpinned by depth knowledge. A relational and pragmatic approach to environmental ethics (that recognises the validity of judgemental rationality – which can be fallible – and which seeks out practical adequacy) is put forward as appropriate and potentially generative in environmental education and training processes. This would need to be supported by careful attention to the influence of environmental discourses and practices in shaping ethical deliberations, and may also be helpful in developing a much-needed accessible, everyday language of ethical engagement.

This study's contribution to new knowledge in the field of environmental education is through its account of ethics-oriented reflexive deliberations emerging (in the Archerian morphogenetic sense) in complex, indeterminate ways at the interface of sociocultural and social-ecological contexts. The ethics-oriented reflexive deliberations of novice environmental educators occur in relation to their 'ultimate concerns' and are advanced or hindered by the historically-emergent practices, discourses and material realities of their workplace, personal and educational contexts. These insights require that the complex interplay of intersecting contexts and concerns that shape ethics-oriented reflexive deliberations be acknowledged and carefully mediated in both workplace-based and course-based professional development processes.

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LIST OF ACRONYMS

AC	Assessment Criteria
ANC	African National Congress
CCT	City of Cape Town (metropolitan municipality)
CDA	Critical discourse analysis
CHAT	Cultural-historical activity theory
DEAT	Department of Environmental Affairs and Tourism
EE	Environmental Education
EEASA	Environmental Education Association of Southern Africa
EEK	Essential Embedded Knowledge
EETDP	Environmental Education, Training & Development Practices
EJNF	Environmental Justice Networking Forum
ELF	Environmental Learning Forum
ETDP	Education, Training and Development Practices
IMEP	Integrated Metropolitan Environmental Policy
MMAEP	Midlands Meander Association Education Project
MWP	Mondi Wetlands Project
NEMA	National Environmental Management Act
NGO	Non-governmental Organisation
NQF	National Qualifications Framework
PoE	Portfolio of Evidence
RDP	Reconstruction and Development Programme
RSA	Republic of South Africa
RUEESU	Rhodes University Environmental Education and Sustainability Unit
SANBI	South African National Biodiversity Institute
SAQA	South African Qualifications Authority
SETA	Sector Education and Training Authority
SGB	Standards Generating Body
SO	Specific Outcome
SOSF	Save our Seas Foundation
UNDESD	United Nations Decade of Education for Sustainable Development
UNEP	United Nations Environment Programme
UNISA	University of South Africa
US	Unit Standard
WESSA	Wildlife and Environment Society of South Africa
WSSD	World Summit on Sustainable Development
WWF	World Wide Fund for Nature
YES	Youth Environmental Schools

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8 EETDP Learnership information sheet produced by WESSA

9 Journal Article: 'Ethics-oriented learning in environmental education workplaces: An activity theory approach' (Olvitt, 2010)

10 Environmental Ethics section in the 2008 Module One EETDP Course Handbook

11 Environmental Ethics section in the 2009 Module One EETDP Course Handbook

12 A reading about ethical orientations appended in Module 3 Learner Handbook (2009/2010 version)

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Lausanne L. Olvitt

Grahamstown, South Africa

February 2012

CHAPTER ONE:
INTRODUCTION TO THE STUDY

Each time one of us touches the soil of this land, we feel a sense of personal renewal. The national mood changes as the seasons change. We are moved by a sense of joy and exhilaration when the grass turns green and the flowers bloom. That spiritual and physical oneness we all share with this common homeland explains the depth of pain we all carried in our hearts as we saw our country tear itself apart in a terrible conflict… (extract from Nelson Mandela's Inaugural Address, May 1994)

Perhaps the most profound fallacy of our [South African] history has been that of 'our beautiful country' providing a natural and innocent backdrop to the sordid and noble enactments of history. Yet nature has never been natural, just as the 'landscape' has never been neutral. (Judge Albie Sachs, cited in Beningfield, 2006)

1.1 AN EMERGING RESEARCH INTEREST AT THE INTERFACE OF ENVIRONMENTAL VALUES, ETHICS AND EDUCATION

Environmental education processes, like the environmental movement as a whole, are recognised as being 'values-laden', implying an ethic of caring for the planet and recognising and acting upon areas where responsible human action is required. However, my observations and experiences over a decade in environmental education (mostly as a curriculum developer and tutor of professional development courses in environmental education in southern Africa) suggest that the environmental values associated with practice are often taken-for-granted, under-examined or contradictory. Course curricula, themselves values-based and conceptually laden, introduce adult learners to new discourses which may be taken up superficially or iconically, sometimes at odds with the deeply embedded history, culture and practices of the learner, and with the less deeply embedded but equally influential history, culture and practices of their workplaces.

Some early concerns centred on what I perceived at the time to be performative contradictions in the field of environmental education: adult learners verbalising support for certain values or ethical actions (often those that are dominant in the discourse of course

curricula), but 'failing' to recognise the inherent tensions or contradictions in their own professional practice or lifestyles. For me, one such influential incident occurred in 2001 at the annual EEASA[1] Conference, held that year in a neighbouring state. I joined a conference excursion to visit a local waterfall. After a lengthy bus ride we reached the destination at lunchtime and were given lunchpacks heavily packaged in polystyrene and cling wrap. Walking towards the rear of a long trail of approximately 50 environmental educators heading for the waterfall, I observed the dozens of empty cans and polystyrene boxes discarded along the pathway by members of our group. Generally, when one asks educators to identify an environmental problem to which they do or would like to respond, littering is one of the most common responses. As such, I could not reconcile this contradictory behaviour.

Initially this troubled me from what I subsequently came to recognise as an instrumentalist and behaviourist perspective. I had falsely assumed there to be a commonly understood and accepted set of values and principles that would inform ethical action in response to awareness of environmental concerns. Hence, assuming uniform ethics to be 'in place', I could not understand why so many environmental education practitioners were 'failing' to 'live out' the ideas which their profession (and indeed the overall discourse of the environmental movement) had so clearly articulated.

Similar questions emerged on a professional development course where I observed tension between several students and a vegetarian tutor around the ethics of meat consumption. I noticed how the process of deliberating towards a reasoned/reasonable outcome was influenced by power gradients and senses of either violation or overprotection of socio-cultural norms. The tutor's 'position' came to be perceived by some as an 'imposition', and some learners defensively took on the discourse of cultural rights and intolerance.

This motivated me to probe further the educational implications of this kind of interaction. During two other courses[2] over the next year, I experimented with a 'meat-eating quandary' activity to observe more closely the dimensions of values-laden encounters such as the ones

[1] The Environmental Education Association of Southern Africa (EEASA) hosts an annual conference, attracting environmental educators from around the southern African region.

[2] The 2006 Rhodes/SADC International Certificate Course in Environmental Education and the 2007 Rhodes/Gold Fields Certificate Course in Environmental Education.

described above. Subsequently, I have worked on these and other courses to explore ethical quandaries and practical lifestyle choices (such as the elephant culling debate and ethical consumerism). These informal, practice-based investigations helped me to explore questions about the diversity of environmental values and ethics that learners bring into course deliberations, and the kinds of pedagogical practices that appear to enhance or stifle learners' and tutors' engagement with such perspectives.

In setting up this doctoral research project, however, it was necessary to take a step back from the pedagogical agenda that was dominant in my professional practice and rather focus on understanding the nuanced and dynamic processes associated with environment-oriented ethical deliberations. It became clear that 'pedagogising' ethics may have been premature in a field in which the sociocultural and historical context in which ethical concerns are represented, learned about and responded to in courses and workplaces appeared to be more complex than a 'first glance' seemed to reveal. This was the starting point of this doctoral study.

In the following section (1.2), I present an introductory overview of South Africa's complex and contested social-ecological context which underpins this study. Section 1.3 then gives an overview of the ethical dimensions of environmental education, training and development practices (EETDP) in a South African context. I introduce the research question and goals in Section 1.4 before briefly outlining the study's legislative and institutional backdrop in Section 1.5. The chapter concludes with Section 1.6 which gives an overview of each chapter.

1.2 SOCIAL-ECOLOGICAL PERSPECTIVES OF SOUTH AFRICA IN A GLOBAL CONTEXT

This section provides a 'snapshot' of South Africa between 2008 and 2011 (the period within which the data for this study was generated and analysed) from a social-ecological perspective in a context of rapid cultural and political transformation, globalisation and development. The aim of this snapshot is to capture some of the complexity and dynamism characterising people-environment relations, as this forms the broader context within which the ethics-oriented learning and deliberations of this study are situated. In constructing this snapshot, I have tried as far as possible to show the inter-relatedness of the local and the

global, and the inseparability of social, cultural, historical, political, ecological and economic dimensions of the human world (Folke et al.,2010).

First, I begin with some orientating historical perspectives on people-environment relationships that may have causal efficacy regarding the ethics-oriented reflexive deliberations explored in this study.

1.2.1 People-environment relationships in Pre-Colonial South Africa

Before the arrival of European settlers in the eighteenth and nineteenth centuries, South Africa was inhabited by a variety of indigenous peoples. In the Western Cape, the dominant communities were the Khoikhoi who kept cattle, and the San who were hunter-gatherers. The eastern region of the country was dominated by Bantu-speakers (Nguni society) who were cattle-keepers and agriculturalists and lived in clans or chiefdoms in which land belonged not to individuals but to the community at large (Zirker, 2003). Bundy (1988, p. 21) elaborates on the significance of land for the Nguni people:

> The principle resource in Nguni society was land, but the relationship between man [*sic*] and land was not purely economic. The members of society depended on land not only for subsistence, but also for recognition as members of the social group: the allocation of land to an individual was a badge of his membership of clan or tribe. … Once allocated, arable land was alienable only by dispossession: if a man lost his land he lost his membership in the community.

Bundy (1988) discredits the common view, prompted by early missionary accounts of black communities' agricultural practices, that pre-colonial African agricultural practices were ineffective and ecologically unsound. He notes that these perceptions came about because the early European settlers' observations did not correspond to their model of what agriculture should be: "productive, efficient, rational, enterprising and 'modern'" (p. 22). He notes that Nguni society possessed limited tools, did not use animals as a source of labour power, did not have water regulation or irrigation mechanisms, and were vulnerable to plant and animal diseases. Additionally, the majority of South Africa's soil types are sandy, low in mineral content and vulnerable to wind and water erosion. Consequently, Nguni subsistence agriculture was a labour intensive, all-consuming pursuit with minimal rewards. Phillips (undated, cited in Bundy, 1988, p. 24) describes how the early agriculturists responded to these social and biophysical constraints with some proficiency:

> Without… formal education and almost invariably without any training in the elements of either science or agriculture, a fairly high proportion of simple, rural people shows a remarkable sense of awareness of the suitability of particular localities and soils for specific crops or varieties thereof.

The relatively low levels of agricultural production were counter-balanced by hunting various species of wild game and, more especially, maintaining large cattle herds. These combined practices allowed the pre-colonial economy to shift adaptably between agricultural and herding subsistence (Bundy, 1988) with sociocultural practices being intimately tied to these land-based agricultural and herding practices. This balance came to be irretrievably disturbed through the principles of individual land ownership and land management introduced by colonial powers, as well as by conflicts associated with access to and/ or ownership of land and other natural resources.

1.2.2 People-environment relationships in Colonial and Apartheid South Africa

South Africa's colonial history of racial segregation and the white elite's oppression of the black majority during the Apartheid regime (1948 – 1994) produced what Khan (2000, p. 156) describes as "… the gradual but relentless alienation of blacks from the environmental sphere, and the growth of hostility to conservation issues as defined by the mainstream". Although the Apartheid government's neglect of worker safety and environmental protection cannot be quantified, its legacy was sufficiently pervasive and harmful to lead Durning (1992, p. 6) to conclude that:

> ... the network of racist policies, and the extraordinary means to which the state has resorted in maintaining them, have doomed the nation's ecology to suffer great insults. Apartheid cannot be blamed for all of the country's ecological traumas, but it must take the blame, in part or in whole, for many.

It is to be expected that the accumulated experiences of decades of land dispossession, forced removals, inequitable access to natural resources and dehumanising denial of access to health and sanitation services would affect the nation's relationship with the natural world and with development.

The Land Act of 1913 under British colonial rule restricted black people of South Africa to owning a mere 7% (and from 1936, 13%) of land (Ramphele, 1991). The Nationalist apartheid government which came to power in 1948 established native reserves (more commonly known in South Africa as 'independent homelands' or 'bantustans'), strategically keeping black people out of urban areas whilst providing a steady supply of labour for white-

owned mines and farms (Durning, 1990; Ramphele, 1991). The combination of natural population growth and massive forced removals saw the population of these 'homelands' grow from 4 million to 11 million people between 1960 and 1980 (Clarke, 2002). Most 'homelands' were on marginal, unproductive land bearing the southern African region's characteristic red, fragile topsoil. Homelands rapidly became places of environmental degradation, extreme poverty, deforestation, overgrazing and failed crops; places where traditional family structures had disintegrated under the economic pull of commercial farms, factories and mines to which men and young women had departed in search of employment.

In 1986 when the pass laws and influx regulations were repealed, massive urban migration created a different set of environmental problems, once again exacerbated by apartheid policies. One of the government's strategies to discourage black urbanisation was to limit infrastructure in black townships: there was a near absence of tarred roads, stormwater drainage, electricity, waste collection and basic housing in these areas. In 1987, the president of the Soweto-based National Environmental Awareness Campaign (NEAC) protested: "Blacks have always had to live in an environment that was neither beautiful nor clean. We have not had the proper housing because the authorities will not accept that we are part of the city scene" (cited in Cock, 1991, p. 19). Just as the rural 'homelands' had become places of barren earth and social despair, the urban townships became known for their overcrowding, poverty and social fragmentation. According to Ramphele (1991, p. 4), "the ecological chickens of this short-sightedness [of apartheid legislators] are coming home to roost all over South Africa" (see Section 1.2.5).

The systematic disconnection from the land, combined with politically narrow and socially insensitive conservation policies, alienated most black communities from active participation in ecological concerns. The Group Areas Act No. 41, of 1950, and the Separate Amenities Act of 1953, ensured that black South Africans were excluded from most beaches, nature trails, national parks and other conservation areas, and conservation policies reflected the interests of the minority white sector. The determination to exclude black people from conservation was evident in the proclamation and subsequent management of the country's national parks which frequently involved the forced removal of black communities from the land, sometimes at gunpoint (Ramphele, 1991). South Africa's national parks reflected a colonial view of conservation: that preservation of pristine wilderness necessitated the exclusion of local communities (Carruthers, 1995; Ramphele, 1991; Cock, 2007). According to Khan (2000, p. 163):

> The resulting exclusion of blacks from these amenities undoubtedly had a detrimental effect on the environmental attitudes of these communities, and should be considered a major factor contributing to black disinterest in, or hostility to, the whole concept of conservation.

Cock (2007, p. 149) shares a similar understanding, explaining that, "… rather than a means of nation building, the parks worked against national unity to reflect and maintain privileges of the white minority. Clearly, after 1994, this had to change".

The pervasiveness of Apartheid rule across social, political and economic sectors of South African life ensured the institutionalisation of environmental racism. Segregationist laws made multiracial environmental organisations or interest groups logistically impractical; it was difficult for blacks to travel within the country, and the challenge of finding venues and accommodation accessible to different racial groups made conferences and even small meetings very difficult. Some isolated efforts were made, such as the formation of the African National Soil Conservation Association in 1953 and the African Wildlife Society in 1963, but both were created as branches of the white-dominated National Veld Trust and the Wildlife Society respectively. This weakened their legitimacy in the minds of their black members who recognised them as little more than manifestations of the apartheid state (Khan, 2000). Notable exceptions were the National Environmental Awareness Campaign, founded in 1976, which focused on community-based projects such as litter clean-ups and the establishment of parks in Soweto, and the African Tree Centre, established in 1980, to promote urban greening, soil conservation and organic gardening (Khan, 2000).

But for the most part, the ideological divisions of the apartheid state kept South African conservation firmly under the control of the large white environmental non-governmental organisations (NGOs) such as the National Botanical Institute, the Wildlife Society (now WESSA), the Southern African Nature Foundation (now WWF-South Africa), the Wilderness Leadership School and the Endangered Wildlife Trust. Some conservation groups altered their constitutions to exclude blacks while others preferred to 'reach out' to blacks with hopes of educating them enough to prevent further environmental damage (Khan, 2000).

An extract from the book *The Conservationists and the Killers* (Pringle, 1982) reflects how the Wildlife Society – an environmental NGO with an almost exclusively white membership – grappled with these tensions (from a liberal white perspective) during the height of apartheid:

> Wildlife is for whites. This accusation has had too much truth to be comfortable.
>
> 'The animals in the Kruger Park have more land than I have' said Mr Selope Thema, speaking in 1950 at a meeting of the Native Representative Council. Hectare for hectare, he was not far wrong. By 1976, the golden jubilee of the Wildlife Society, three percent of South Africa was devoted to nature conservation: only 13 percent set aside for black occupation.
>
> Land! The most explosive political question in South Africa! A question the Wildlife Society could not dodge when it entered the field of African conservation. ...
>
> ... 'These utterances by leaders of black opinion indicate a further need for vigilance on the part of wildlife protectionists in this country', the Society told its members. 'It surely behoves us to do all in our power to reach out to this section of the community... the black mind needs to be instilled with knowledge of the mutual benefits to be derived from striving to preserve instead of destroying nature.'
>
> Some members did try to meet the challenge. They supplied black schools with magazines, with pictures and posters for their walls. Against the need, however, the gestures were meaningless. (p. 256)

Perpetual cycles of poverty and socio-economic disempowerment under apartheid laws placed the majority of black people in a daily struggle to survive, with little time and no resources to get involved in mainstream conservation activities. Additionally, the Bantu education system which was implemented in overcrowded, under-resourced and dysfunctional schools, resulted in widespread illiteracy or semi-literacy. According to Khan (2000, p. 162), this collectively "presented a major obstacle to the development of an environmentally aware, informed public, able and willing to participate in ecological appreciation or decision-making".

It is not surprising, therefore, that by the collapse of apartheid in 1994, the majority of black South Africans felt alienated from the land and viewed environmental issues with suspicion and resentment as a white middle-class domain. For example, in reflecting on the individuals and institutions who donated millions of rands to conserving endangered species such as rhinoceros and cheetah, Ramphele (1991, p. 6) writes:

> How many of these people would lift a finger to prevent the unnecessary deaths of children from diseases caused by poverty? Black South Africans associate such people with a white-dominated culture which accords greater respect to pets than to blacks.

In a similar vein, in 1990 the Vice-President of the Azanian People's Movement stated:

> ... the green movement agitates on behalf of flora and fauna, of the entire animal kingdom, with but one exception: black mankind.... we have better things to do than run along with the bandwagons of ignorant white people who need an interest to fill their time (cited in Khan, 2000, p. 173).

Contemplating the way forward for people and environment in the dying years of apartheid, Ramphele (1991, p. 201) notes that removal of the 'scaffolding' of apartheid (i.e. its laws and regulations) did not guarantee that the overall structure (such as pervasive poverty, social division and inequalities) would fall away. And as long as the latter persist, "people will be forced to go on using their environment in an unsustainable way". However, Ramphele's American contemporary, Durning (1990, p. 40) took a more optimistic view: "For all the violence and injustice that has stained the nation's history, there is one quiet theme that cannot be suppressed: the love the South African people have for their land".

1.2.3 The persistence of love for the land

Durning's (1990) reference to people's love for the land opens up an alternative to the dominant historical discourse provided so far of the political exclusion of black communities from participation or interest in environmental conservation practices. The African National Congress' (1994) call to "rekindle our people's love for the land" and its establishment of an environmental desk in the early 1990s, is evidence that alternative narratives exist to those offered by Ramphele (1991), Khan (2000), and Cock and Fig (2001) which share a common discourse of socio-historical, emancipatory critique. Beinart (2002) cautions that such discourses of South African environmental history are framed along strongly political lines which, although they are true and significant, may not be comprehensive. Broader research may lead to fuller understandings of environmental change; research that explores "how all human beings both shape the natural world and are constrained by it" (Beinart, 2002, p. 226).

Possibilities may include explorations of indigenous and local knowledge, and approaches to research that foreground environment-centred *practices* instead of the conventional reliance on only historico-political narratives about the impact of the colonial state. He also points to the potential limitations of comparative settler and African historiographies which do not generally incorporate ecological histories in which the dynamics of environmental change come to the fore. One example of an alternate exploration of the tacit persistence of people's connection to the land is provided by Beningfield (2006, p. 4) who draws on the work of linguistics expert Nhlanhla Thwala to describe the relationship between the Zulu language, the human body and the land:

> For Black South Africans, who still maintain (or remember) a close relationship with the land, the concept of landscape as land which is mediated by distance is an inversion of a different relationship of ownership – where rather than a person owning the land, the land owns the person. In language [isiZulu], the possessive term is inverted, which implies that a person is a custodian of the land and has a responsibility to care for it, while who they are is fundamentally connected with where they were born. In this sense, death is the reclaiming of the body back to where they ultimately belong, while having access to land is the equivalent to being alive. When a child is born its umbilical cord is buried adjacent to the family house, and when people die their bodies are traditionally returned to the same place, unifying birth and death through the earth. … Land is described in terms of its fertility: *umhlabaonotile* is fertile land, *ugwadule* is barren land and *inkangala* is treeless or featureless land. This vocabulary of the land was traditionally acquired by growing up within it, and Thwala makes a distinction between those who are born in the rural areas, who still actively use and understand this vocabulary, and those who are born in urban areas, who, while they may recognise the words, do not fully understand their meaning. He also points to an alteration in language, as the concept of looking at the land and commenting on its appearance detached from use, is becoming increasingly widespread as people live remotely from the land and travel in order to look upon it as a landscape.

The difficulty of accessing these wider perspectives is accounted for by Carruthers (2002) who notes, firstly, that the academic community writing about southern Africa's environmental history is small (leaving such sociocultural and historical terrain largely undocumented), and, secondly, that "the politics of race relations – whether written in the traditions of Afrikaner nationalism, liberalism or neo-Marxism – have dominated South African historiography (Carruthers, 2002, p. 4). Similarly, Martin (1999, p. 259) reflects after her doctoral research on environmental literacies in southern Africa that, "it was extraordinary to discover how little networking information is available about the work being done in eco-culture".

1.2.4 Post-Apartheid Environmentalism in South Africa

1990 – 1994: The eve of democracy in South Africa, from 1990 to1994, brought heightened activity in the environmental sector and a substantial shift from the earlier elitist, authoritarian wilderness preservation approaches to what Cock and Fig (2001, p. 16) describe as "an alternative environmentalism" that perceives environmental concerns as "deeply political in the sense that they are embedded in access to power and resources in society". This alternative environmentalism was strongly influenced by the global – and in particular North American – environmental justice movement (Cock & Fig, 2001). In South Africa

there was a strong focus on poverty as the fundamental cause of environmental degradation and an emphasis on tackling the so-called 'brown issues'[3].

This new environmentalism is reflected, for example, by the Environmental Justice Networking Forum (EJNF) which was formed in 1992:

> Environmental Justice is about social transformation directed towards meeting basic human needs and enhancing our quality of life – economic quality, health care, housing, human rights, environmental protection and democracy. In linking environmental and social justice issues the environmental justice approach seeks to challenge the abuse of power which results in poor people having to suffer the effects of environmental damage caused by the greed of others (Environmental Networker, cited in Cock & Fig, 2001, p. 18).

The 1990s were marked by a powerful national swing towards public participation. This countered the outgoing authoritarian policy formulation processes of the white government and dissolved "the formerly strict boundaries between politics and conservation" (Khan, 2000, p. 169). It also led to a proliferation of community-based environmental organisations and participatory policy initiatives. For example, the Consultative National Environmental Policy Process, initiated in 1993, involved several hundred multi-sectoral stakeholders and led ultimately to the National Environmental Management Act (NEMA), No. 107 of 1998.

From the early 1990s, the African National Congress (ANC) had presented a holistic view of environment and committed itself to the concept of sustainable development within a sustainable development political framework (Khan, 2000, p. 169). This is evidenced in the Reconstruction and Development Programme's policy framework (ANC, 1994, p. 39) which stated, for example:

> The democratic government must ensure that all South African citizens, present and future, have the right to a decent quality of life through sustainable use of resources. To achieve this, the government must work towards: equitable access to natural resources; safe and healthy living and working environments; and a participatory decision-making process around environmental issues, empowering communities to manage their natural environment.

[3] Popular environmental discourse distinguishes between 'green issues' concerned with nature conservation and similar traditional forms of environmental concern (e.g. species protection, soil conservation, biodiversity management etc.), and 'brown issues' which focus more on urban environmental concerns (e.g. waste management, pollution, access to water and sanitation, energy use, food security etc.).

It is noteworthy that amongst its strategies for sustainable development in South Africa, the ANC advocated for:

> environmental education programmes to rekindle our people's love for the land, to increase environmental consciousness amongst our youth, to co-ordinate environmental education with education policy at all levels, and to empower communities to act on environmental issues and to promote an environmental ethic (ANC, 1994, p. 40).

1994 – present: The first democratic constitution of South Africa in 1996 (Republic of South Africa [RSA], 1996) was hailed as one of the most progressive in the world in terms of its provision for social equity, transformation and environmental protection. However, the challenges of actualising these ideological and political shifts into tangible environmental transformation have been substantial. One illustrative example is a study of perceptions of development in the province of KwaZulu-Natal. The study identified violence, crime and unemployment as major problems in the province which overshadowed other development issues (Møller, 1996). Only 40% of respondents (24% in rural areas and 57% in urban areas) reported being satisfied with their standard of living, and a mere 34% indicated personal satisfaction with their lives as a whole. The report revealed that health services, food security, access to transport, a clean and safe residential area and good quality housing were the most significant contributors to personal satisfaction.

While Khan (2000) concedes that environmental issues are far from receiving mass support in post-apartheid South Africa, she generally takes an optimistic view of the country's developing environmentalism, evidenced by increased prominence of environmental justice issues and by the "unprecedented growth in action taken by ENGOs [environmental non-governmental organisations] based in townships and black rural areas" (Khan, 2000, p. 173). Cock and Fig (2002) take a more critical, circumspect view. They draw attention to the newly-created Department of Environmental Affairs and Tourism (DEAT)'s (established in 1994) poor track record in effective implementation of its progressive environmental legislation, citing limited capacity and lack of political will as reasons for poor or failed delivery. Additionally, they describe a deepening contradiction between the ANC government's neo-liberal policies[4] and collective, democratic civic action through grassroots

[4] Neo-liberal policies in South Africa are evidenced, for example, in the Growth, Employment and Redistribution (GEAR) strategy launched in 1997 which is modelled according to neo-liberal economic principles such as deficit reduction, trade liberalisation, privatisation and export-led growth.

movements. Outside of government, Cock (2007, p. 189) notes that the environmental justice movement in South Africa:

> ...involves untidy struggles lacking a coherent, co-ordinated centre. It is a loose network; like the global justice movement, it involves new forms of organising and new alliances, and presents a contrast to the traditional membership-based bureaucratic and hierarchical means of organising in civil society.

There are other forms of environmental expression that are localised and go mostly unacknowledged in mainstream accounts of environmental history. Martin's (1999, p. 239) doctoral work in the area of environmental literacies in southern Africa points to what she describes as "… the creative potential of a fairly recent reinvention of African tradition as an alternative to the philosophical models which have informed the eco-social disasters of First World development". She cites, for example, work in the Impendle region of KwaZulu-Natal[5] to document stories from old people to reconstruct the rituals associated with Nomkhubulwane (the Zulu goddess who presides over rain, fertility of fields and people) and to encourage young people to create new songs, improvisational dramas and rituals. She describes how the Nomkhubulwane project strives to recover "pre-colonial, pre-modern, pre-apartheid practices" in ways that engage with traditions as dynamic and which "renew people's respect for people's bodies, their sexuality and the land … [and] implicitly question the militaristic, hierarchic, macho versions of Zulu tradition with which the people of [KwaZulu]-Natal are all too familiar" (Martin, 1999, p. 242).

Zulu writer, actor and cultural organiser, PiweMkize, wrote a play *Back to Nature* (1995, cited in Martin, 1999) in which the protagonist, Qhude:

> … convinces the Wildlife Society management to employ him as an environmental educator although (due to poverty) he does not have tertiary education. He proves that he can do without it by working with others to produce what is effectively a morality play on environmental issues. … [Through this play], Mkize constructs an environmental discourse out of a meeting between contemporary political and (non-sectarian) religious discourses and traditional African practices. In this approach, the contemporary crisis is simultaneously an eco-social-spiritual one (Martin, 1999, p. 245).

Martin (1999) considers the educational potential of these and other creative responses to people's relationships with the natural world, highlighting the importance of moving away

[5] Impendle is the birthplace and family home of Nkanyiso whose environment-oriented ethical deliberations are explored in Case Study Two of this research (Chapter 7).

from dualisms, didacticism and over-simplified representations of ecological interconnectedness. She reflects that: “For the recent emergence of progressive environmentalism in South Africa, it has been essential to distinguish a politics of environment, development and social justice from old-style conservationism, with its connotations of national(ist) game parks, white privilege and forced removals” (Martin, 1999, p. 269).

1.2.5 Contemporary Social-Ecological Concerns in South Africa

In its National Framework for Sustainable Development for South Africa, the Department of Environmental Affairs and Tourism (DEAT) states: “The way in which we live in South Africa and the development path that we are currently pursuing, has elements of being unsustainable and consequently not viable, in the long term” (DEAT, 2008, p. 7). Despite having some of the world’s most progressive environmental legislation, South Africa faces numerous and inter-related social-ecological challenges which are exacerbated by the inequitable distribution of wealth and resources and the country’s economic growth path which is characterised by high levels of resource consumption and waste generation (DEAT, 2008).

These social-ecological challenges are comprehensively reviewed in national reports (see for example DEAT, 2006), books (for example Clarke, 2002; Parry-Davies, 2004) and the media (see for example www.environment.co.za and www.ngo.grida.no/soesa/nsoer/). Rather than review and summarise these ample sources, I now provide a broad overview of contemporary social-ecological concerns in South Africa through ‘snapshots’ using two commonly used organising concepts: sustainable development and ecological footprinting. This is complemented by a collage of photographs showing a range of social-ecological concerns in South Africa (Figure 1.1).

1.2.5.1 South Africa through a sustainable development lens

According to the National Sustainable Development Framework (DEAT, 2008), South Africa’s definition of sustainable development is influenced by the globally accepted definition provided by the Brundtland Commission and which is entrenched in the Constitution. The Constitution (RSA, 1996, Bill of Rights, Section 24) guarantees everyone the right to having “the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that secure ecologically

sustainable development and use of natural resources while promoting justifiable economic and social development". South Africa has formalised its definition of sustainable development by including it in law. The definition of sustainable development in the National Environmental Management Act (NEMA), (RSA, 1998, Preamble) is as follows: "Sustainable development requires the integration of social, economic and environmental factors into planning, implementation and decision-making so as to ensure that development serves present and future generations."

The Department of Environmental Affairs and Tourism (2008) identified priority areas for a sustainable development agenda:

- Atmosphere (air quality; climate change; ozone depletion);
- Biodiversity and ecosystem health (habitat loss; alien invasive species);
- Economy (economic development and unemployment);
- Environmental governance (institutions and laws; public participation; corporate responsibility);
- Human settlements (urbanisation and migration; service provision; waste management);
- Human vulnerability (food security; resilience regarding hazards and disasters);
- Inland water (water availability and quality; degradation of aquatic systems);
- Land (land use and productivity; land reform and access; land degradation and desertification);
- Coastal ecosystems (overexploitation of stocks; sea level rise; protection and management);
- Population and well-being (HIV/AIDS; poverty eradication; inequality).

In relation to these priority areas, this same report conceded that, despite having made progress at the level of policy formulation and participation in international processes, the South African environment was in an overall state of decline:

> In general, the condition of the South African environment is deteriorating. Increasing pollution and declining air quality are harming people's health. Natural resources are being exploited in an unsustainable way, threatening the functioning of ecosystems. Water quality and the health of aquatic ecosystems are declining. Land

> degradation remains a serious problem. Up to 20 species of commercial and recreational marine fish are considered over-exploited and some have collapsed.
>
> At the same time, the basic needs of the current generation are not yet being adequately met, and unemployment and inequality are still extremely high. Poverty remains deeply entrenched, and is on the increase in some areas. With the majority of poorer South Africans directly dependent on natural resources to survive, we can ill afford to let the environment deteriorate. Poverty reinforces people's dependence on natural resources and makes them more vulnerable to environmental threats such as polluted water, degraded land, and indoor air pollution. Lack of access to basic needs such as clean water and safe sanitation strips people of their dignity. People living outside the formal sector, many rural dwellers, and the millions of people affected by HIV and AIDS are particularly vulnerable to a deteriorating environment. (DEAT, 2008, p. 2)

1.2.5.2 South Africa through the ecological footprinting lens

Ecological footprinting is an accounting tool that measures how much biologically productive land is needed to sustain the living standards of an individual, a city or a country. This includes the land required to produce the physical resources consumed, absorb the waste that is generated, and sequester carbon dioxide emissions associated with energy demand. The Global Footprint Network (2006) report that South Africa's ecological footprint increased from 1.8 global hectares per person in 1961 to 2.3 global hectares in 2003. Other sources (DEAT, 2008) state that South Africa's footprint is 4,02global hectares per person. In broad terms, this means that we would need two planets if everyone lived like the average South African. This, however, masks gross inequalities. In terms of the size of its ecological footprint, South Africa ranks 42nd out of 148countries. Because of its high carbon emissions, its energy footprint is particularly high compared to other countries in Africa. A recent study of Cape Town found that the footprint of some of Cape Town's richest suburbs were so large that 14 planets would be required if everyone lived like people in the wealthy suburbs of Camps Bay and Constantia.

The footprint of Cape Town's middle class suburbs is projected to be 5 to 6 planets (similar to the United States average, which is also based on social and economic inequalities), and the footprint of the poor suburbs is 0.5 to 1 planet (similar to China and India). It is unlikely that there are sufficient resources to eradicate poverty by increasing the footprint of the poor if the footprint of the rich remains so large (DEAT, 2008).

Figure 1.1 Snapshots of a South African environment under pressure: A. Overgrazed, infertile land around a rural homestead (Peddie, Eastern Cape, 2005). **B.** Rising sea levels, tidal surges and intensification of storms associated with climate change (Southern Cape, 2008). **C.** Social inequality, globalisation and increasing levels of urban consumerism are reflected in the proliferation of shopping malls (Cape Town, Western Cape, 2009). **D.** Fresh water pollution and inadequate housing and sanitation; the sign adjacent to informal shacks reads: 'Important Notice. Untreated water sewage. Do not drink or swim' (Howick, KwaZulu-Natal, 2010). **E.** Energy shortages and greenhouse gas emissions associated with coal-fired power stations throughout the country (Vaal Triangle, Gauteng, 2008). **F.** Landfill site: the interface of poverty, overconsumption and inadequate waste management (Grahamstown, Eastern Cape, 2010)

1.2.6 Conclusion

This section has outlined the social-ecological context in which this study's cases of ethics-oriented reflexive deliberation are situated. It has discussed some ways in which colonialism and the apartheid regime systematically alienated black South Africans from the land and how segregationist policies created an elite understanding of 'nature conservation' and environmental care as being 'white' concerns. It has traced the ways in which post-apartheid governance has sought to transform these people-environment relationships, not only through a shift to a participatory, people-centred approach to environmental management, but also through radically transformative legislation and policies. This is the contemporary context in which environmental education and training occurs and in which the ethical dimensions of environmental practices come to be deliberated. These will be discussed in the following section.

1.3 ETHICAL DIMENSIONS OF EETDP IN SOUTH AFRICA

1.3.1 A General Overview of EETDP

Environmental Education, Training and Development Practices (EETDP) is a sub-field of the Education and Training sector, as provided for by the South African Qualifications Authority (RSA, 1995). EETDP covers a range of education and training practices in the broad context of environmental, developmental and sustainability concerns. These commonly include, but are not limited to:

- *Biodiversity conservation education*, for example: taking primary school children on interpretive trails in conservation areas, anti-poaching awareness-raising campaigns in rural communities, or training programmes on plant propagation for traditional healers.

- *Community-based Natural Resource Management (CBNRM)*, such as training linked to entrepreneurial projects for community groups to manage and sustainably harvest local natural resources.

- *Public awareness raising and education for civic action*, such as supporting school, youth or church groups to monitor or take action for local environmental problems.

- *Environmentally focussed professional development courses*, ranging from teacher workshops to integrating school vegetable gardens in the school curriculum, to waste management programmes for local government officials.

Environmental Education, Training and Development (EETD) practitioners work closely with people in jobs with an environmental management[6] function. Through the education and training programmes that they develop and implement, EETD practitioners encounter and mediate various axes of tension, some of which are ethics-oriented. A review commissioned by the Department of Environmental Affairs and Tourism (DEAT) to investigate the training needs implied in South Africa's key environmental legislation (Olvitt, Malema & Lotz-Sisitka, 2004) identified seven broad areas of desired competence. One of these was "social justice/ethical competence". For example, the Biodiversity Act of 2004 requires that, before a bioprospecting permit is issued, the issuing authority must:

> …protect any interests any of the following stakeholders may have in the proposed bioprospecting project: (a) A person, incl. any organ of state or community, providing or giving access to the indigenous biological resources… (b) an indigenous community – (i) whose traditional uses of the indigenous biological resources…have initiated or will contribute to or form part of the proposed bioprospecting; (ii) whose knowledge of or discoveries about the indigenous biological resources are to be used for the proposed bioprospecting. (RSA, 2004)

An educator (for example, an agricultural extension officer) working with such an indigenous community whose "knowledge of or discoveries about the indigenous biological resources are to be used for the proposed bioprospecting" would need to identify and mediate potential ethical tensions as they arise in teaching and learning processes, for example: what if the discovery about the use of a particular plant promises short term economic gain for the community but places the sustainability of the plant species in that area at risk through over-harvesting? What if the proposed bioprospecting practices dislocate harvesting techniques from traditional knowledge and practices that have historically ensured the plant's sustainability within the ecosystem? Would knowledge about the plant's medicinal worth need to be re-presented in line with the language and practices of western medicine, and what would this imply for the way community knowledge was received and worked with in an educational programme?

[6] In this study, I extend the notion of 'environmental management' beyond the conventional notion of formal, professional practice to include all purposeful actions situated in social life that have social-ecological consequences. Hence, for instance, a rural community's land use practices or a suburban community's waste management practices are also sites in which EETD practitioners mediate learning.

Environmental practice across all sectors and ranging from high level managers to 'on the ground' workers, is steered by legislation of this kind although the ethical implications for practice are seldom made explicit. EETD practitioners have the double responsibility of (a) understanding and mediating ethical dimensions of their adult *learners'* practices and (b) understanding the implications of this for their *own* education practice and the design and implementation of environmental learning programmes.

In South Africa, such work is commonly situated within the biodiversity conservation sector, the education and training sector, the agricultural sector, the environmental justice sector and now increasingly within the local governance sector and the business and industry sector. Below, some of these sectors are introduced briefly[7] with some illustrative examples of how axes of ethical tension require mediation by EETD practitioners.

1.3.1.1 Biodiversity conservation / natural resource management sector

This sector has traditionally had a strong environmental education component with environmental education practitioners developing and running educational programmes focused on biodiversity conservation, general environmental and conservation awareness programmes for the public or communities surrounding protected areas and so on. Typical work sites include nature reserves, botanical gardens, national parks and national heritage sites where environmental education activities are the responsibility of Community Conservation Officers, Environmental Education Officers and Environmental Extension staff. Most of the botanical and zoological gardens run by the South African National Biodiversity Institute have a dedicated environmental education centre with education officers conducting courses within the gardens, and extension activities into schools and surrounding communities. Many museums have environmental education practitioners, again working both within the institution and extending to schools and the public. Some universities have programmes that could be described as having an environmental education component such as the Institute of Natural Resources, linked to the University of KwaZulu-Natal, Pietermaritzburg. Programmes operated by the Institute of Natural Resources include

[7] This section is based on extracts from the needs analysis report (Wigley & Olvitt, 2005) which was produced to guide the curriculum development of the National Certificate in EETDP at NQF level 5 (see Section 5.2).

working with rural communities around sustainable use and cultivation of traditional crafts and muthi plants (Wigley & Olvitt, 2005).

- *A case example of ethical tensions in conservation-based EETD practice*

In 2007, Martine Mouton participated in the Rhodes/Gold Fields Course in Environmental Education. Martine works for the Nature's Valley Trust in the small coastal town of Nature's Valley in the Southern Cape, South Africa. Nature's Valley is built around a river estuary and is surrounded by the Tsitsikamma National Park and its associated marine protected area. Martine's job is to provide educational programmes for the local communities (ranging from wealthy, predominantly white residents to poor, predominantly black and coloured residents) as well as to tourists during holiday seasons. The following extract is taken from Martine's assignment during the 2007 course.

> In my day-to-day work with people and communities I'm confronted with what is right according to the 'books' and what is right according to myself. In my work I have to take action according to my work and not my own ethics. For example, if a man from a nearby community comes to fish without a permit to have food on the table, how can I let that person get a fine for fishing in a marine protected area? (Mouton, 2007)

The extract reflects an ethics-oriented axis of tension between Martine's workplace obligations (i.e. engaging with local communities around the management of a marine protected area), and her personal orientation situated within a particular socio-economic and political identity and experiences (i.e. of understanding that an unemployed person living at the coast will turn to local natural resources to provide food for his family). Through course processes – in this case an assignment question supported by tutorial discussions – Martine needed to identify these (and other) tensions and reflect on their implications for her practice.

Should Martine act on her ethic of concern for the well-being of a fisherman and his hungry family, but thereby undermine the efficacy of South Africa's environmental legislation which aims to conserve the integrity of the country's natural resource base for current and future generations? Should Martine act on her ethic of concern for the long-term integrity of the marine protected area where she works, striving to re-establish the declining fish stocks and fragile marine and coastal ecosystems, even when this means denying access to local fishermen and, in fact, issuing fines when they do not comply? If she turns a blind eye to this one fisherman, what will she do if/when others arrive too? Will she acknowledge the right of some to catch fish in the marine protected area, but exclude others; and what values will

guide her to make those distinctions? Is the country's environmental legislation an adequate framework to guide Martine's practice in the first place or should the environmental laws be rejected, as proposed by Cullinan (2004, p. 262) on the grounds that they "perpetuate, protect and legitimise the continued degradation of Earth by design, not by accident", and replace them with an 'Earth governance' approach that calls for government systems to be re-designed to "be consistent with the larger order of the Universe, and of Earth in particular"? Are these the only framings for Martine's action as an environmentalist and EETD practitioner, or should she strive to imagine new practices outside of her present frames of reference (Weston, 1994). For instance, should she pursue a more ethics-based epistemology (Jickling & Paquet, 2005, after Cheney & Weston, 1999) in which ethics open the way to knowledge rather than relying on knowledge claims to frame ethical discourse? Who or what will support her in that process?

1.3.1.2 Agricultural sector

Environmental Education is not a well-established activity within mainstream agriculture, in particular the commercial farming sector. Many NGOs and individuals have included an environmental component to training of rural and subsistence farmers and this usually takes the form of permaculture training or "sustainable farming" courses. All the provincial departments of agriculture employ agricultural extension officers whose job is to provide technical support to both commercial and subsistence farmers, often through workshops but also through semi-formal learning networks.

- *Case example of ethical tensions in EETD practice in the agricultural sector*

Andile works for a non-governmental organisation in the agricultural sector in Swaziland. His job is to train rural subsistence farmers in sustainable land use practices and water harvesting techniques. As a non-governmental organisation, the project is dependent on external funding, and in 2006 they managed to secure a four-year contract with a multi-national seed company which operates in Swaziland. The contract provides funding to work with small-scale farmers in four districts, providing them with water collection tanks, basic farming implements and fertiliser, and training them in modern farming practices. However, the seed company specialises in genetically modified soya and maize varieties and the non-governmental organisation is under contractual obligation to provide the genetically modified crops to farmers and facilitate their training in planting and harvesting. Andile has a background in permaculture and organic farming practices and is deeply concerned by the

requirements of this contract, but he holds a junior position in the non-governmental organisation and does not want to jeopardise his future with the organisation. As such, he finds himself in an ethically compromised position when facilitating workshops with rural farmers on genetically modified crops which he knows through previous experience to reduce rather than strengthen the sustainability of local agricultural practices.

1.3.1.3 Business and industry sector

This sector is responding to stronger environmental legislation such as the South African National Environmental Management Act (NEMA) and international pressure to conform to environmental accreditation systems and thus recognises the need for (mostly in-house) environmental education and training. Environment is, however, often conceptualised narrowly and limited to health and safety issues. Environment-oriented education and training in the business and industry sector has thus tended to be of a technical nature, and includes, for example, training in environmental management systems, environmental accreditation (e.g. ISO 14000[8]) and environmental legislation and compliance. Environmental education and training is thus generally understood by industry and business stakeholders to mean 'environmental management training' (Wigley & Olvitt, 2005).

- *Case example of ethical tensions EETD practice in the business and industry*

William works for a national aluminium can recycling business which has a large school-based recycling programme. William's job is to manage the school-based educational programme and monitor and evaluate its effectiveness. His initial reports reflect his concern for the quality of teaching and learning associated with the recycling programme in the schools and he is motivated to develop more critical and change-oriented approaches in the future. He finds the current approach to "end-of-the-line" recycling problematic and plans to develop educational materials that challenge the more systemic patterns of consumption that underpin the levels of waste production in schools and homes. William's plans are stifled, however, by the marketing section of his organisation which points out that the profitability and marketability of their programme is linked to large quantities of can recycling; hence, his objective should not be to reduce consumption of canned beverages but rather to ensure that, post-consumption, the majority of cans is collected for recycling. William is directed by

[8] ISO 14 000 refers to the international standards set for environmental management.

management to ensure that the programme's monitoring continues to be based on the number of schools enrolled and the tonnage of cans collected for recycling on a quarterly basis, and *not* the quality of learning or the effectiveness of the recycling programme in changing patterns of consumption.

1.3.1.4 Local governance sector

Although there has not traditionally been a comprehensive approach to environmental education within local or provincial government contexts, there are a number of specific initiatives and projects with an environmental education component. Examples include local government parks and gardens departments who often have environmental education centres with staff conducting environmental education programmes for schools and the public. Various departments have environmental education initiatives, for example the Ethekwini Municipality's Water and Sanitation department has an environmental education centre and extension programmes focusing on environmental issues concerned with water, health and sanitation. On a provincial level, the departments of Environment Affairs employ Environmental Officers whose roles include not only law enforcement but often environmental education and training including, for example, raising awareness of environmental legislation.

- *Case example of ethical tensions in EETD practice in the local governance sector*

Nomfundo works for a local municipality in KwaZulu-Natal as the environment officer and part of her mandate is to inform and support local communities to engage with sustainable development prospects in the district. Nomfundo studied community development and was appointed to the post of municipal environment officer on the grounds of having studied Geography to second year as part of her degree. She is familiar with the relevant environmental legislation that guides her work (such as the National Water Act, National Forestry Act, Municipal Systems Act and the Biodiversity Act) but is critical of the way in which the detailed environmental management procedures seem to hinder local development projects. Coming from a disadvantaged background in apartheid South Africa, she is acutely aware of the struggles of inadequate housing and infrastructure. Hence, when planning public participation activities around proposed local developments, Nomfundo struggles to reconcile the agenda of local conservation lobby groups who regularly contest the sites or approaches of such developments, and she feels uncomfortable presenting these concerns – which she perceives to be a white, urban agenda – to black rural community members who are

pressuring local government for more tangible evidence of development and social upliftment.

In some cases, the work of EETD practitioners is not as easily categorised as suggested above. Many environmental organisations work cross-sectorally and at multiple levels. For example, an employee of the Wildlife and Environment Society of South Africa (WESSA) could be required to conduct nature-based interpretive trails for primary and secondary school learners, lobby municipal managers for improved waste management systems in the local water catchment, and co-ordinate an industry-funded project that supports unemployed community members to establish indigenous gardens in the township.

Environmental values and ethics are embedded in the practices of all these sectors. The extent to which this is so, and the way ethical dimensions of professional practice are reflexively deliberated, are areas of concern in this study. The study is also interested in the ways in which a professional development course in EETDP might stimulate or otherwise influence the ethics-oriented reflexive deliberations of environmental educators. These interests are captured in the study's research question and goals which are introduced below.

1.4 RESEARCH QUESTION AND GOALS

This study is located within a research programme of Rhodes University's Environmental Learning Research Centre[9], funded by the South African Qualifications Authority, focusing on change-oriented workplace learning and sustainability practices (Lotz-Sistka, 2010).

The programme is located at the intersection of two new dynamics affecting development, policy and education in South Africa (and globally), namely *workplace learning*, and *sustainable development*. These two dynamics are interrelated, in the sense that:

> … sustainable development cannot occur without effective, change-oriented workplace learning, given its cross-sectoral, dynamic and multi-dimensional nature. Sustainable development practices (e.g. energy reduction, pollution reduction, environmental impact assessments, environmental health practices, full cost accounting, sustainable design etc.) are increasingly becoming necessary in almost

[9] Rhodes University's Environmental Learning Research Centre (ELRC) was formerly known as the Rhodes University Environmental Education and Sustainability Unit (RUEESU) and was renamed in late 2010 when the RUEESU relocated to new premises on the university campus and reconstituted as a research centre. Throughout this study, I refer to the RUEESU rather than the ELRC as that name correlates with the time frame of the study.

> every workplace, as they affect the competitiveness, and trade and production opportunities of a wide range of sectors, and future opportunities for quality of life. (Lotz-Sistka, 2010, p. 2)

Within this broad research programme, this qualitative case study research takes an in-depth and nuanced look at a little-understood dimension of workplace learning: the ethics-oriented reflexive deliberations of novice environmental educators. The educational dimension of this research interest is strengthened by considering how a year-long professional development course in EETDP might influence such reflexive deliberations on professional practice.

Hence, I came to frame the study's research question as follows:

> **How do ethics-oriented reflexive deliberations occur in, or at the interface of the interacting activity systems of course-supported EETDP workplaces?**

Towards answering this question, the following research goals provide structure to the study:

- Goal One: Identify and describe the interacting activity systems of selected environmental education, training and development practices;

- Goal Two: Identify and describe ethics-oriented reflexive deliberations of selected novice environmental educators;

- Goal Three: Identify and describe causal structures and mechanisms at the interface of these activity systems that influence the ethics-oriented reflexive deliberations of the selected novice environmental educators.

In the following sections, I introduce the legislative and institutional backdrop to this study, namely: the South African Qualifications Authority (SAQA); its National Qualifications Framework (NQF); the sub-field of Environmental Education, Training and Development Practices (EETDP); the purpose and general structure of the National Certificate in EETDP (hereafter referred to as the EETDP Course) which is the focus of this study; and the Wildlife and Environment Society of South Africa (WESSA) which has been implementing the EETDP Course since 2006.

1.5 NATIONAL STRUCTURES REGULATING EDUCATION AND TRAINING IN SOUTH AFRICA

1.5.1 SAQA, the NQF, and EETDP in South Africa

In 1995, the South African National Qualifications Act (RSA, 1995) was promulgated and the National Qualifications Framework (NQF) was established to accommodate all recognised qualifications in South Africa (from school level to university, including those acquired through on-the-job training). The NQF is a crucial component of the government's post-apartheid reform strategy for the county's education and training system (Jewison, 2008), signalling a 'new era' for those concerned with the professional development and training of people in workplaces.

For the subsector of environmental education, training and development practices, it meant the establishment of sector-specific qualifications and the opening up of accredited learning pathways which had hitherto been limited in South Africa. It also created an uncertain future for the few but successful 'open-entry, open exit' professional development course programme which would inevitably need to align with the outcomes-based, standards framework of the NQF.

Lotz-Sisitka (2008, p. 5) explains:

> To understand the complexity of the array of issues introduced by the NQF into our community of practice, we made the decision to participate in the building of the NQF. We wanted to ensure that adequate qualifications frameworks for environmental education would be available on the NQF, so that our courses could be legitimately accredited and that workers and employers could benefit from the redress, access, quality and portability intentions of the NQF. By this time we had realised that there were no available career paths or qualifications routes for those entering the field of environmental management or education in South Africa. We therefore contributed to standards generation processes in the context of an emerging NQF, and helped to research competency frameworks necessary for the design of qualifications.

One of the qualifications designed by the EETDP Standards Generating Body was the National Certificate in Environmental Education, Training and Development Practices. This 120-credit, year-long qualification is offered at Level 5 of the NQF, that is, the first level of study beyond Grade 12, the final year of the formal schooling system. The purpose of the qualification is to: "prepare candidates to function as entry-level environmental education practitioners" (SAQA, 2005).

In 2003, a partnership initiative known as the Environmental Learning Forum was established by the Wildlife and Environment Society of South Africa (WESSA); the Rhodes University Environmental Education Unit (RUEESU), the Environmental Justice Networking Forum (EJNF); the Department of Environmental Affairs and Tourism (DEAT) and other partners. The intention of the Environmental Learning Forum was partly to investigate the viability of WESSA becoming an accredited provider and offering the National Certificate in Environmental Education, Training and Development Practices as a Learnership, and partly to set up a supporting network in response to the experiences of Environmental Learning Forum members (especially WESSA and the RUEESU) that:

> … the complexity and layers of bureaucracy surrounding the NQF [National Qualifications Framework] and accreditation process was … preventing most environmental organisations from even attempting to navigate their way into the NQF and work with accredited courses, both for their own staff development purposes and to become accredited to offer accredited courses to others. (ELF, 2003. p.2)

Through the Environmental Learning Forum, WESSA conducted a needs analysis which I contributed to (Wigley & Olvitt, 2005) and developed the curriculum of the EETDP Course to be offered in the form of a one-year Learnership. Similar to the apprenticeship model of qualifying for the world of work, the South African Learnership model inducts adult learners into a particular type of work through a curriculum that is required to be 70% workplace-based and 30% formal instruction. Learner-practitioners are placed in a relevant organisation for the duration of the Learnership, under the guidance of a workplace mentor, an arrangement which is formalised through a three-way agreement between the education and training provider, the employing organisation and the learner-practitioner. (Throughout this study I will use the term ‘learner-practitioner’ to denote the integrated nature of their identities and practices simultaneously as ‘learners’ doing a course and as ‘practitioners’ in a professional workplace).

WESSA piloted the EETDP Course with a small group of learners in the Eastern Cape province in 2006 and has been offering the Course roughly on an annual basis since then. The 2008/ 2009 and 2009/ 2010 iterations of the EETDP Course are the professional development contexts of the three learner-practitioners whose ethics-oriented reflexive deliberations are the focus of this study. The first two, Paul and Faaiz, work as environmental educators in a local government context in the City of Cape Town’s Environmental Resource Management Department (see Chapter Six). Nkanyiso works part-time as an environmental educator across

two environmental non-governmental organisations: the Mondi Wetlands Programme and the Midlands Meander Association Educational Project (see Chapter Seven).

1.6 STRUCTURE OF THIS DISSERTATION

Chapter Two: introduces the philosophical and theoretical frameworks used in this study, showing the coherence and appropriateness of (i) cultural-historical activity theory (CHAT) as a theoretical framework and (ii) broad sociocultural-historical perspectives on learning and development within (iii) a relational, social realist study.

Chapter Three: clarifies concepts and phenomena relevant to this study as diverse as ethical theories and workplace learning. The chapter presents a rationale for considering the ethical dimensions of EETD practices, especially in relation to workplace learning processes, and draws on Margaret Archer's (2003; 2007) work on reflexive deliberation to consider how ethical deliberations might be understood as processes of learning.

Chapter Four: considers the methodological implications of the study's philosophical and theoretical frameworks, making a case for their internal coherence. The chapter explains how the social realist pursuit of ontological depth and causal explanation is responded to through CHAT's provision of a language of description and structure for tracing systemic tensions and contradictions over time, and how CHAT's application in a study concerned with environmental ethics deliberations is enhanced by discourse analysis tools. The second part of this chapter gives a justifiable account of how the study's data was generated, managed, analysed and represented.

Chapter Five: is the first of three data presentation chapters. It looks at the activity system of the EETDP Learnership and traces the historical emergence of its environmental values and ethics component through its interactions with other activity systems. The focus in this chapter is more on the general and historical features of the EETDP Course because Chapters Six and Seven present more specific data from two iterations of the course in 2008/9 and 2009/10.

Chapter Six: presents two case studies (Case 1a: Paul and Case 1b: Faaiz) who both work within the City of Cape Town's Environmental Capacity Building, Training and Education Section. Framed by CHAT and supported by a discourse-analysis tool, the chapter begins by presenting the environmental values and ethics-specific data from the 2008/9 implementation

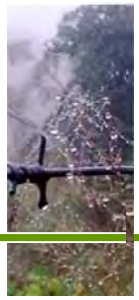
of the EETDP Learnership which Paul and Faaiz studied. Thereafter, it presents data related to their respective professional practices and the insights I was able to gain regarding their ethics-oriented reflexive deliberations.

Chapter Seven: Like Chapter Six, this chapter presents case-specific data, this time in relation to Nkanyiso who works part-time across two environmental education projects, the Mondi Wetlands Programme and the Midlands Meander Association Educational Trust. This chapter is also framed by CHAT and supported by a discourse-analysis tool.

Chapter Eight: Building on the case-specific data presented in Chapters Five to Seven, this chapter applies a social realist morphogenetic and retroductive analysis across the three cases to identify causal mechanisms related to the ethics-oriented reflexive deliberations of the three learner-practitioners. This prepares the ground for the presentation of seven findings which address the study's research questions and are discussed in relation to the intersecting fields of environmental ethics, professional development courses, workplace learning and social change.

Chapter Nine: presents conclusions based on the case study data and makes recommendations for the current and future professional development processes in the EETDP field, in South Africa in particular. I also include critical reflections on the study from a theoretical, methodological and ethical perspective and outline some openings for further research.

CHAPTER TWO:
PHILOSOPHICAL AND THEORETICAL FRAMEWORKS



Nothing that ever occurs in the social world occurs 'net of other variables'. All social facts are located in contexts. So why bother to pretend that they aren't? (Abbott, 1992, p. 6, cited in Emirbayer, 1997, p. 289)

Depending on the way we describe it, the world either appears as something tormenting us with its hopelessly obscure complexity or as attracting us as an object of our projects and commitment. (Maccarini & Prandini, 2010, p. 89)

2.1 INTRODUCTION

The purpose of this chapter is to describe and justify the study's philosophical and theoretical frames to provide a coherent platform for subsequent methodological and analytical decisions. Archer (1995, p. 2) emphasises the importance of attending to ontological concerns in (social) science research because "... what society is held to be ... affects how it is studied". Extending this insight to the educational arena, Wheelahan (2007) notes that our ontological assumptions shape our understandings of the nature of learning, and have implications for how we construct learning environments and develop policy, qualifications, and curriculum. To this end, Chapter Two presents the philosophical and theoretical framing of the study, showing not only its efficacy within this particular research project but, more importantly, its coherence within the broad endeavour of educational research in the context of social-ecological change.

Section 2.2 outlines a relational ontology, noting the complex ways in which people are immersed in a multi-dimensioned world in which subjects and objects are relationally defined. Relationality requires researchers to attend to inter-relationships between phenomena and how they emerge and interact across space and time. In this study I use cultural-historical activity theory (as introduced in Section 2.6) to identify and describe the interplay of practices, discourses, structures and mechanisms associated with the ethical deliberations of novice environmental educators. Relationalism is also inherent to a critical social realist ontology which gives an account of the social world as emerging over time through the

interplay of social and cultural structures and human agency. Critical social realism, the philosophical underlabourer of this study, is introduced in Sections 2.3 and 2.4. (The methodological implications of a critical social realist approach are alluded to here but elaborated in Chapter Four where the study's design, data generation methods and analytical processes are presented more fully).

2.2 A RELATIONAL ONTOLOGY

This study is positioned within a broad relational philosophy, recognising that it is in the interactions between past-present-future, between mind and body, individual and collective, social and ecological, powerful and less powerful and so on, that human agency, learning and change come to be constituted. For Donati (2011a, p. 13), this relatedness "... exists not only at the social level, but also in the interconnectedness among the other levels of reality (biological, ethical, political, economic, ecological etc.)". He refers to "complex relational webs" in which subjects and objects are relationally defined (p. 18).

As an ontological position, relationalism is not bound by a particular movement, manifest through a particular theoretical framework, or associated with a particular genre or field of study. Its characterising feature is its acknowledgment that "all things are ontologically related to their context and can qualitatively change as their contexts change" (Slife, 2004, p. 159). For Cunliffe (2009, p. 91), drawing on the works of Heidegger (1962/1993) and Ricoeur (1992), relational ontology refers to "our immersion in our world ... our inseparableness from others ... emphasis of self always in relation to other".

Slife (2004) traces the demise of relationality in the early development of 'modern science' from the magical-spiritualist traditions of pre-Renaissance Europe. The cabalistic tradition focussed strongly on ontological connections and the way elements (across time and space, spiritual and physical) influenced each other. The invocation of these elements came to be regarded with suspicion and associated with sorcery and witchcraft, and was gradually superseded by the Hermetic tradition. Avoiding a reliance on relational powers, Hermetic magicians limited themselves to manipulating natural powers that were *self-contained* within particular things, for example, the root of a particular plant provides relief for toothache, or a particular aroma can evoke feelings of well-being. This involved studying the *properties of specific things* to determine cause and effect. Out of these and similar trajectories emerged

the western scientific tradition and Cartesian dualism that delineated subject and object, mind and body, person and world. Such views were supported by religious scholars who considered the relationalist proposal that all things mutually influence each other (implying human agency and free will) to be irreconcilable with the Christian notion of an omnipotent God who determines the course of all things.

It is from this long tradition that an abstractionist ontology emerged and came to dominate western scientific enquiry. As its name suggests, abstractionism considers all things in the world to be self-contained and thus independent of (abstracted from) context. Emirbayer (1997, p. 282, drawing on Bourdieu, 1984) refers to this as substantialism; it is the 'substance' of all things that "constitute the fundamental units of all inquiry". He contrasts substantialism with transactionalism in which all people are embedded in transactional contexts. For transactional/relational thinkers, the open-ended and dynamic processes within a transaction are the primary unit of analysis, not the units or essences that constitute that transaction, as they would be for substantialists (Emirbayer, 1997, p. 287). Buber (1981, cited in Bradbury & Bergmann Lichtenstein, 2000) calls these the 'spaces between' and suggests that it is from these that real meaning and interaction arise.

Understood in this way, a relational ontology powerfully influences the research process. In a study such as this which focuses on individuals' ethical deliberations within processes of workplace learning, it becomes important to scrutinise the interplay of practices, discourses, structures and mechanisms *across time and place* and to replace individualising narratives with accounts of socially-embedded transactions. As described in Section 2.6, cultural-historical activity theory provides a theoretical and analytical framework to respond to this concern.

The relational/transactional approach "embeds the actor within relationships and stories that shift over time and space and thus precludes categorical stability in action" (Somers & Gibson, 1994, cited in Emirbayer, 1997, p. 288). For organisational theorists Bradbury and Bergmann Lichtenstein (2000, p. 551) this means that: "... the real work of the human organization occurs within the space of interaction between its members. Thus, the theorist must account for the relationships among, rather than the individual properties of, organizational members".

Focussing more specifically on development and learning, Stetsenko (2008, p. 477) explains that within a relational ontology, learning unfolds dynamically as individuals relate to their world in relational, open-ended ways. Development and learning are not constrained by pre-determined scripts or rules, nor are they the "products of solitary, self-contained individuals endowed with internal machinery of cognitive skills that only await the right conditions to unfold". Such a relational view, she argues, may help to liberate educational research and practice from a positivist legacy of control and testing, and replace it with "a broad dialectical view on human nature and development underwritten by ideology of empowerment and social justice" (Stetsenko, 2008, p. 473).

Links between relational ontology and learning are further discussed in Section 2.4 which focuses on sociocultural-historical approaches to development and learning. Before that, however, it is necessary to introduce critical realism because, together with relationalism, it forms the philosophical and ontological foundation of this study.

2.3 CRITICAL REALISM AS PHILOSOPHICAL UNDERLABOURER

2.3.1 An Overview of Critical Realism

Critical realism is not a social theory but a philosophy which acts as an 'underlabourer' to research (Bhaskar, 1989 [1979]) and provides a framework for complementary social theories (Sayer, 2000; Archer, 1998). One of critical realism's original aims was to "re-establish a realist view of *being* in the ontological domain whilst accepting the relativism of knowledge as socially and historically conditioned in the epistemological domain" (Mingers, 2004), thereby making critical realism ontologically bold but epistemologically cautious.

Critical realism originated mostly through the work of Roy Bhaskar who, from his earliest works (see *The Possibility of Naturalism*, 1989 [1979]), set out to reveal fundamental flaws in the nature of scientific enquiry and disrupt the long tradition of a positivist conception of science. Bhaskar pointed to two significant ontological shortcomings in both the positivist and post-positivist traditions, namely: the limitations of anthropocentric philosophy and the epistemic fallacy. Bhaskar (1989 [1979], p. 147) laments that most philosophical accounts of reality, "always bear the mark, or insignia, of some human attribute", either in terms of the experienced (positivism) or in terms of language and discourse (postpositivism). Also

problematic is the conflation of epistemology and ontology, that is, ascribing the status of 'reality' only to that which can be known or perceived through the senses. Bhaskar (1997a) refers to this as the epistemic fallacy: "that statements about being can be reduced to or analysed in terms of statements about knowledge". Or, in the words of Danermark, Ekström, Jakobsen and Karlsson (2002, p. 21), the fallacy that "reduces what is to what we can know about it".

Towards resolving these ontological inconsistencies, Bhaskar put forward a theory of transcendental realism/critical realism, the characteristics of which are outlined in the following section.

2.3.2 Characteristics of Critical Realism

2.3.2.1 Transitive and intransitive dimensions

There is a reality that exists, independent of our concepts or knowledge of it (Danermark et al., 2002), such that the objects of scientific enquiry "operate prior to and independently of their discovery" (Archer, Bhaskar, Lawson & Norrie, 1998, p. xii). This is what Bhaskar refers to as the *intransitive* dimension. Conversely, the *transitive* dimension refers to our socially determined conceptions of reality – our epistemology. To get around the problem of the epistemic fallacy, a clear distinction must be made between the intransitive and the transitive. The purpose of research is to come as close as possible to knowing the intransitive dimension.

2.3.2.2 Three ontological domains

Critical realists distinguish between three ontological domains: the real, the actual and the empirical. The first is the domain of the *real* which includes whatever exists in the social and natural world, regardless of our knowledge or experience of it. The domain of the real includes not only objects, but mechanisms, structures and powers which also have causal efficacy in the world (Danermark et al., 2002; Sayer, 2000). Language, discourses and values are included in the domain of the real because they can have causal effects (Sayer, 2000; Fairclough, 2001). Events that are actualised by these mechanisms fall within the domain of the *actual*, and those which we experience or observe fall within the domain of the *empirical*.

Bhaskar (1997a), p. xii) notes that the domain of the real is distinct from and greater than the domain of the empirical. These domains are usefully represented by Mingers (2004) as

nested, with the *empirical* (what we experience, observe or measure) embedded in the *actual* domain (where events occur regardless of whether we experience them or not), with both domains residing within the *real* (with its generative or causal mechanisms, tendencies or preconditions) – see Figure 2.1.

By proposing that through a stratified ontology the world exists independently of our knowledge or sensory experience of it, critical realism not only challenges the philosophy of science, but puts forward a new ontology (Sayer, 2000; Archer et al., 1998). Critical realism is "an optimistic backdrop", claims Donati (2011a, p. 118), because it allows that "... reality can go beyond the limited rationality of human individuals [and] shows how society can be modified by people, who hold a reservoir of potential abilities reflected in social relations through causal (agency) and structural powers".

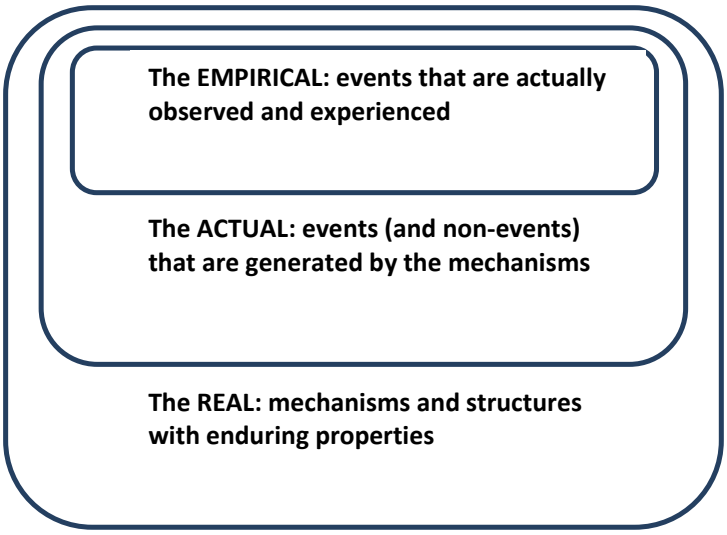


Figure 2.1 The three domains of reality (after Mingers, 2004)

2.3.2.3 Hierarchical stratification and emergence

Consistent with the stratified ontology described above, critical realism further maintains that the realm of objects is hierarchically stratified too, for instance physical, chemical, biological, psychological and social strata, with each strata being emergent from the other. Emergence is a process that occurs over time as the powers, properties and mechanisms of one stratum of reality emerge from those below (Archer, 1995; Danermark et al., 2002).

Whilst avoiding the reductionism of proposing, for example, that people have agency because of their biological forms, or that a course handout disseminates ideas because of its paper and ink constituents, critical realism nonetheless acknowledges that new and distinct causal powers can and do emerge from (and may even react back upon) simpler, preceding strata in complex, differentiated ways. Hence, they are related but not reducible to one another, much like "a 'laminated' system, whose internal elements are necessarily 'bonded' in a multiplicity of structures" (Bhaskar, 1993, p. 600).

It is through its account of stratification and emergence that we see that critical realism is inherently relational. Bhaskar (1997b) explains that anything that is causally efficacious (i.e anything that can affect anything else, including ideas, conversations, illusions) must be real because of its connections to other things:

> Ideas, and ideational connections (including category mistakes, logical contradictions etc.) are part of everything, and everything is real. To deny the reality of a part of everything (of anything), such as ideas (or say person, or consciousness, or agency, or values – or mind or body) extrudes or detotalizes it or them from the world, that is of the rest of the world of which they are in principle causally explicable and causally efficacious parts. (Bhaskar, 1997b, p. 139)

Due to the significance of this realist proposition, not only for this study concerned with the complex and intersecting multiple origins of ethics-oriented reflexive deliberation, but for social science in general, the morphogenetic approach to examining the interplay of structures and agency over time, as developed by Archer (1995), is discussed in more detail in the following section which clarifies the relationship between critical realism and Archerian social realism.

2.4 SOCIAL REALISM

2.4.1 Introduction

Social critical realism – hereafter called social realism – is primarily associated with the work of Margaret Archer and may be seen as the sociological and methodological complement of Bhaskar's transcendental realism. Its proposals are in accordance with critical realist (transcendental) philosophy but its focus is social phenomena and it endorses a stratified ontology for cultures (Archer, 1988), structures (Archer 1995), and agents (Archer, 2000).

Drawing strongly on Bhaskar's (1989 [1979]) Transformational Model of Social Action, Archer's key publications since the mid-1990s have centred on her theory of morphogenesis which is, "both an explanatory program … but also a means of accounting for the trajectories and dynamics of social formations" (Archer, 2010a p. 274). The following sections describe Archer's rationale for analytical dualism (Section 2.4.2), which enabled her to develop her morphogenetic theory (Section 2.4.3), and to put forward an account of the form and function – within morphogenesis – of reflexive deliberation and the internal conversation (Section 2.4.4).

2.4.2 Analytical Dualism

Analytical dualism is the basis of the morphogenetic approach and is part of the theoretical ground that Archer needed to clear in order to theorise the relationship between structures and human action (agency) – the debate which lies at the heart of social science enquiry. For reasons to be described below, Archer insists that structure and agency be kept *analytically* distinct, firstly because they constitute different levels of stratified social reality which are ontologically different and should not be conflated; and secondly because of their inter-relationship in time (see Section 2.3.2.3). Archer (2010a) is careful to distinguish between *analytical* dualism (which is an artificial and methodological move) and *philosophical* dualism (which she rejects for its problematic creation of divisions between, for example, thought and action, right and wrong, in the tradition of Descartes). Archer (1995, p. 194) explains that analytical dualism "… is not a static method of differentiation but a tool for examining the dynamics by which the 'parts' and the 'people' shape and re-shape one another through their reciprocal interaction over time".

In substantiating her theory of morphogenesis, Archer needed first to reveal the ontological inconsistencies in individualist and collectivist theorisations of the relationship between structure and agency, namely: '*downwards conflationists*' (such as Emile Durkheim and Louis Althusser) who emphasise structure over agency; '*upward conflationists*' (such as Max Weber and Karl Popper) who emphasise agency over structure; and '*central conflationists*' who collapse agency into structure such that their interplay can no longer be analysed (such as Anthony Giddens and Pierre Bourdieu). Analytical dualism resists these forms of conflation by acknowledging the obvious interplay of structure and agency while retaining the ability to examine them separately.

Archer offers two metaphors to explain analytical dualism's significance in understanding societal phenomena and circumventing the pitfalls of upwards, downwards or central conflation. She visualises society as:

> … a garment handed down through the human family, showing the wear and tear accumulated on the way, the patching and over-patching, the letting out and taking in done for different purposes, the refurbishing done at different times, until the current garment now contains little of the original material. It has been completely refashioned… until perhaps the original only figures as 'something old' in a new wedding outfit. (Archer, 1995, p. 142)

This metaphor not only highlights that the garment (society) is something *practical* being modified constantly through use, but that it can only be fully appreciated by understanding its users' needs and aspirations over time, that is, understanding *the need or motivation for* the 'patching and overpatching' or the reasons for the 'wear and tear' (causality). This ability to "inspect different parts, the purposes and times at which they were introduced, by whom, and how these were treated by the next recipient" (Archer, 1995, p. 142), is the metaphorical equivalent of Archer's analytical dualist approach which "… acknowledges the relative autonomy of cultural systems and social structures, while analytically distinguishing them from the practices of the life-world that produce or transform them" (Vandenberghe, 2005, p. 228). Pursuing her metaphorical line of argument, Archer concludes that the image of a refashioned garment handed down over time avoids the conflationism inherent in Giddens' (1984) account of structural duality which envisions society as "… an endless bale of material unrolling through time, [with] no distinct parts since each is woven into the rest", with a pattern that "… is always the product of the weaving and inseparable from the woven" (Archer, 1995, p. 141).

Temporality is, according to Archer, what makes analytical dualism – and hence morphogenesis – possible. One reason for her rejection of Giddens' (1984) structuration theory is on the grounds of its failure to provide for temporal relations: if structure and action are mutually constitutive, as Giddens asserts, then they are bound to working *concurrently*. But to theorise the relationship between time, structure and human action in this way is erroneous. Showing how structure and agency can indeed be analysed over time, Archer presents two basic propositions:

> (i) That structure necessarily pre-dates the actions(s) leading to its reproduction or transformation;

(ii) That structural elaboration necessarily post-dates the action sequences which gave rise to it (as shown in Figure 2.2) (Archer, 1995, p. 15; see also Archer 2010b).

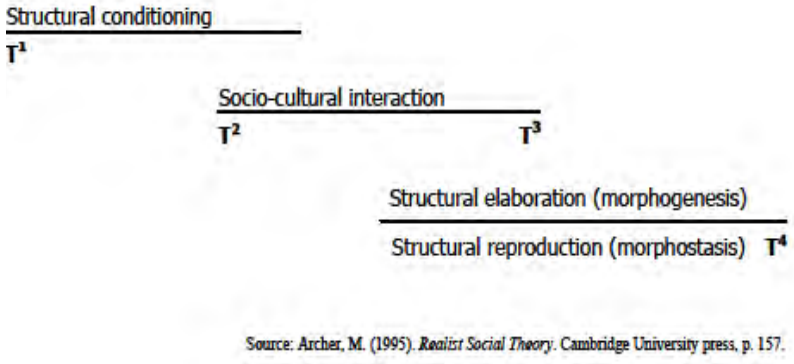
With the tools in place to differentiate between structure and agency and to provide a temporal analysis of their interplay, Archer had laid the foundation for her theory of morphogenesis and morphostasis, which is discussed in the following section.

2.4.3 The Morphogenetic Approach

Critical realism is concerned with causal relationships, seeking to understand the mechanisms and structures that make social life possible. Recognising, firstly, that a direct relationship exists between structure and human agency, but, secondly, that the relationship is neither linear nor deterministic, a substantial part of Archer's intellectual project is the exploration of the properties and powers of human agents (for example, their powers and abilities to engage in ethical deliberations and practices) so as to understand more fully their relationship with the structural and cultural dimensions of the social world (that is, how these ethical deliberations come to be shaped in and through structures and culture). Through her morphogenetic theory, Archer has made a significant contribution to that explication by providing an account of the inter-relationship between structure and agency. Archer (1995, p. 167) describes morphogenesis to be the "methodological complement" of social realism in that it provides a framework to examine the interplay between the powers of structure(s) and agency and "a means of accounting for the trajectories and dynamics of social formations" (Archer, 2010b).

In her account of morphogenesis/stasis, Archer (1995) argues for the conceptualisation of structure and agency neither as social structures moulding social agents (downwards conflation), nor as social agents modifying social structures (upwards conflation) (see Section 2.4.2.). She also rejects Giddens' (1984) structuration theory on the grounds that, although it recognises the mutually constitutive nature of structure and agency (a point that Archer accepts), the theory implies that structure and agency are temporally bound (central conflation). The time referent in structuration theory is bound by the socio-cultural interaction under consideration (T^2 to T^3 in Figure 2.2), thereby denying historical influences (such as those in T^1). Applied in the context of this study's interest, deliberations would occur in T^2 to T^3but be influenced by T^1. As discussed in Section 2.4.2, Archer (1995) explains that structures pre-date transformative actions which, in turn, pre-date the elaboration of the structures. When structural change emerges from socio-cultural interaction, it is called

morphogenesis; when structures are reproduced and maintained, it is called morphostasis. This theory is summarised diagrammatically in Figure 2.2, where $T^1 – T^4$ represent intervals of time.



Source: Archer, M. (1995). *Realist Social Theory*. Cambridge University press, p. 157.

Figure 2.2 The three phases of Archer's basic morphogenetic and morphostatic cycle

2.4.4 Reflexive Deliberation and the Internal Conversation

As discussed in the previous section, Archer's (1995) work on morphogenesis/ stasis was motivated by the need to understand better the relationship between human agency and socio-cultural structures. Once this theoretical move had been made and the role of mediation in human agents' elaboration/reproduction of social structures was highlighted, Archer (2003, p. 3), had to concede that "... the unpacking has been far from complete". Her subsequent concern centred on the question of "*how* agents use their own personal powers to act 'so rather than otherwise'" (p. 3) in relation to their social and cultural contexts, an interest which is central to this study.

'Constraints' and 'enablements', which Archer (2003, p. 5) defines as "the potential *causal powers* of structural emergent properties", might suggest that structural or cultural conditions determine courses of action. However, she points out that the very existence of constraints and enablements implies the pre-existence of subjective agents who think, deliberate, believe, intend, love and so forth in relation to them:

> For anything to exert the power of a constraint or an enablement, it has to stand in a *relationship* such that it obstructs or aids the achievement of some specific agential enterprise. (Archer, 2003, p. 4)

Understanding the detailed nature of that relationship has been the focus of Archer's subsequent work: to give a unifying account of the necessary interplay between objectivity and subjectivity or, as Mutch (2006, p. 3) describes it, the "triadic relationship between agency, culture and structure". This relationship, as will be shown in Chapter Eight, is core to this study, and is where this study's contribution to new knowledge is located.

Towards better understanding and explaining the mechanisms linking structure and agency, Archer (2003, p. 33) has advanced the concept of the 'internal conversation' through which human agents reflexively deliberate upon their social circumstances. She describes the domain of mental privacy as "a busy place where the private life of the social agent (is) lived out", mainly through reflexive deliberation. Vandenberghe (2005, p. 227) describes this internal conversation as "the mediatory process that spans the gap between the life-world and the system", enabling us to define our vision of how we should live and acquire an authentic personal identity.

It is through this reflexive deliberation that we are able to define where we stand in relation to external reality and to consider "what is of ultimate concern to us in the world". Archer (2003) importantly distinguishes between passive introspection – looking inward 'to see what we find there' and the internal conversation which is:

> an active process in which we continually converse with ourselves, precisely in order to define what we do believe, do desire and do intend to do. In other words, it is the personal power that enables us to be the authors of our own projects in society. (p. 34)

In her introduction to *Structure, Agency and the Internal Conversation*, Archer encapsulates the significance of her ongoing work to understand reflexive deliberation and the internal conversation:

> Much more is involved; agents have to diagnose their situations, they have to identify their own interests and they must design projects they deem appropriate to attaining their ends. At all three points they are fallible: they can mis-diagnose their situations, mis-identify their interests, and mis-judge appropriate courses of action. However, the fundamental question is not whether they do all of this well, but how they do it at all. The answer to this is held to be 'via the internal conversation'. This is the modality through which reflexivity towards self, society and the relationship between them is exercised. (Archer, 2003, p. 9)

It is this conceptualisation of reflexivity and the internal conversation that I draw on to frame this study's enquiry into ethics-oriented reflexive deliberation. For Archer, society could not

exist without human reflexivity which she defines variously as: "the ability to know ourselves to be ourselves" (1995, p. 19), "…the mental activity which, in private, leads to self-knowledge: about what to do, what to think and what to say" (2003, p. 26), and, "the regular exercise of the mental ability, shared by all normal people, to consider themselves in relation to their (social) contexts and vice versa" (2007, p. 4). In the social sciences, argues Donati (2011b), it seems that this relationship between society and human reflexivity has been taken for granted, with concepts of human agency and social change assuming – but never fully attending to – the *nature of* reflexivity. Archer laments that "our 'interior conversations' are the most utterly neglected phenomenon in social theory, which has never examined the process of reflection that makes us the particular active subjects that we are" (2000, p.17), and this may partially account for "the unchartered nature of research on reflexivity" (2007, p. 326). This study aims to contribute in a small way to filling that knowledge gap.

Writing from a broad sociological perspective, Archer suggests that more effort has been devoted to theorising how structural and cultural properties are *transmitted to* agents than how the agents themselves receive and respond to their socio-cultural context (Archer, 2003). When applied to the educational project, this suggests that traditionally there has been more emphasis on understanding how knowledge, skills and values are *transmitted to* learners (as agents) through the structures and cultures of courses, but less work has been done to understand learners' meaning-making, deliberative processes in relation to these structures and cultures. A review of course-related research in Southern African environmental education verifies this, revealing a strong emphasis on curriculum design and teaching methodology (Heylings, 1999, Molose, 2000, Motsa, 2004, Russo, 2004, Raven, 2005, Wigley, 2006). The intention of this study is to shift the gaze from concerns related to courses as 'interventions', to the deeply contextualised experiences and responses of learner-practitioners *in* their EETDP workplaces *in relation to* such courses, with a particular emphasis on ethics-oriented reflexive deliberation. This 'shift in gaze' is discussed by Lotz-Sisitka (2009) who traces how the focus of research in the Rhodes University Environmental Education Unit and its associated community of practice has developed from an interest in the *quality* of environmental education programmes and how they were *experienced* by learners, to an interest in the *structural* influences such as educational policies, institutions and national qualifications frameworks. More recently, Lotz-Sisitka (2010 p. 17, my emphases) reports a shift "towards the structure-agency-learning relationship in *workplace contexts*" and a "greater emphasis on contextual analyses, and a better understanding of how workplaces and associated learning processes are influenced and shaped by *culture, history*

and longer term social processes and established knowledge practices". This study builds on the trajectories opened up in these earlier studies and aims to contribute more refined understandings of the latter.

Archer (2003) is careful to explain that personal reflexivity is distinct from the behaviourist tradition that assumes our private mental acts to have behavioural manifestations. Our aspirations, anxieties, motives, beliefs, feelings and so on cannot be accessed merely by watching our actions or listening to our speech. By its very nature then, reflexivity is a manifestation of first-person, private deliberation: "We do not solve questions of 'how do I feel about this?' or 'what do I believe about that?' by appeal to third parties, except as rhetorical devices" (Archer, 2003, p. 26).

However, this does not make reflexivity an individualised phenomenon. On the contrary, and consistent with Archer's (1995) earlier theorisation of morphogenesis, the individual agent can only be understood *in relation to* his context i.e. social structures and cultural systems. Accordingly, Donati (2011b, p. 24) defines reflexivity as:

> a relational operation which is done by an individual mind in relation to an 'Other' who can be internal (the Ego as an Other) or external (Alter), but taking into account the social context, and generates a relationship which is an emergent effect between the terms it relates.

Both Archer's and Donati's accounts of reflexivity are more differentiated and more generative than those offered by Beck (1992) and Beck, Giddens and Lash (1994) whose macro-level commentaries on societal change and reflexivity foreground uncertainty, disenchantment and contradictions as the characterising features of a globalised and modernised society. According to Archer (2009, cited in Donati, 2011a, p. 112), "subjectivity, commitment and a capacity to care [are] necessary to any practice of reflexivity..." and, as such, reflexivity – no matter how extensive – "... must remain a relational property of people". Beck's understanding of systemic reflexivity at the macro level is thus incomplete "… since the [reflexive] confrontation he speaks of is an undetermined backlash from another party that involves no bending back *by the self upon the self*", leaving 'system reflectivity'[10] to be the more appropriate term (Donati, 2011b, p. 22, my italics).

[10] In distinguishing between reflectivity and reflexivity, Donati (2011a, p. 195) explains that the word 'reflectivity' is used in computer science "to indicate the process by which a computer program can observe and

Conversely, Donati's (2011b) theorisation of reflexivity at the level of structure and agency (not unlike Archer) refers to "a capability for reorientation and redirection, helping to build up new structures (or social formations) able to manage risks and uncertainties according to new modes of reasoning". To this end, he builds on Archer's (1995) morphogenetic theory to make the occurrence and contribution of reflexivity more explicit. His intention is to offer an account of reflexivity as "an intervening variable" between structural conditioning (T^1, in Figure 2.2) and structural elaborations (T^4) (Donati, 2011b, p. 23).

Through its focus on ethics-oriented reflexive deliberations and its application of Archer's accounts of reflexivity and the internal conversation, this study aims to explore that 'intervening variable' called reflexivity in more depth and consider its implications for workplace learning and the development of professional development course curricula in environmental education contexts.

2.4.5 Conclusion

Although the detailed complexity and vast scope of social critical realism cannot feasibly be presented within the parameters of this chapter, the preceding sections hopefully convey enough of the 'essences' of critical realist thought to provide a clear and justifiable platform for the chapters that follow. As discussed above, the main distinguishing features of a critical realist ontology are that: (i) it is ontologically bold but epistemologically cautious, claiming that reality exists independent of our knowledge or sensory experience of it; (ii) it adheres to a depth ontology (through the domains of the real, actual and empirical); (iii) it proposes that new, distinct and perhaps even unanticipated concrete phenomena emerge from differentiated strata of reality; and for this reason, (iv) it demands careful scrutiny of underlying powers, laws and other causal mechanisms (rather than mere consideration or description of 'events') so as to get closer to understanding the nature of these emergent phenomena. Archer's morphogenetic approach has been introduced as a methodological bridge between these critical realist propositions and practical social science enquiry, and the significance of reflexivity and the internal conversation within morphogenetic/ morphostatic processes has been outlined.

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modify its own structure and behaviour", a process which he claims is not dissimilar to what (social) systems do.

As argued in the preceding sections, a relational, social realist ontology acknowledges the relationality of social phenomena by describing them as being "what they are due to their internal relations with other social phenomena" (Danermark et al., 2002, p. 97). Despite its significant theoretical and methodological *implications*, research projects underlaboured by such ontology commonly require complementary theoretical and methodological *frameworks* to help make these internal relations more explicit or provide a language and set of analytical tools to facilitate the accounts given of the internal relations, powers, and generative causal laws and mechanisms. In this study, I have adopted a broad sociocultural-historical perspective on learning and development, and employ cultural-historical activity theory (CHAT) as an explanatory framework that is highly compatible with a relational, social realist ontology. These are introduced in the following section.

2.5 SOCIOCULTURAL-HISTORICAL PERSPECTIVES ON DEVELOPMENT AND LEARNING

Fundamental to sociocultural-historical perspectives on development and learning is the acknowledgement that learning is more than a discreet cognitive process. This is reflected in Salomon and Perkins' (1998) explanation: "One cannot wield a screwdriver or write down an equation in an historically blank and culturally neutral way. Rather, the history of a culture – an inherently social history – is carried into each individual act of cognition".

Sociocultural-historical perspectives are wide-ranging and often used in conjunction with terms such as sociocultural learning theory, social learning theory, cultural-historical activity theory, situated learning and cognition, and context-based learning theory (Niewolny & Wilson, 2009). Although each of the sociocultural theories listed here is distinct from one another in nuanced ways, their common ground is a rejection of the premise (originating in behaviourist, cognitivist and constructivist traditions) that "learning is only an internal or psychological activity characterized by individuals accumulating knowledge and skills, putatively assumed to be transferable from context to context" (Niewolny & Wilson, 2009, p. 26).

Stetsenko (2008, p. 477) describes sociocultural approaches as:

> … overcoming the Cartesian split between the object and the subject, the person and the world, the knower and the known–to offer instead a radically different relational ontology in which processes occur in the realm between individuals and their world.

She proposes replacing the metaphor of separation when examining learning and development with a metaphor of 'in-between-uity' which involves: "… mutual co-construction, co-evolution, continuous dialogue, belonging, participation and the like, all underscoring relatedness and interconnectedness, blending and meshing–the 'coming together' of individuals and their world that transcends their separation" (Stetsenko, 2008, p. 477). This relational perspective, common to most sociocultural-historical theories, has profound implications for how social phenomena (such as self, identity, knowledge, human development and, I would add, ethics-oriented reflexive deliberations) are conceptualised and studied.

Arjen Wals's work on social learning in the context of environmental change, risk and uncertainty falls within the sociocultural-historical cluster of learning theories. Wals' (2007, p. 18) defines social learning as:

> ... learning that takes place when divergent interests, norms, values and constructions of reality meet in an environment that is conducive to learning. This learning can take place at multiple levels i.e. at the level of the group or organisation or at the level of networks of actors and stakeholders.

Especially in change-oriented learning processes (such as those associated with environmental ethics-oriented reflexive deliberation as described in this study) careful, open-ended interactions are needed to create spaces for deliberation and change. Wals, van der Hoeven and Blanken (2009, p. 43, my emphasis) explain:

> Moving towards sustainability or sustainable living, inevitably involves diverging norms, values, interests and constructions of reality. A key premise of social learning is that such differences need to be explicated rather than concealed. By *explicating and deconstructing the oftentimes diverging norms, values, interests and constructions of reality* people bring to a sustainability challenge, it not only becomes possible to analyse and understand their roots and their persistence, but also to begin a collaborative change process in which shared meanings and joint actions emerge.

In this study, CHAT is used as a tool for this process of "explicating and deconstructing the oftentimes diverging norms, values, interests and constructions of reality" at the interface of workplace, course and individual sociocultural contexts (see Sections 2.6 and 2.7).

Although relationalism's broad rejection of individualised conceptualisations of learning has enabled significant progress in understanding learning and cognition as "culturally constituted through tool-mediated activity and socially structured relations of power" (Niewolny & Wilson, 2009, p. 27), different sociocultural-historical theories offer different explanations of the detail of the relationship between human mental functioning and its cultural, historical and institutional setting. Wertsch (1995) notes that the two dimensions are often (and perhaps not usefully) oppositionalised, and he problematizes the way in which 'mental functioning' and 'sociocultural setting' are dichotomised much like the false dichotomy between 'individual' and 'society'[11]. He proposes that we avoid representing mental functioning and its sociocultural context as "essences or objects … having some kind of independent existence" but should understand them instead as "dialectically interacting moments" (Wertsch, 1995, p. 60). This has implications for how the object 'ethics-oriented reflexive deliberations' is or can be researched, as will be shown in the unfolding of the study.

Stetsenko (2008, p. 474) concurs with Wertsch's position and advances it by considering the implications for human agency and social change. She points out that: (i) because human subjectivity is inextricably bound up in "the worldly, practical, purposeful activities of people who together transform their world and are transformed by it", each person's contributions must be significant; and (ii) because these individual contributions arise not only *from* past and present conditions, but also *towards* future visions, they must, by nature, be critical, activist and imbued with ideology, values and ethics. By making these characteristics explicit, Stetsenko (2008) is able to show not only the inherent potential of sociocultural-historical perspectives to address social justice and equity concerns [including environmental concerns], but also their ability to bridge gaps between the ontological, epistemological, and ethico-moral dimensions of human activity.

Also in agreement with Wertsch's concern about the false dichotomy between mental functioning and sociocultural context, but writing more specifically about human reflexivity and the internal conversation, Maccarini and Prandini (2010, p. 78) reject an 'upward reductionist' view of the internal conversation which focuses on the neurological level with the result that people are regarded as "behavioural and organic entities". They equally reject a

[11] Much has been written about the false dichotomy between individual and society; see, for example Emirbayer (1997); Danermark, Ekström, Jakobsen & Karlsson (2002); Slife (2004) and Archer et al. (1998).

'downward reductionist' view which regards the internal conversation as "the internalised reflection of socio-cultural trends". They argue instead for a stratified conception of agency, based on Archer's social realist theorising of human reflexivity:

> The result is a unifying relationship that constructs the unity of the subject by placing him or her in an oriented space: the subject can say who he is, and who he wants to be, observing what his ultimate concerns are, and where he is in relation to them. He can decide whether or not he is still willing to pay the costs required by his current *modus vivendi* or if he wants to switch to a new equilibrium. But any possible decision involves a dynamic placement: heading somewhere in an oriented space. (Maccarini & Prandini, 2010, p. 90)

From this, it is possible to see that taking a sociocultural-historical perspective on learning can shed light on the nature of human agency and reflexivity by its acknowledgement of people's subjectivity (and hence their moral and ethical engagement with the world) being "rooted in, derivative of, and instrumental within a collaborative historical becoming" (Stetsenko, 2008, p. 471). This section has also suggested that social realism's stratified ontology (see Section 2.3.2.3) and analytical dualism (see Section 2.4.2) enable educational researchers to delineate "the way we are made and the world is made, and their necessary relation" (Maccarini & Prandini, 2010, p. 88). And as will be discussed in the following section, CHAT provides a theoretically-grounded yet practical way of accessing and describing these many layers of social reality (structural, economic, political, conceptual, moral and so on) as they pertain to workplace and course-based learning processes.

2.6 CULTURAL-HISTORICAL ACTIVITY THEORY

2.6.1 CHAT: A General Introduction

Cultural-Historical Activity Theory (CHAT) is a broad and versatile sociocultural theory of human activity that has been gaining momentum in Western academia only since the late 1980s although its conceptual origins are traceable to 18th Century German philosophy (especially Hegel and Kant), to the works of Karl Marx (1818 - 1883), and principally to the work of Russian psychologist Lev Vygotsky (1896 - 1934) and his colleagues Vassily Leont'ev (1903 - 1979) and Luria (1902 - 1977). Section 2.6.2 describes in more detail the influence of the Vygotsky-Leont'ev-Luria School on CHAT but it is first necessary to provide a more generic overview of CHAT's key features and of the theory's contemporary application across the fields of workplace learning and organisational change.

Roth and Lee (2007, p. 191, citing Scribner, 1990) remind us of the versatile, somewhat open-ended nature of CHAT by describing it as "an accommodating framework – a metatheory rather than a set of neat propositions". CHAT emphasises the culturally mediated nature of human activity and – in line with its relational underpinnings – aims to reconcile the dualisms between individual and collective, material and mental, facts and values, theory and practice. Working with an elaboration of the basic Vygotskian mediation triangle (see Figure 2.3), CHAT theorists propose that human actions take place in 'activity systems', that is, contexts of "historically developed collective practice" (Virkkunen & Kuutti, 2000).

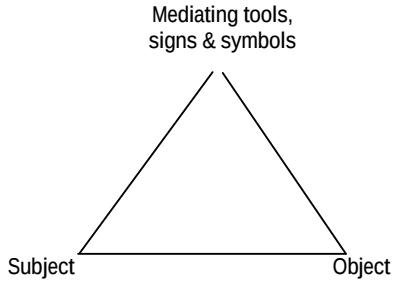


Figure 2.3 Basic model of tool-mediated activity (after Vygotsky, 1978).

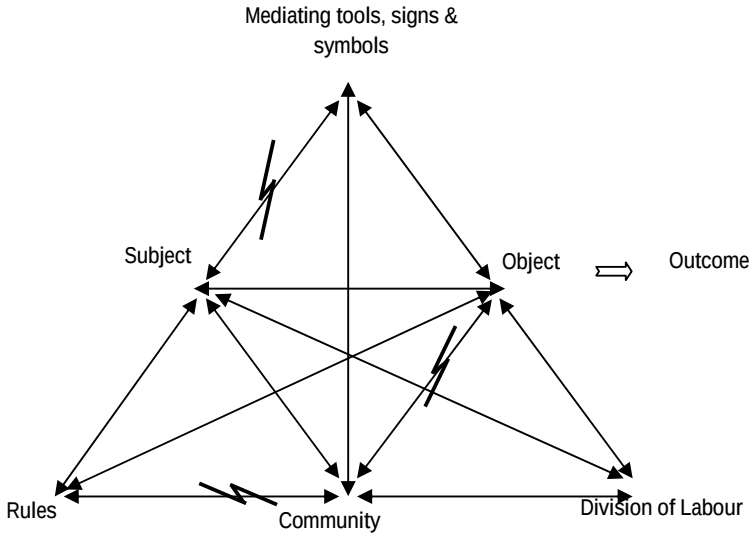


Figure 2.4 The Second Generation Activity Triangle heuristic depicting how mediated human actions take place in a cultural and historical context

Figure 2.4 represents the typical understanding of an activity system and fundamental concepts associated with cultural-historical research: subject, object, mediating tools and

signs, community, division of labour and the rules influencing the activity system[12]. Figure 2.4 also conveys the relational dimension of CHAT by representing the "spaces between" (Buber, 1981, cited in Bradbury & Bergmann Lichtenstein, 2000) where production, consumption, contradictions and so on may occur.

As discussed in Sections 2.2 and 2.4, CHAT's relational ontological underlabouring requires a conceptualisation of self as intrinsically interwoven in historical socio-cultural context. Stetsenko and Arievitch (2004, p. 476) propose CHAT as one of the few theoretical frames that enables this deep and complex view of human life and development by allowing researchers "to address both individual (agentive) and social dimensions of the self in a non-dichotomising way".

Tolman (1999) distinguishes between humans' *societal* nature and their *social* nature, noting that the difference is central to an understanding of CHAT's conceptualisation of the individual within the collective. He argues that, in the tradition of Anglo-American contextualism, referring to our nature as 'social' merely acknowledges that we find ourselves in mutually and historically constituted relations with other people. What CHAT offers, however, is an understanding of our societal nature evidenced, for example, through division of labour in society. Drawing on the works of Marx and Leont'ev, Tolman explains:

> In our own society, the enormous complexity of the division of labour is patently obvious. We are psychologists, carpenters, computer analysts, or whatever. Each of us carries out a very few of the sum total of actions required to maintain our own and society's existence. I mow my own lawn but I did not invent landscaping and I did not make my own mower. I may go to the mountains to show that I can 'live off the land', but I will wear clothing made by others and take implements with me invented and produced by others. Even if I go naked and implementless, I go with the knowledge given me by others...
>
> ... Our societal nature is perhaps most importantly indicated by the knowledge that is accumulated by society in the course of its history and that we receive from others. The information required by individuals for functioning in society is not carried in our biotic genes but in our societal institutions, most notably those associated with the educational function, such as schools, libraries, and other cultural forms. (Tolman, 1999, p. 72)

[12] Due to its visual nature and potential for immediate and concrete application by researchers, the 'activity triangle' often dominates representations of CHAT-based research. It is important to note, however, that understandings of CHAT should not be reduced to this the model of the activity triangle which is merely "emblematic" of second-generation CHAT (Daniels & Warmington, 2007)and serves as "a useful heuristic" when analysing activity systems (Roth & Lee, 2007, p. 197).

Where contextualism developed from British empiricism (Tolman, 1999) and sociocultural psychology developed out of Western European and North American rejection of the dualisms associated with interactionism, CHAT developed from a Russian focus on collective consciousness and Marxist perspectives on the socio-economic and historical underpinnings of thought and action (Edwards, 2007). Edwards adds that "one outcome of attempts to build bridges between these two strands … is to explain Cultural-Historical Activity Theory in terms of *the incorporation of the collective into the individual*" (2007, p. 2, my emphasis).

2.6.2 Historical Emergence of CHAT

Although he did not name it as such, it was the Russian psychologist Lev S. Vygotsky who developed what is now referred to as first-generation activity theory and laid the foundations for CHAT. In 1925, in one of his earliest papers, Vygotsky critiqued and rejected both the behaviourist and subjectivist traditions in the field of psychology. In behaviourism, he declared, was behaviour without mind; in subjectivism was mind without behaviour (Vygotsky, 1982 [1925], cited in Minick, 1997, p. 119). Vygotsky also criticised moves to merge the two traditions without first developing radically new theoretical constructs on which to advance such a project. He then framed the question that was to become a main driver of the cultural-historical theoretical project for decades to come: how could mind and behaviour be conceptualised in an integrated rather than dualistic way? (Minick, 1986).

Engeström and Miettinen (1999) note the often-neglected Marxist origins of activity theory. From early in his career, Vygotsky regarded Marxist thought as theoretically valuable and there is sufficient evidence to suggest that his alignment with Marxism was more than mere political compliance in post-revolutionary Russia (Cole & Scribner, 1978; Wertsch, 1985). Vygotsky worked closely with Marx's dialectical, materialist concept of activity which, as noted by Davydov (1999), can be appreciated without necessarily adhering to broader Marxist economic and political positions. In Marx's historical, dialectical materialism, 'activity' was conceptualised as "the production of material tools that help people to produce objects satisfying their basic needs" (Davydov, 1999, p. 40). Over time, such activity produces changes in the social and material world, and this ultimately produces changes in human consciousness and behaviour (Cole & Scribner, 1978, p. 7; Davydov, 1999). By applying these Marxist propositions to his own cognitive psychological work, Vygotsky was able to propose that people's practical, material interactions with their environment (their activities) are mediated not only through the use of *material* tools – as Marx had proposed –

but through culturally and historically emergent *symbolic* tools [of which language is "the tool of tools" (Virkkunen & Kuutti, 2000, p. 299]. It is from this theoretical foundation that contemporary CHAT is able to theorise "persons continually shaping and being shaped by their social contexts" (Roth & Lee, 2007, p. 189) and to provide a radical departure from views of knowledge as static and discreet, but rather as dynamic and distributed across a system.

Inevitably then, historically contextualised explanation was also crucially important to Vygotsky. According to Wertsch (1985, p. 18), Vygotsky "assumed that the form of a phenomenon reflects the transformations it has undergone and the various factors that have entered into its development" and that this is essential for understanding "inner workings and causal dynamics". Thus, in theorising the integration of mind and society, Vygotsky made a clear distinction between phenotypic (descriptive) and genotypic (explanatory) analysis, the former focusing on an object's current features and the latter focussing on historical emergence (Vygotsky, 1978).

As outlined above, with his renowned mediational triangle (Figure 2.3), Vygotsky (1978) showed how a child's action in relation to an object or motive is mediated by culturally inscribed tools (language, concepts and material artefacts). Its limitation, however, was that the unit of analysis was the relatively isolated individual, and the influence of other people and socio-cultural relations was not yet theoretically integrated in the meditational triangle (Roth & Lee, 2007). After Vygotsky's death in 1934, it was his colleague Leont'ev who went on to propose that individual action is not only culturally mediated but also "always situated in the context of a historically developed collective praxis, an activity system" (Virkkunen & Kuutti, 2000, p. 300).

Leont'ev never specifically named or visually represented this significant theoretical move and it was Engeström (1987) who went on to describe it as 'second generation activity theory' (Figure 2.4). Second-generation CHAT shows how individual meaning-making and action can only be understood in relation to its socio-cultural context, and how society is in turn acted upon and transformed by individual agency.

Second-generation CHAT's concern is, however, limited to analysis of single activity systems, thereby limiting access to wider, more complex and open-ended interactions with other activity systems. In response, Engeström (1999) proposed a third generation of CHAT

which foregrounds the networked and interactive nature of activity systems. Engeström (2001, p. 136) identifies the prime unit of analysis in third-generation CHAT as a "collective, artefact-mediated and object-oriented activity system, seen in its network relations to other activity systems" that in their totality constitute human society. Third-generation CHAT, particularly as advanced by Engeström, brings to fruition the transformative agenda of the Vygtosky-Leont'ev-Luria School in Russia. It is an interventionist methodology concerned with *working with* the participants of an activity system to transform their object by examining the nature, role and relationships between the system's mediating tools, rules and community (Edwards, 2005).

This study works closely with third-generation CHAT as an exploratory, explanatory framework but, due to the nature of the research focus (which is more concerned with explanatory critique of ethics-oriented learning processes at the interface of workplace and course), it does not pursue the transformative potential of CHAT as provided for in Engeström's theory of expansive learning (Engeström, 1987; 2001; 2005) nor Engeström's and others' methodological developments using change laboratory workshops within the Developmental Work Research methodology (Engeström, 2007; Daniels, undated; Mukute, 2009). This does not deny the study all transformative potential, however, because to find new and better ways of working in change-oriented workplace learning settings, networked activity systems and their tensions and contradictions must first be identified and described. It is through the activities of this research project that spaces for reflexivity and change are explored, such as through interviews – which morphed into extended conversations with colleagues; publications and seminar presentations – which were reviewed by the course tutors, workplace mentors and SAQA officials; and participation via my own professional practices in the extended and interacting activity systems of the course and the workplaces of the research participants.

Figure 2.5 illustrates how this study's third-generation CHAT approach involves the identification and explanatory critique of inter-relationships between networked activity systems.

This section has shown how CHAT has expanded its foundational Vygotskian work on artefact-mediated activity to articulate more thoroughly the historical and cultural embeddedness of collective human activity that Vygotksy had sensed but was unable to resolve in his short career. Third-generation CHAT is providing researchers across diverse

fields with a powerful tool of dialectical, integrative analysis which, consistent with its own principles, requires continual reflexivity and development. Roth and Lee (2007, p. 218) remind us that: "CHAT cannot be viewed as a master theory or quick fix, for true to its origins, it is subject to inner contradictions which compel researchers to update, transform, and renew constantly".

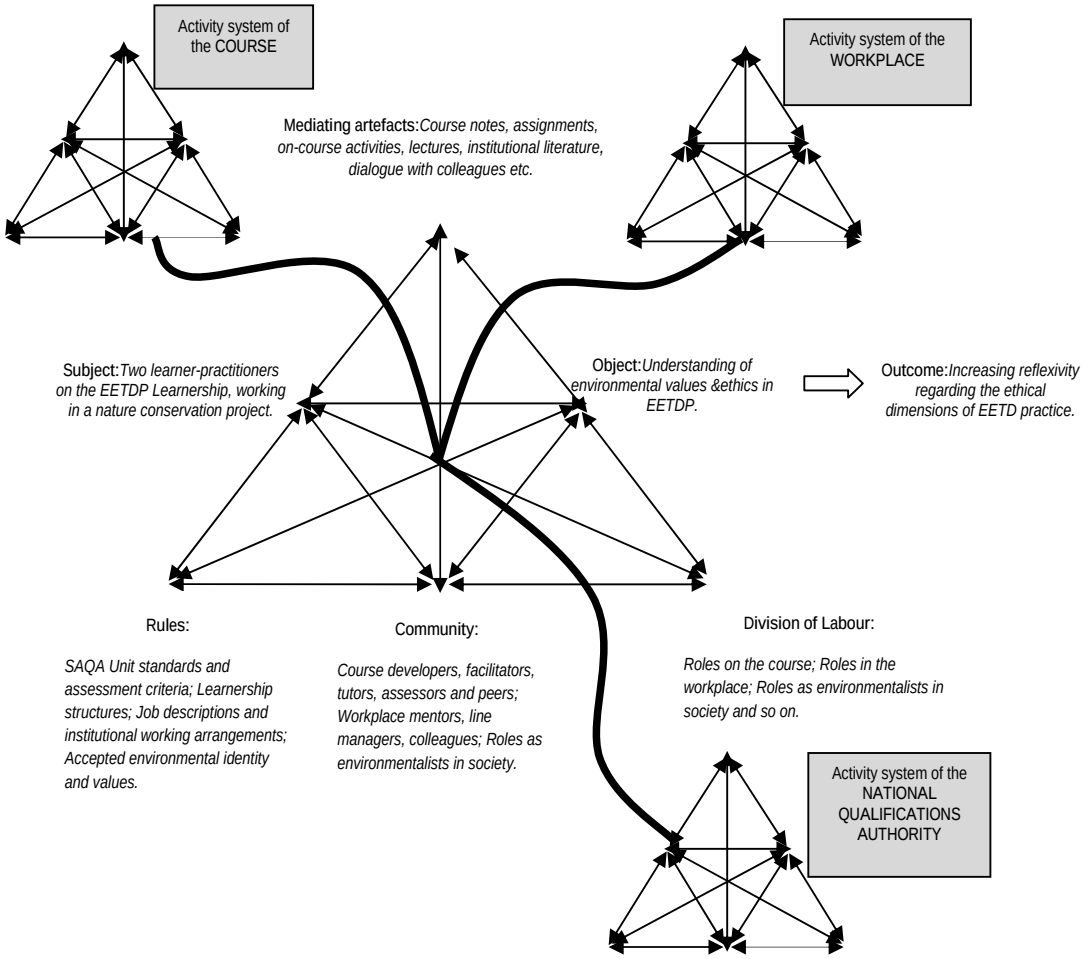


Figure 2.5 A Third Generation CHAT representation of how activity systems occur in relation to other networked activity systems. In this case, the activity system of learner-practitioners engaging with the ethics-oriented dimensions of their work interacts strongly with those of the course, the workplace and the National Qualifications Authority (Olvitt, 2010).

2.6.3 Applying CHAT in the Context of EETDP Workplaces

As discussed earlier with regard to sociocultural-historical approaches to development and learning (see Section 2.5), CHAT provides researchers with an integrated view of learning

and action that disrupts the Cartesian divide between individual and society through its proposition that "mind is revealed in action on the world" (Edwards, 2005, p. 53).

Roth and Lee (2007, p. 196) present an analogy to explain the significance of a relational dialectical view which I apply here to an understanding of EETDP workplaces and practices. They refer to a series of three photographs of increasing magnification showing (i) a *thread*, (ii) the *strands* within it, and finally (iii) the individual *fibres*.

> ... the specific function of the individual components cannot be understood decoupled from the function of the other parts and the function of the whole. Looking at a fibre, we cannot know what it does unless we look at its place within a larger system and at its relations with everything else. The characteristics of the thread cannot be deduced from the characteristics of the strands or fibres; the latter may be very tender or brittle but the thread is very strong. Although the fibres are very short, the strands and thread can be very long...

If this analogy is applied in the context of environmental education and training practices, the practitioners are like fibres in a strand (i.e. the environmental organisation) which is itself constitutive of the thread (i.e. society). While each practitioner discussed in this study can be viewed individualistically as an isolated component, this would deny the contextualised complexity of who that practitioner is and what s/he has achieved (or is yet to achieve) as a professional. It would deny that "... the strands are what they are *only because* they are part of the thread" (Roth & Lee, 2007, p. 196, my emphasis) and, inversely, that the thread would not have its form and function were it not for the nature of its strands, and so forth. CHAT provides a dialectical framework that allows the 'fibres, strands and threads' of human activity to be examined relationally without conflating the constituent dimensions.

In Figure 2.4 **the subject** refers to "the individual or sub-group whose agency is chosen as the point of view of analysis" (Centre for Activity Theory and Development Work Research [CATDWR], n.d.). For example, in the hypothetical case of an Eastern Cape game reserve as an example of an environmental education workplace, the subject of the activity system could be staff members responsible for environmental education activities in and surrounding the reserve. The object of their activity system is "what is being worked on" (Edwards, 2005), the "societal motive of the activity" (Virkkunen & Kuutti, 2000, p. 301) and the "problem space" (CATDWR, n.d.) at which the activities are directed and which is transformed into the outcomes. This is in line with Leont'ev's explanation of the object of activity in which he stated:

> The main thing which distinguishes one activity from another, however, is the difference of their objects. It is exactly the object of an activity that gives it a determined direction. According to the terminology I have proposed, the object of the activity is its true motive (Leont'ev, 1978, p. 62, cited in Edwards, 2005)

The object of activity can be material (e.g. restoring a degraded wetland) or more abstract (e.g. addressing racism amongst project employees). It is seldom clearly defined and directly attainable; rather, it is "a moving target, not reducible to short-term goals" (Daniels & Warmington, 2007, p. 378), "a horizon of possibilities and possible objectives for actors, something that unfolds in the process of the activity" (Virkkunen & Kuutti, 2000, p. 301). Again using the example of an Eastern Cape game reserve's environmental education activities, the object could be the development of knowledge, skills and values related to sustainable conservation practices in the surrounding communities.

This object is worked upon through the culturally and historically emergent mediating artefacts which include physical and symbolic, external and internal tools and signs. In the Eastern Cape game reserve's activity system, mediating artefacts could include research reports on the status of local biodiversity; awareness-raising posters about conservation issues; cultural norms and traditional practices related to the use of local natural resources; local knowledge about the use of medicinal plants; or the conservation ethos within the game reserve.

The community of the activity system consists of multiple individuals and/or sub-groups whose actions are aligned with the object. They may be members of other activity systems too who play varied roles within this particular activity system. In the Eastern Cape game reserve, the community might consist of two staff members employed solely for environmental education, as well as two other field rangers who occasionally take on community liaison roles and get involved with informal education programmes. A teacher at the local high school might also be involved when she brings members of the school's environmental club to volunteer at the game reserve over weekends. Within this community, division of labour refers to the "horizontal division of tasks between members of the community and to the vertical division of power and status" (CATDWR, n.d.).

Interactions within the activity system are enabled or constrained by **rules**. These include explicit and implicit regulations, norms and conventions. For example, the game reserve adheres to provincial and national conservation legislation, the environmental education staff operates within a budget, whilst internal policies and protocols determine the scope of their

environmental education activities, the timeframes and so on. More tacit norms and conventions might include the expectation that all staff members will participate in environmental practices such as paper recycling or energy saving; or will interact in certain ways based on socioculturally-entrenched gender and/or age-related power gradients.

Increasingly, CHAT is proving to have useful applications in diverse educational settings. From the late 1970s but especially from the mid-1990s, there has been a steady increase in the citations of CHAT-related research (Roth & Lee, 2007). The development of CHAT outside the former Soviet Union is in part attributable to the establishment of research centres such as Michael Cole's Laboratory for Comparative Human Cognition in the USA, the Centre for Activity Theory and Developmental Work Research in Finland which has provided a platform for the work of Yrjö Engeström, amongst others, and the Centre for Sociocultural and Activity Theory Research in England. Much of these centres' research and developmental theorising has transcended the Vygotskian focus on children's cognitive development and is applying CHAT in non-school contexts, in particular in the fields of workplace and organisational learning (see for example: Chaiklin, Hedegaard & Jensen, 1999; Engeström, Miettinen & Punamäki, 1999; Virkkunen & Kuutti, 2000; Warmington et al., 2004; Roth & Lee, 2007; Edwards, 2007). In South Africa, the Rhodes University and South African Qualifications Authority's research programme into change-oriented workplace learning (within which this study is situated) is exploring the potential of CHAT in studies concerned with change-oriented learning processes in environment-centred workplaces (see Mukute, 2009; Masara, 2011).

2.6.4 Contradictions within and between Activity Systems

Contradictions are "fundamental tensions and misalignments in the structure that typically manifest themselves as problems, ruptures, and breakdowns in the functioning of the activity system" (Virkkunen & Kuutti, 2000, p. 302), and these give rise to disturbances which Engeström (2000, p. 964) calls "deviations from standard scripts".

Engeström (1987) identifies four types of contradictions: (1) those occurring within the elements of an activity system (e.g. within the rules of an activity system); (2) those occurring between the elements of an activity system (e.g. a contradiction between a rule and the division of labour of an activity system); (3) those occurring between the old and new way of doing things (assuming that expansive learning and transformation within the activity

system occurs); and (4) between separate activity systems (e.g. the activity system of a course and that of a workplace).

Contradictions are recognised as the main drivers of learning and change within and across activity systems because actors respond to the disturbances. For instance, course facilitators might change their pedagogy or develop new meditational tools in response to learners' poor performance (a contradiction between mediating tools [in this case, pedagogy] and the outcome of the activity system). But Virkkunen and Kuutti (2000) caution that an accumulation of contradictions can lead to a loss of direction in the activity system and the production of even more disturbances and ruptures. This paradoxically creates the need for, but simultaneously reduces the prospect of, more learning and change.

Although he does not work explicitly with CHAT, Wals (2007) is also aware of the learning potential of systemic contradictions and tensions. He works with the idea of 'dissonance' in social learning processes and asks:

> How can social learning build upon people's own knowledge, skills and, often alternative, ways of looking at the world? How can the dissonance created by introducing new knowledge, alternative values and ways of looking at the world become a stimulating force for learning, creativity and change? How can people become more sensitive to alternative ways of knowing, valuing and doing, and learn from them? How do we create spaces or environments that are conducive to this kind of learning? (Wals, 2007, p. 39)

Wals (2007, citing Kaufman and Smith, 1999) explains that people view the world through 'frames' – their ways of interpreting reality – but that these carry many hidden assumptions which may need to be deconstructed ('de-framed') in order for learning and change to occur. Taking a collectivist perspective common to social learning theories and to CHAT, Wals (2007, p. 40) contemplates that the success of transformative social learning lies in "… people's ability to transcend their individual frames, so that they can reach a plane where they are able find each other and create enough 'chemistry' to feel empowered to work jointly on the challenges they come to share". I believe that Wals' perspectives on framing, de-framing and re-framing can be usefully combined with CHAT-based accounts of how systemic contradictions can be the drivers of learning and change in and across activity systems. "The trick", notes Wals (2007, p. 40):

> … is to learn on the edge of people's individual comfort zones with regard to dissonance: if the process takes place too far outside of this zone, dissonance will

> not be constructive and will block learning. However, if the process takes place well within people's comfort zones – as is the case when homogeneous groups of like-minded people come together – learning is likely to be blocked as well. Put simply: there is no learning without dissonance, and there is no learning with too much dissonance!

2.7 AN ACTIVITY THEORETICAL VIEW OF (ETHICS-ORIENTED) LEARNING AND CHANGE

CHAT falls within the family of sociocultural-historical approaches to human development and learning outlined in Section 2.5. Although CHAT is not a learning theory per se, its Vygotskian origins in cognitive psychology and its more recent elaborations of the socio-cultural and historical embeddedness of human cognition and activity, provide a coherent platform from which to consider learning. It is through an individual's participation in activity systems (producing outcomes) that she herself is produced and re-produced (learns and develops) as a member of the community (Roth, 2004, p. 4). Such an account of learning and development carries an agenda of social change, leading Roth (2004, p. 7) to highlight CHAT's optimistic and transformative potential:

> Rather than accepting circumstances as they are ["It's inevitable that our consumer lifestyles are harming Earth's ecological systems" or "I would like to reduce my carbon footprint but…"], CHAT encourages us to view each action as transformational – changing the life conditions and ourselves.

This reference to changing 'ourselves' through our participation in activity systems is pertinent to this study's interest in ethics-oriented reflexive deliberation. If Archer's (2003) account of human agency in interaction with social and cultural structures holds (see Section 2.4.4), then individuals' participation in collective activity is reflexive and transformative, not automated and passive. Deliberating the ethical dimensions of an activity system's rules, tools, community and even its object becomes inevitable as an individual seeks to produce outcomes. However, by doing so, his or her own values and ethical perspectives may change.

According to Vygotsky (1978), semiotic mediation is fundamental to development and learning; understanding the psychological tools (such as language) that mediate and shape mental functioning is thus essential. It is the *convergence* of speech (as a psychological tool) and practical activity that triggers fundamental and qualitative cognitive development. However, because language is also a *cultural* product, sociocultural-historical processes must also be considered. This leads Tappan (1997, p. 85) to conclude that "moral functioning can

never be unmediated" because when a person deliberates the 'rightness' or 'wrongness' of a situation or action, the ethico-moral dimension can only ever be a socially-inscribed interpretation, the result of semiotic mediation. As people become exposed to patterns of moral mediation (such as the 'moral voices' of justice and care that Gilligan's (1982 and 1988, cited in Tappan, 1997) study with American adolescents and adults revealed), they become equipped with "a vernacular moral language that fundamentally shapes the ways persons think, feel and act" (Tappan, 1997, p. 85).

Tappan adds that this form of semiotic mediation is shared by people who participate in common activities or shared social/moral projects. Considered from a CHAT perspective, this means that the community of an activity system may expect to share common ethico-moral mediating artefacts and tools, and in instances when they do not, these disruptions can be traced to deeper systemic contradictions.

2.8 CONCLUSION

The purpose of this chapter has been to demonstrate the coherence and efficacy of a relational, social realist ontology in underlabouring an enquiry into the ethics-oriented reflexive deliberations of novice environmental educators, that is framed by CHAT and general sociocultural-historical perspectives on development and learning. The chapter has shown how social realism's adherence to a stratified ontology, and its concern for explanatory critique of the co-evolution of structures and human agency over time (morphogenesis) is responded to through CHAT's interest in dialectical analysis of multi-dimensional activity systems, and their historical emergence. Fundamentally, CHAT helps a researcher to discern structures and mechanisms in complex, open social systems that enable retroductive analyses in critical realist methodology. In this study, the morphogenetic and retroductive analyses in Chapter Eight are made possible by the CHAT-based analyses of the preceding chapters (Chapters Five, Six and Seven).

Social realism's inherent relationality is sustained through this study's alignment with sociocultural-historical perspectives on development and learning, and realised through CHAT's theorisation of human activity systems as historically and contextually emergent, contingent, collective, multi-voiced and dynamic.

Chapter Four will discuss the methodological implications of the philosophical and theoretical framework outlined in this chapter, showing how the study's research design and analysis are consistent with social realism, CHAT and sociocultural-historical perspectives on development and learning. Before that, however, the following chapter (Chapter Three) will focus more specifically on the context and research interest of this study. Where Chapter Two has made a case for the appropriateness of social realism and CHAT in *framing* an enquiry into the ethics-oriented reflexive deliberations of novice environmental educators at the interface of workplace and course activity systems, the following chapter clarifies concepts and contexts relevant to the research interest such as environmental values, ethics and discourses, and the nature of ethical deliberations in EETDP workplaces.

CHAPTER THREE:

LEARNING IN THE CONTEXT OF ENVIRONMENTAL VALUES, ETHICS AND REFLEXIVE DELIBERATION

It is not surprising that times of major social change prompt far more ethical debate than periods of relative stability. (Sayer, 2000, p. 173)

All the higher functions originate as actual relations between human individuals. (Vygotsky, 1978, p. 57)

3.1 INTRODUCTION

Chapter Two has laid the foundations of relationality and social realism as the philosophical underlabourers of this study, and has outlined CHAT as the theoretical framework employed to advance such an ontology in relation to the study's research question. Social realism is concerned with causal explanation of social processes and events, requiring us "...to address questions about the relationship between our physical and social environments, what we say and do about them and how we live within them" (Sims-Schouten, Riley & Willig, 2007, p. 105). In other words, mobilising social realist ontology in this study requires interrogation of people-environment relationships and associated environmental values, ethics, discourses and practices. These areas of concern are the focus of this chapter which aims to present the unique combination of theories, concepts and contexts that have led to the formulation of this study's research question.

The chapter begins by considering the significance of ethics in contemporary life, particularly in relation to social-ecological challenges and the pursuit of environmental sustainability. Section 3.3 scopes the wider philosophical terrain of ethical theories that are evident in, and can be useful tools to analyse, the complexity of ethical deliberations in the field of EETDP. Section 3.4 then considers the ethical dimensions of working life, tracing the influence of the Protestant work ethic and the fragmentation of ethical responsibility in industrialised, capitalist systems of production and consumption. This serves as a background for a closer examination in Section 3.5 of environmental values and ethics, arguing for an open-ended, deliberative and relational approach to environmental ethics. Section 3.6 considers the nature

of ethics-oriented reflexive deliberations as a backdrop to Section 3.7 which considers reflexivity in workplace learning processes. The influence of ethical and environmental discourses in such workplace learning processes is outlined in Section 3.8. The chapter concludes by commenting on the synergies between the study's philosophical and theoretical frameworks of social realism and CHAT (as presented in Chapter Two), and the more specific theoretical and conceptual tools such as ethical theory, workplace learning theory and ethical and environmental discourses, as they situate within the study's focus on ethics-oriented reflexive deliberation in the context of EETDP in South Africa.

3.2 THE ETHICAL TURN IN THE 21ST CENTURY

3.2.1 Social Science Research and the Ethical Turn

Sayer (2000, p.172) points out that social phenomena are influenced by values, norms and beliefs which are mostly under-examined. The 'critical' and emancipatory intention of many social sciences – such as to reveal and transform inequality or suffering –is based on certain values (democracy, human rights, non-racism, nature conservation and so on) which are mostly taken-for-granted and uninterrogated. He calls for much greater scrutiny and justification of the values inherent to the subjects and objects of social science research so that the validity of the social sciences project is not undermined:

> If values – regarding rights, ethics and more generally the nature of good – are seen as purely subjective, emotive, a-rational responses, and hence beyond justification through argument, then the critiques which they inform must be discussed on the same grounds. (Sayer, 2000, p. 172)

Smart (2001) draws attention to the somewhat surprising paucity of work regarding ethics and morality in contemporary social science. Citing the work of Max Weber, Emile Durkheim, Emmanuel Levinas and Zygmunt Bauman as notable exceptions, Smart (2001) goes so far as to refer to "the increasingly morally silent scientific culture" (ibid., p. 516) before calling for a new sociological theory of morality "to assist in the recovery of ethical life" (ibid., p. 518).

If accepted as valid, the situation Smart (2001) describes is in part traceable to the far-reaching effects of the European Age of Enlightenment[13] which privileged rationality over emotion. Hume (1738/2010, p. 165), for example, upheld rationality to be the primary and superior human attribute:

> Every rational creature, it is said, is obliged to regulate his actions by reason; and if any other motive or principle challenge the direction of his conduct, he ought to oppose it, till it be entirely subdued, or at least brought to a conformity with that superior principle.

However, where scientific rationality had initially been "a weapon *against* oppression", promising liberation from ancient superstitions and religious dogma, it later became a weapon *of* oppression (Grayling, 2004, p. 143). Weber (1958), Bauman (1993), Grayling (2004) and Smart (2001), amongst others, report that the unintended outcome of the Enlightenment was instrumental rationalism, bureaucratic politics and the general marginalisation of moral subjectivity and hence ethical responsibility. Scientific mastery over nature enabled mastery of natural resources and material progress and, ultimately, the clamour for 'mastery' over the large majority of humankind, or at very least the resource flows needed to maintain mastery (Martinez-Alier, 2002).

3.2.2 Ethics in the context of the contemporary social-ecological crisis

Smart (1999) synthesises the work of contemporary social theorists [such as Giddens (1990), Beck (1992) and Bauman (1993)] to trace the relationship between modernity, reflexivity, ethics, sociology and the environmental crisis. Our social world – whether theorised as 'modernity', 'high modernity' or 'postmodernity' – is characterised by the continual revision of its knowledge-base and goals as it responds to its own plurality, ambivalence and uncertainty. Undoubtedly, we live in a reflexive society. Within such a society, the role of reflexive sociology is to make possible "a greater awareness of the circumstances in which we find ourselves, as well as the contexts and/or respects in which we may find a degree of freedom and thereby face up to the prospect of taking responsibility for our actions" (Smart, 1999, p. 84). Reflexive sociology is, therefore, ultimately an ethical project with an under-labouring intention to understand the moral difficulties and ethical dilemmas of our age.

[13] The Enlightenment, also referred to as the Age of Reason, was a cultural movement dominant in Europe from the late 1600s to the late 1700s. Its central aim was to reform society and knowledge through the mobilisation of reason.

Douglas (1994, cited in Smart, 1999) describes our age as one of continual expansion and exploitation that tends to see itself, self-referentially, as a 'good society'. A more reflexive sociology would enable (and even require) us "to contemplate and appreciate other possibilities, other forms of life" within the biosphere (Smart, 1999, p. 86). But for now, human agents are increasingly (but not exclusively or necessarily) distanced from such reflexive moral responsibility through participation in capitalist modernity that promotes passive and blameless conceptions of the moral self.

In a similar vein, Donati (2011a) refers to the fragmentation, uncertainty, liquidity, estrangement and manipulation that seem so prevalent in contemporary society. There are, however, also signs of vitality, resilience and regeneration but these are also increasingly under siege and oftentimes impotent. While some argue that every era has its dehumanising failures, Donati (2011a, p. 21) makes a distinction between that which is 'social' (i.e. interactions in society) and that which is 'human' (characterised by care, respect, durability, compassion and so forth), and suggests that our contemporary social crisis is unique in history because the 'social' has been stripped of its human-ness, and this "disallows ethical judgement".

Sennett (1999, p. 2), for example, reviews the demise of social inclusion in working life in the United States and concludes:

> ... we see less and less those kinds of mutual, symbolic exchanges which signal that employees are noticed and heard by the corporations for which they work; the fraternal rituals which bind worker to worker are diminishing; employers eschew being subjects of witness, accountable to those who depend upon them. It is for these reasons that social inclusion is weak in the realm of work.

Bauman (1993) describes how morality in traditional (pre-modern) society was a morality of proximity, developed in relation to neighbours and contemporary time and space. However, globalisation and the massive technological advancements of the 20th century have enabled our current actions to have consequences reaching far beyond the local or the immediate. Ulrich Beck (1992), in his seminal work *Risk Society*, describes how scientific developments (such as nuclear power and genetically modified organisms) have a 'shadow side' of risk which compels us to pursue further scientific advancements in the hope of mitigating the risks, and which he describes broadly as the reflexivity of modernity.

In Durban, South Africa, for example, the 'industrial basin' south of the city benefited from economic investment and industrial growth through housing numerous oil refineries and petroleum plants. The 'shadow side', however, included high levels of air pollution, increased respiratory diseases and cancers for residents of the adjacent low-income suburbs. Sustained civil action led to the installation of sophisticated air quality monitoring equipment at one local school and the equipping of school sick bays with asthma pumps and nebulizers (South Durban Community Environmental Alliance [SDCEA], 2003; Groundwork, 2010). Clearly an environmental justice concern, the South Durban Industrial Basin example illustrates local residents' and environmental groups' capacity to respond to tangible, immediate social injustice and risk, but what of the (possibly more harmful) distant, long-term consequences of, for example, emissions associated with a fossil-fuel dependent economy to which current scientific models and scenarios point? Does moral responsibility extend also to future generations but begin with the (in)action of those who currently enjoy the benefits of petroleum-based lifestyles? Even though living in a different region of the country, am I complicit in the failure to enable all South Africans the "right to live in an environment that is not harmful to their health or well-being" (RSA, 1996) through my continued support of the petroleum companies that pollute the South Durban Industrial Basin? And if I did conclude that I have an ethical obligation to current and future generations, what ethical action could I realistically take? For the purposes of this illustrative discussion, I limit the notion of moral considerability to present and future generations of people. However, part of the ethical struggle would be to widen this sphere of what counts as worthy of my/our moral consideration: sentient beings? All species? Ecosystems? The biosphere?

In the light of this example, Bauman's (1993, p. 18) assertion is that the "… tested and trustworthy ethical rules we have inherited from the past and are taught to obey" are no longer adequate in the light of the extent of our current actions and powers. He writes:

> Moral responsibility prompts us to care that our children are fed, clad and shod; it cannot offer us much practical advice, however, when faced with the numbing images of a depleted, desiccated and overheated planet which our children and the children of our children will inherit and will have to inhabit in the direct or oblique result of our present collective unconcern. Morality which always guided us and still guides us today has powerful, but short hands. It now needs very, very long hands indeed. What chance of growing them (Bauman, 1993, p. 218)?

The uncertainties and risks posed by global climate change raise ethical questions. Somerville (2008, p. 1), a lead report author for the 2007 Intergovernmental Panel on Climate Change (IPCC), identifies three major ethical challenges:

> ... how to balance the rights and responsibilities of the developed and developing world; how to evaluate geo-engineering schemes designed to reverse or slow climate change; and how to assess our responsibility to future generations who must live with a climate we are shaping today.

Somerville's (2008) call is for a scientific community that is helpful to society, one that integrates ethics and equity in climate change-related research and policy development. These are international concerns related to scientific research and policy-making, but they overlook a fourth ethical challenge: the prospect of local, individual or community-level ethical actions driven not by legislative compliance or economic incentives, but by individual morality.

Yet individual morality can also become dominated by larger societal moral imperatives. For example, Hattingh (2002, p. 5) expresses concern over what he describes as "the moral imperative of sustainable development". He describes how the term 'sustainable development' is given moral status on a par with concepts such as democracy, justice, equity and transparency, despite the lack of global consensus on what the term really means[14]. After outlining four different interpretations of sustainable development (as a green agenda of nature conservation; as a social and economic agenda of needs satisfaction; as an integrated agenda of caring for the community of life on Earth; and as a radical political and ethical agenda of transformation), Hattingh (2002, p. 14) concludes that, "the different interpretations of sustainable development provide ideologically loaded answers to fundamental value questions". Echoing Sayer's (2000) concern to advance the critical, transformative potential of social science research, Hattingh (2002, p. 15) laments that, unless fundamental value questions are scrutinised, sustainable development could become "just another entry in the current list of ideologies in the service of the status quo that leave the world, with all its risks and injustices, much as it is".

[14] A study conducted by the European Environmental Agency (EEA) in 1998 reported that there were over 300 definitions of sustainable development (EEA, 1998).

3.3 SOME PHILOSOPHICAL FOUNDATIONS FOR EXAMINING ENVIRONMENT-ORIENTED ETHICAL DELIBERATIONS

3.3.1 Introduction

Renowned environmental philosopher, Joseph Des Jardins (2006), makes a case for studying ethical theory: he notes that ethical theories help to make explicit the values and beliefs inherent in environmental controversies, and provide us with concepts and language to engage with them more robustly. This, he argues, increases our ethical reflexivity and provides a starting point for mutual understanding and ethics-oriented dialogue. He further notes that, within the long tradition of ethics, there are well-documented, tried-and-tested, standardised ways of reasoning about ethics and that, as we engage with environmental controversies, "it will be helpful if we do not have to re-invent the wheel at every step" (Des Jardins, 2006, p. 21). O'Hara (1998) similarly notes that our interactions with others and our assessment of them as appropriate/inappropriate, right/wrong is influenced by our conceptions of ethical behaviour and hence warrants better understanding.

Kronlid and Öhman (in press)[15] have responded to the need for an environmental ethical conceptual framework that can provide a "stringent language of analysis" whilst acknowledging "the complexities of the environmental moral conundrums which students face throughout the world". As will be elaborated in Chapter Four, this study employs an analytical tool based on Kronlid and Öhman's nuanced framework to scrutinise the philosophical and conceptual contexts of ethics-oriented reflexive deliberation in this study. The analytical tool integrates (i) ethical theories (i.e. asking 'what model of reasoning about ethical issues is prevalent here?'), (ii) environmental values (i.e. asking 'what is being valued in this situation?'), and (iii) environmental discourses (i.e. asking 'what shared meanings and assumptions about the world are prevalent here?'). I found the tool useful as it integrates a wide body of literature on environmental ethics and advances their respective propositions in synergistic rather than oppositional ways. The joint consideration of environmental values, ethical reasoning and environmental discourses provides a holistic platform from which to begin to examine the ethics-oriented reflexive deliberations of individual learner-practitioners (see Section 4.7.3.4 and Table 4.7).

[15] At the time of finalising this dissertation, Kronlid and Öhman's paper is due for immanent publication in the journal *Environmental Education Research*. I discussed a draft of the paper with Kronlid in 2011 during his visit to Rhodes University.

The following sections (3.3.2 to 3.3.8) give an overview of established ethical theories that can be useful in differentiating and explaining ethical actions. Section 3.5 will focus more particularly on environmental ethics.

Seven distinct and well-established ethical theories of relevance to environmental ethics are now reviewed. In coming to decide on these ethical theories, I reviewed various anthologies and ethical commentaries and identified their commonalities. Table 3.1 summarises the reviewed works and the theoretical traditions and categorisations employed by the authors.

Table 3.1 Summary of literature reviewed to identify different approaches to categorising and describing ethical theories

Publication	**Representation of dominant ethical theories**
Shafer-Landau (2007) 'Ethical Theory'	° consequentialism ° deontology ° virtue ethics ° contractarianism ° particularism.
Chappel (2009); 'Ethics and Experience'	° virtue ethics ° Kantianism & contractarianism; ° utilitarianism
Des Jardins (2006); 'Environmental Ethics: An introduction'	° ethical relativism ° deontology ° teleology & virtues ° religious environmental ethics. ° utilitarianism
Curry (2006); 'Ecological Ethics'	° virtue ethics ° utilitarianism ° deontology
And ethical theories applied by researchers as analytical tools:	
O'Hara (1998); 'Economics, Ethics & Sustainability: redefining connections'	° utilitarianism ° ethic of care ° discursive ethic
Lahdesmaki (2005); 'When Ethics Matters – Interpreting the ethical discourses of small nature-based entrepreneurs'	° utilitarianism ° virtue ethics ° deontology

After careful consideration of these discussions in relation to the focus and context of this study, I elected to focus on the following broad ethical theories: utilitarian ethics (Section 3.3.2); deontological ethics (3.3.3); virtue ethics (3.3.4); religious ethics (3.3.5); ethical relativism (3.3.6); ethical pragmatism (3.3.7) and relational ethics (3.3.8). In the sections that follow, I outline these ethical theories (which might also be usefully called 'ethical

approaches' or 'traditions') and, where possible, I explore their implications for environment-oriented ethical deliberation.

3.3.2 Utilitarian Ethics

Utilitarianism claims that happiness – defined as "pleasure and exemption from pain" (Grayling, 2004, p. 176) – equates to goodness, and that through our actions we should strive to maximise good for the greatest number (Mill, 1859/2007). As the most prominent form of consequentialism, utilitarianism directs us to consider the *consequences* of an action to ascertain to what extent, and for whom, goodness is achieved. All actions are judged according to their potential to produce good consequences.

Chappell (2009, p. 127) explains utilitarianism as comprising four separate theses:

utilitarianism = maximalism + welfarism + aggregationism + consequentialism

where: *maximalism* means it is obligatory to take the best available option; *welfarism* defines good to be happiness/welfare; *aggregationism*means we can quantify happiness; and *consequentialism* specifies that the goodness of an action depends only on the goodness of its consequences.

John Stewart Mill, expanding the work of Jeremy Betham, formally articulated utilitarianism in the mid-19th Century. He was careful to explain that the utilitarian agent must not privilege his or her *own* happiness but should be "as strictly impartial as a disinterested and benevolent spectator" (Mill, 1859/2007, p. 457). In an environmental sustainability context, for example, a utilitarian whose agricultural activities were polluting a fresh water spring would be guided by his assessment of the greatest number that would achieve happiness based on that action. By ceasing the polluting activities, 65 farm labourers and their families would henceforth have access to clean, healthy drinking water. However, if ceasing the polluting activities meant stopping an aspect of agricultural production, several hundred people in the surrounding communities would be denied access to local, low-cost agricultural produce. Additionally, a dozen jobs might be lost on the farm as a consequence of the drop in productivity.

This example highlights several shortcomings of utilitarianism for environmental ethicists: firstly, the implied limitation of a concern only for human happiness, thereby denying the

moral worth of other species, whole ecosystems, other biotic communities or future generations. It is impossible to measure all the consequences of an action, especially in relation to a more-than-human arena of concern. For example, beside the 65 farm labourers and their families, how might aquatic life forms, local wildlife, domestic stock and so on benefit from the cessation of pollution into the spring? As noted by O'Hara (1998, p. 49): "The question needs to be raised why human utility, and not the utility of those ecosystems components (like nitrogen-fixing bacteria for example) should be considered on whose functioning both human wellbeing and the functioning of the entire food chain depend".

Secondly, the assumption is problematic that happiness can consistently be quantified and evaluated across diverse situations. Is the happiness (i.e. pleasure and exemption from pain) associated with access to uncontaminated drinking water equal to that associated with being employed? Des Jardins (2006) notes that some utilitarians try to get around this problem by substituting something that can be measured for something good. For instance, the total loss of income after being retrenched on the farm can be compared to the medical costs incurred through consuming polluted water and, based on these calculations, a conclusion can be drawn about the 'goodness' of the respective situations. Such factors may certainly be indicators, but they do not and cannot tell the full story. O'Hara (1998, p. 50) cautions:

> In this kind of morality, economic success takes precedence over sustainability, and indeed defines sustainability as sustaining economic activity itself. ... Value is reduced to economic value, development to economic development, success to economic success, utility to economic utility. Location, regional differences and ecologically important distinctions are equalised.

3.3.3 Deontological Ethics

Deontological theory has its origins in the work of Immanuel Kant (1724–1804). Deontological ethics, sometimes called Kantian ethics, refers to our individual rights and duties regarding others. The Kantian imperative: "Act only according to maxims [principles] you can will also to be universal laws" (Kant, 1785, cited in Chappell, 2009, p. 154), reflects Kant's aim to establish rational, universalised principles (what he called categorical imperatives) that can be generically applied regardless of context, individual desires or limitations. These principles of duty, such as trustworthiness, perseverance, respect or fairness, determine what is 'good'.

The deontological position runs counter to utilitarianism because it maintains that the consequences of our actions are too susceptible to outside influence to be taken as indicators of moral correctness. Hence, all we can really consider is the *motivation* of the action, the goodness of its intention.

Performing beneficial acts for the wrong reasons – like participating in a sponsored charity event out of self-interest (because you enjoy it) or to avoid likely criticism if you did not participate – does not count as ethical in Kant's view, although to a utilitarian that would be irrelevant if the event raised money for charity (Mempham, 2005, p. 36).

Autonomy is another concept central to deontology. Moral actions must arise from an individual's free will, and, because we are rational beings, our actions are more than merely instinctual or conditioned. This makes us individually ethically responsible for our intentions. Each person is also duty-bound to respect the autonomy of other people, respecting their intrinsic dignity and not treating them instrumentally.

Kantian deontology is especially influential and relevant in contemporary contexts of globalisation and development which give rise to challenging questions about *duties* and *rights*. Pollution, for example, is thought wrong because it violates the rights of innocent people. Wilderness preservation is disputed because it violates private property rights. We ought to conserve resources because we have a duty to future generations. Do humans have duties to animals and other living beings? Does a consumerist lifestyle violate our duties of social justice toward people living in less developed regions? (Des Jardins, 2006, p. 36).

Kant (1787/ 2009, p. 395) made it very clear that animals are not morally considerable and fall outside of our moral duties because they lack rationality. He stated: "But so far as animals are concerned, we have no direct duties. Animals are not self-conscious and are there merely as a means to an end. That end is man."

3.3.4 Virtue Ethics

Virtue ethics has its origins in the philosophy of Plato but was most significantly developed by Aristotle (384 – 322 BCE). Virtue ethics falls into a wider cluster loosely referred to as *teleological ethics* which presumes that everything (human, non-human and non-living) has a natural end/goal ('telos') towards which everything moves (acts). As, according to Aristotle, only humans have the rational capacity to pursue moral intentions, virtue ethics focuses on

human character traits and dispositions that enable humans to live meaningful and fulfilled lives (Des Jardins, 2006, p. 134). Where utilitarian and deontological ethics are concerned with absolute rights and wrongs in relation to externalised rules or principles, and focus on 'doing', virtue ethics is concerned with the virtuous character of the human agent and focuses on 'being'. For example, someone practicing animal cruelty, for instance, would be acting unethically not because they are causing an animal to suffer, but because the practice of animal cruelty would not be conducive to the person's good character (teleological end).

Hence, a significant critique of virtue ethics is that it links moral goodness inextricably to psychological features which is an inappropriate basis for ethical engagement (Lahdesmaki, 2005). Additionally, virtue ethics does not offer guidance in situations where virtuous human characteristics (such as loyalty, courage, perseverance) actually lead to (environmental) harm (Attfield, 2003, p. 47).

3.3.5 Religious Ethics

Since classical times, philosophers have been reluctant to base ethical claims on religious beliefs, mostly on the grounds that religion is more reliant on faith than on rational reasoning. Furthermore, "… philosophical ethics seeks to be universally binding on any and all rational people, whereas religious ethics seems binding only to those who share the underlying religious assumptions" (Des Jardins, 2006, p. 37). It would be erroneous to consider religious ethics to be a unifying term due to the multitude of religions and denominations, each upholding its own values and moral codes. However, one overarching consideration is whether acts are morally right on the grounds that they have been commanded by God, or morally right because they are supported by excellent reasons and are thus approved of by God.

Today, many people of all faiths are actively involved in taking positive action for the environment, under the banner of their particular religion. Özdemir (2003) notes the irony that the role of religion and other metaphysical speculations was diminished by the dominance of science and positivism in early modernity but now, as the latter fails to respond adequately to the emerging environmental crisis, people are turning again to religion – but this time perceiving it from a new standpoint:

> ... this new understanding brings members of different faiths and traditions to a new frontier and paves the way for a dialogue between them that has never before been

> experienced in human history. With the commencement of a new millennium, it seems that humanity is once more turning its mind, heart, and face toward a transcendental Being, not only to study it for its own sake, but also for hope and a better future; and not only for man, but for all creation as well. Since the nature of any ecological reasoning is holistic and interdependent, it urges us to reconsider and to rediscover our religious values at the threshold of a new millennium. (Özdemir, 2003, p. 2)

Christianity, Islam, Hinduism and Buddhism are the four largest religious groups worldwide. Below, I provide a brief outline of environmental ethics from only the Christian and Islamic perspectives as these are both of relevance to the case studies of this research.

According to Abdul-Matin (2010), the Earth is a mosque and Islam, the world's second largest religion, is founded on numerous principles that prompt Muslims everywhere to have a more positive impact on planet Earth. These principles include:

> ... understanding the Oneness of God and His creation (tawhid); seeing signs of God everywhere (ayat); being a steward of the Earth (khalifah); honouring the covenant, or trust, we have with God (amana) to be protectors of the planet; moving towards justice (adl); and living in balance with nature (mizan). (Abdul-Matin, 2010, p. 2)

The Qur'an teaches that the natural world is subordinate to humankind. Whilst this licences people to use nature for their benefit, the Muslim commitment to moderation and restraint implies that such use of nature should never be excessive or abusive (Faruqui, Biswas & Bino, 2001). The notion of stewardship (khalifah) is thus highly developed in Islam. Khalid (1996, cited in Faruqui et al., 2001, p.3) explains that although humans " ... are equal partners with everything else in the natural world, we have added responsibilities. We are decidedly not its lords and masters: but its friends and guardians".

Christianity also advocates a stewardship approach to people-environment relationships, that is, the responsible use and care of creation. Christian environmental stewardship is based on the Christian account of the Garden of Eden and Adam and Eve's placement there to have dominion over all of creation. Christian environmentalism can "play a significant role in facilitating the movement of people away from lives of self-interest and toward an earnest devotion to a Christian way of life, and must occupy a place in the total teaching of Christians to pursue and honor the accomplishment of the purposes of God in his earth" (Bullmore, 1998, p. 142).

3.3.6 Ethical Relativism

Relativism is "the idea that what is good is simply relative to one's point of view" (Sayer, 2011, p. 135). If people's moral judgements are determined by their culture and social circumstances, then there can be no standard of right or wrong outside of each particular situation. In other words, ethical judgements are relative, not absolute. Relativists disagree on what exactly it is that moral and ethical judgements may be relative to, some claiming they are relative to culture and others claiming they are relative to the individual judger. In the absence of any universal objective basis for judging right from wrong, one can only conclude that the legitimacy of one person or group's moral or ethical judgement is equal to the legitimacy of another's (Wellman, 1988).

Relativism can make radical criticism impossible (Archer et al., 1998). Wellman (1988) concludes that ethical relativism cannot be accepted as a philosophical position worthy of consideration because, although it holds as an abstracted proposition, it has no reality congruence. In reality, when people are confronted with complex moral choices, they defend their points of view, they debate, they doubt themselves, and they think again. Although he does not use the term reflexivity, Wellman (1988) here dismisses ethical relativism because it is untenable in the light of human reflexivity.

Ethical relativism is similarly regarded as an unviable, non-ethical proposition by critical realists. Within critical realism, *epistemic* relativism is inevitable, that is, the view that our knowledge of the world is incomplete and can only be known in terms of the descriptions or discourses available to us. *Judgemental* relativism, however, is rejected by critical realists on the grounds that it is possible to "distinguish better from worse ideas" (Sayer, 2000, p. 48). Purely interpretive or hermeneutic accounts of the world "are likely to conclude that there are no good or bad interpretations of the world, just different ones" but if – through a critical realist approach – we anchor these interpretive acts in practical contexts and develop the quality of our communications and actions in relation to them (that is, "explore the complexity of the relation of practical knowledge to its referents" [Sayer, 2000, p. 43]), we become better able to evaluate our circumstances.

Sayer (2000) offers the notion of 'practical adequacy' as an alternative to relativism. Our beliefs about the world vary according to the ways it is structured and differentiated, leaving some beliefs to be stable in some contexts but not in others. For example, ascribing intrinsic

value to nature will resonate and be a stable belief in some contexts, but may be regarded as impractical or idealistic in others.

Sayer (2010, p.48) illustrates the notion of practical adequacy with the following example:

> The reason that the 'convention' 1 that we cannot walk on water is preferred to the convention 2 that we can, is because the expectations arising from 1, but not 2, are realized. They are realized because of the nature of the associated material interventions (trying to walk on water) and of their material contexts. In other words, although the nature of objects and processes (including human behaviour) does not uniquely determine the content of human knowledge, it does determine their cognitive and practical possibilities for us. It is not thanks to our knowledge that walking on water doesn't work, but rather that the nature of water makes 1 more practically adequate than 2. The fact that 1 is nevertheless still, in principle, fallible, needn't alter our preference for it over 2.

This example illustrates the importance of reality congruence and that, through re-examining our propositions about the world in terms of their material and other causal significance (as required by critical realism), we are able to avoid the pitfalls of relativism and claim that certain knowledge (and ethical responses) are more practically adequate than others.

3.3.7 Ethical Pragmatism

The pragmatic method is a way of settling metaphysical disputes by tracing the *practical consequences* of each notion and asking what difference it will make if this notion, rather than that notion, is true. This emphasis on practical relevance responds to the concern that it is untenable to try to choose one moral belief over another in purely theoretical terms. As noted by Öhman (2008, p. 22): "It seems that this would require an unclouded picture of both our own beliefs and the eternal referent, or, in other words, occupy a position outside our language, culture and life". William James (1907, p. 97) explains that a pragmatist rather "turns away from abstraction and insufficiency, from verbal solutions, from bad a priori reasons, from fixed principles, closed systems, and pretended absolutes and origins". The whole purpose of pragmatism then, is to focus on practical, realisable consequences.

In this study, it will be shown that a very loose understanding of pragmatism was influential in the way environmental ethics is taken up in the EETDP Course. Environmental pragmatism is thus not discussed here, but later in this chapter when environmental values and ethics are considered (seeSection 3.5.1).

3.3.8 Relational Ethics

The essence of a relational ethic is conveyed in French philosopher Emmanuel Levinas' explanation of ethics as "the sensitivity of the subject to the call of the other" (Levinas & Kearney, 1986, cited in Smart, 2001, p. 516). Bauman (1993, p. 92), who draws substantially on the work of Levinas, uses the metaphor of caress to convey the essence of a relational ethical position in postmodernity: "The caressing hand, characteristically, remains open, never tightening the grip, never 'getting hold of'; it touches without pressing, it moves obeying the shape of the caressed body."

To take a relational view of ethics is recognise and internalise the choices we make about living in the world with priority given to our relations with others. In other words, it is only through rational and emotive relational contexts that moral significance comes to be validated (Kronlid & Öhman, in press).Schostak (2002, p. 173) explains that as ethical and political questions arise about how to live with others in the world, "... solitude is replaced by the question of being with others in a common world of resource and action". Relational ethics thus involves a "search for mutual understanding" through the decolonisation of the self and a sensitivity to "the contingency of things" (Routledge, 2009, p. 89). In terms of environmental ethics, relational ethics requires "the recognition of embeddedness in co-constructive relations with the non-human world" (Cloke & Jones, 2003, p. 200). Synthesising the work of numerous authors, Popke (2006, p. 506) summarises a relational ethics of care thus:

> An ethics based in understandings of care would thus stress our connectedness to others; be based on mutual obligations and relations of trust; stress co-operation rather than competition; and favor interdependence over individuation. Caring, in this sense, is not so much an activity as an attitude or orientation, a way of relating to others characterized by values of compassion and a normative concern for inclusion.

Kronlid and Öhman (in press) draw attention to numerous relation-oriented environmental ethics such as Deep ecology, Ecofeminism and Social ecology. They also note that these (and other) relational theories locate their moral concerns in situated relational space, whereas value-oriented theories focus on 'objects' and the extent to which they qualify for inclusion or exclusion in the moral community.

3.4 ETHICAL DIMENSIONS OF WORKING LIFE

Some insight into the traditional work ethic can be found in popular maxims: ‘Don’t put off ‘til tomorrow what you can do today’; ‘The Devil finds work for idle hands’ and ‘Hard work means prosperity; only a fool idles away his time’. Weber (1958, p. 8) explains how the Protestant ethic, what he calls “the moral energy of the Puritans”, corresponded with the emancipation from economic traditionalism (such as the feudal system) in Britain and Europe from the sixteenth century. Until this point, people’s pursuit of labour had been mostly in relation to meeting immediate material needs (planting and harvesting crops, maintaining dwellings and equipment). The burgeoning capitalist enterprise, infused with the Protestant view that “the highest form of moral obligation of the individual is to fulfil his duty in worldly affairs” (Weber, 1958, p. 4), endorsed the accumulation of wealth so long as it occurred within a sober, hardworking career of self-discipline and self-denial. This moral duty of relentless work and delayed gratification responded to the Protestant view of a life lived in constant uncertainty of whether it was moral enough to evade eternal damnation:

> This is Protestant humanity’s unhappy lot: we must earn our moral standing, yet never confidently say, ‘I am good’ nor even, ‘I have done what is good’; all that is possible to say is, ‘I mean well’. Calvin’s God replies, ‘Try harder. Whatever is, is not good enough’. (Sennett, 1998, p. 104)

Soon, however, the power of the rationalised capitalist enterprise overtook the Protestant emphasis on self-imposed, voluntary labour. Weber (1958, p. 181) writes:

> This order is now bound to the technical and economic conditions of machine production which today determine the lives of all the individuals who are born into this mechanism, not only those directly concerned with economic acquisition, with irresistible force. Perhaps it will so determine them until the last ton of fossilised coal is burnt.

Unknowingly, Weber (1958) here foretells the ethical tensions inherent in the contemporary environmental crisis and its links to economic production and fossil fuel dependency. It is “not only those directly concerned with economic acquisition” (ibid.) who are affected by these industrialised economic conditions; it is also the human bystanders, the river systems, landscapes, habitats, species and so on that are affected. It is the consequences of these economic, industrialised and technological activities that Bauman (1993, p. 18) fears our current ethical traditions are inadequate to grasp: “The scale of consequences our actions may have dwarfs such moral imagination as we may possess. It also renders impotent the few, but tested and trustworthy ethical rules we have inherited from the past and are taught to obey”.

Thus, the sites, struggles and objectives of the modern work ethic are a radical departure from the Protestant work ethic. According to Sennett (1998), the modern work ethic is an ethic of the group, not the individual; it emphasises teamwork, cooperation and adaptability; it celebrates sensitivity to others and so-called 'soft skills' such as being a good listener and a team player. For all its benefits in liberating people from the 'iron cage' of the Protestant ethic (Weber, 1958), the modern work ethic has a shadow side. This "time of teams" (Sennett, 1998, p. 106) is oriented around specific short-term tasks: "Time's arrow is broken; it has no trajectory in a continually re-engineered, routine-hating, short-term political economy" (Sennett, (1998, p. 98).

Bauman (1993, p. 19) contemplates the ethical consequences of this. He describes how:

> … our life work is split into many little tasks, each performed in a different place, among different people at different times. Our presence in each of these settings is as fragmenting as the tasks themselves. … As individuals we are irreplaceable. We are not, however, irreplaceable as players of our many roles. Each role has a brief attached which stipulates exactly what job is to be done, how and when. Every person who knows the brief and has masters the skills which the job requires can do it. Nothing much would change, therefore, if I, this particular role performer, opted out: another person would promptly fill the gap I left. 'Somebody will do it anyway' – so we console ourselves, and not without reason, when we find the task we have been asked to perform morally suspect or unpalatable. Again, responsibility has been 'floated'.

Moral authority dissipates as responsibility floats. Sennett's (1998) semi-anthropological work on the working lives of middle class Americans leads him to conclude that the modern ethos of teamwork, collaborative mediation and dispersed accountability had radically reduced the influence of authority figures who, in bygone years, would have unequivocally claimed 'This is the right way!'.

Modernity's response to floating responsibility and dissipating moral authority has been to externalise ethical responsibility. Ethical committees and formalised codes of ethical conduct now occur in most sectors, institutions and professional associations. In South Africa, the South African Council for Educators outlines a code of ethical conduct for educators and, in the environmental management sector, Fuggle (undated, p. 1) notes that "Thousands, if not tens of thousands, of environmental practitioners currently provide advice to both national and international decision makers relating to the likely effects that [development] projects will have". His concern is that this proliferation of environmental management and policy-making activity since the 1960s has not been equally accompanied by the development of

professional moral codes or statutory registration for environmental practitioners in order to "protect society from the consequences of incompetence or dishonesty" (Fuggle, undated, p. 2).

Bauman (1993, p. 31) casts doubt over the efficacy of such ethical codes of conduct. Describing the modern era as a time when we "face choices of unprecedented magnitude and potentially disastrous consequences", he claims that we cannot expect legislation or philosophy to relieve us from moral ambivalence and decisional uncertainty. He argues instead for a re-personalised morality to be let out of "the stiff armour of the artificially constructed ethical codes". The implications of this for working life is that personal moral responsibility needs to be developed and more centrally placed in the ethical processes of professional practices. For Sennett (1998, p. 148), this depth of human(e) moral responsibility is crucial to the future of the political economy in which people live and work: "A regime which provides humans no deep reasons to care about one other cannot long preserve its legitimacy".

The following section discusses how the philosophical subfield of environmental ethics has articulated some of these 'deep reasons to care' about people-environment relations.

3.5 ENVIRONMENTAL VALUES AND ETHICS

3.5.1 Environmental Pragmatism

South African environmental philosopher, Johan Hattingh (1999), compares environmental ethics to "a large toolkit" containing many "strange and wild ideas," some of which might be more useful than others. Making a case for environmental pragmatism, he suggests that we engage with these diverse and evolving ideas as:

> genuine efforts to articulate new ideas and transform existing practices, institutions and experiences. They do not fulfil a prescriptive function within an already established framework of values and practices. They serve rather as rhetorical devices: open-ended challenges to that which already exists. They serve to open up questions, not to settle them. (p. 80)

Weston (2001) also proposes the metaphor of a "toolbox". The diversity of (sometimes contradictory) theoretical and philosophical positions is a practical tool for which we can

reach when we need new, different or challenging perspectives. These tools are as diverse and dynamic as the multiple contexts from which they arise. They may help us (generally as world citizens and more specifically as researchers, story tellers, teachers, activists, consumers, decision-makers) to think more deeply about and act more reasonably and ably in the world. Hattingh (1999) urges us to keep working with these tools in practical ways so as to keep them "sharp," even developing new ones for unknown times ahead.

As we draw on various environmental ethics tools, however, we should remain sensitive and attentive to the nature of the overall project, that is, the *work* that environmental ethics can do (Jickling, 2007). It can be tempting to become absorbed in a particular philosophical position or environmentalist agenda and lose the groundedness in remembering and reclarifying what the journey is really about, why we are pursuing these ideas, why we are reaching for these tools in the first place. For example, as I interact through research projects and university courses with environmental educators from around southern Africa, what *work* can the vast field of environmental ethics do as we face changing weather patterns, biodiversity loss, the HIV/AIDS pandemic, waterborne diseases, cultural change, land degradation, xenophobia and so on? How might spaces be created to engage with such things in ways that account for, rather than silence, values, dignity and future aspirations? The following sections consider some of the qualities that might enable us to draw on this toolkit in ways that advance the vision of environmental ethics as a necessarily uncharted journey that is both tentative and generative. Below, I present three potentially helpful touchstones: environmental ethics as "open-ended processes" (being indeterminate and shaped over time and space by human agency), as "attentive and pluralistic" (seeking respect, pursuing responsibility and being responsive to things new, different, even uncomfortable), and finally, ethics as "deliberative enquiry" (asking questions and continually exploring for shared depth, nuance and change).

3.5.2 Environmental ethics as open-ended processes

According to Aldo Leopold, a pioneer of environmental ethics in the North American tradition: "Nothing as important as an ethic is ever 'written'" (Leopold, 1949/1989. p.225). Instead, ethics evolve in the minds of a thinking community and this evolution never stops. There is now a growing body of environmental philosophers, educators and activists whose work reflects this central concern for enabling and supporting processes of environment-oriented ethical enquiry (Weston, 1994; Cheney, 1999; Hattingh, 1999; Næss, 2000; Jickling,

Lotz-Sisitka, O'Donoghue & Ogbuigwe, 2006; Wals, 2007). The generative possibilities that arise through approaching ethics in this way are well captured by Jickling (2004):

> Ethics is a process of inquiry—a philosophical examination of those varied and sometimes contested stories that constitute our social reality. This is quite different from following prescribed rules or an ideologue. Rather, "ethics as process" invites individuals into an ongoing process of defining and redefining their own rules for individual and community conduct. Ethics in this sense is an everyday activity for ordinary people. And, it is the essence of citizen-based democracy. (p. 16)

Alongside this, it is important to recognise that environmental ethics, as a relatively new and emergent sub-field of philosophy, is still in its originary stages and so exploration, experimentation and some "red herrings" are to be expected (Weston, 1992/2009; Hattingh, 1999). We are, after all, moving in uncharted territories; "our world is one of continuous change and ever-present uncertainty" (Wals, 2007, p. 1).

It is important to acknowledge the educational implications of this: that we cannot really teach for the future by limiting ourselves to the metaphors, discourses, priorities and knowledge bases of the present. And seeking to find the right answer may prove futile and unnecessary anyway because "the future is open … Everything could be worse than we think, or better, but it will almost certainly be different than we think. All we can do is act on our best guesses and our hopes" (Weston, 1994, p. 176).

Bauman (2001, p. 139) lays out the consequent challenge for education: to theorise:

> ... a formative process which is not guided from the start by the target form designed in advance … an open-ended process, concerned more with remaining open-ended than with any specific product and fearing all premature closure more than it shuns the prospect of staying forever inconclusive.

For Cheney and Weston (1999), this is an epistemological question. They ask us to consider how things might be different if we entered into ethical relationships with others in order to know them better, rather than letting our pre-defined knowledge of them determine the nature of our ethical relations. In a world that "has barely unfolded for us," shifting from an epistemology-based ethics to an ethics-based epistemology is perhaps fundamental to seeing ethical action as "an attempt to open up possibilities, to enrich the world" (Cheney & Weston, 1999, pp. 117 and 118).

3.5.3 Environmental ethics as attentive and pluralistic

Pluralism can mean different things in different settings. It could refer to diverse perspectives within and across human communities, for example, as used by Wals and Heymann (2004) when they state: "[w]e live in a pluralistic society, characterized by multiple actors and diverging interests, values, perspectives and constructions of reality" (p. 2). But it can also refer to something much wider, as we find in Abram's (1999) reference to shamans who:

> readily slip out of the perceptual boundaries that demarcate his or her particular culture ... in order to make contact with, and learn from, the other powers in the land. His magic is precisely this heightened receptivity to the meaningful solicitations—songs, cries, gestures—of the larger, more-than-human field. (p. 24)

Or Weston's (1994, p. 113) brief experience of living "other possibilities" when, following a week-long electricity outage after Hurricane Gloria in 1985, "people would just sit for hours in someone's backyard and watch the full moon rise".

People's increasing detachment from the plurality and receptiveness alluded to in Abram's and Weston's examples is a central theme in environmental philosophy. Plumwood (2002) traces human detachment from nature to moral dualism in the neo-Cartesian tradition. A far cry from pluralism's desire to explore and invite, moral dualism divides the world into two sharply contrasting orders: humans (worthy of ethical concern) and all the rest (which may have instrumentalist value but are otherwise under-qualified for ethical consideration). Plumwood (2002) notes that this kind of:

> sharp cut off or boundary for moral consideration is neither necessary nor desireable, and the forms of life that correspond to the dualisms between use and respect are unjust and diminishing both for "persons" and for the greater multiplicity of beings that make up planetary life. (p. 145)

The inherent logic of moral dualism can be dominating and all-pervasive to the extent of losing sight of other possibilities that might bring other voices, other lived experiences into our (shared) space (Evernden, 1985; Weston, 1992). Consider, for example, how some architectural styles reinforce their detachment from the natural space they inhabit, shutting out natural light and views and replacing them with artificial lighting and walls-as-barriers. Fences delineate the "home" from the "wild," "safety" from "threats." A pluralistic view and its attendant values might be more attentive to the nuance of walls, windows, doors; incorporating natural variations, accommodating small creatures, paying tribute to other

histories of that space and so on. This is the kind of care-full openness and plurality that an ethics-based epistemology (Cheney & Weston, 1999) might make realisable.

Yet, in the overlapping fields of environmentalism and education, we see how pervasive dualistic assumptions about people-environment relationships can be. Consider the concept of "ecosystem services" in the Millennium Ecosystem Assessment Report (MA, 2005), the largest international study to assess the integrity of Earth's ecosystems. Ecosystems, it notes, provide "services" for humans in numerous categories: provisioning services (e.g. food, fuel, building materials), regulating services (e.g. climate, water flow), cultural services (spiritual, aesthetic, recreational) and supporting services (e.g. soil formation, photosynthesis, nutrient cycling). Through the services framework, then, our understandings of and respect for the diversity of life forms and their intricate relationships are pre-empted and coached by a human-centred, resource-oriented view. Trees become timber; plants become food, medicine, or floral arrangements. As Evernden (1985, p. 10) cynically notes, this kind of discourse reduces nature to: "... a conglomeration of natural resources, a storehouse of materials".

Whilst the ecosystem services lens is not unhelpful or harmful, my intention is to emphasise that it is just that: a lens, a way of seeing the world, a particular discourse. There are, and need to be, other ways of seeing, understanding and valuing, but if the storylines of all our textbooks, policies, research reports, advertisements and environmental documentaries reinforce only one view of the world, then the possibilities for more exploration and creativity are radically reduced. When we encounter glimpses through different lenses, different discourses, we become challenged and attentive and better able to think and act beyond self-referential monologue.

But the attentiveness and plurality of dialogue is relevant to more than just our relationships with the non-human or "more-than-human" (Abram, 1999) worlds. Human multiple-voicedness—across countries, cultures and generations, and within communities, schools and homes—is pre-requisite to ethical process. It requires listening, respect, tolerance and equity. This does not always come easily and many social practices indeed appear designed to replicate and advance a single voice, but Naess (2000, p. 49) reminds us: "If we didn't disagree on anything of importance it means that we are getting into a kind of completely homogenous culture which is a terrible thing, so better to really dislike each other's position than to have no differences." Cheney & Weston (1999) similarly urge us to recognise ethics' pluralistic and discontinuous nature in which dissonance abounds. The work of

environmental ethics in mediating this dissonance and seeking creative, generative solutions is the focus of the final touchstone discussed in this section: environmental ethics as deliberative enquiry.

3.5.4 Environmental ethics as deliberative enquiry

Deliberation is the weighing up of things to achieve reasoned insight and future direction. In the light of the preceding sections' overview of ethics as dissonant, pluralistic, uncertain and open-ended, it seems inevitable that this section considers the role of deliberative enquiry in processes of ethical engagement.

There is a natural flow that happens: as we open ourselves up to engage with alternatives, we notice previously hidden, even inconceivable connections, and opportunities then increase for talking more and talking differently with others. And thus we learn more and can do more. Wals (2007) helps to clarify this connection between processes of ethical engagement and processes of learning with his work on dialogue, deliberation, and social transformation:

> Social learning often includes a critical analysis of one's own norms, values, interests and constructions of reality (deconstruction), exposure to alternative ones (confrontation) and the construction of new ones (reconstruction). Such a change process is greatly enhanced when the learner is mindful and respectful of other perspectives. Obviously, not all participants in a social learning process display the same amount of initial openness and respect, but as they develop social relationships and mutual respect (social capital), they not only become more open towards ideas alternative to their own, they, as a group, also become more resilient and responsive to challenges both from within and from outside. (p. 43)

Wals and Heymann (2004, p. 2) point to a need for "facilitated cultivation of pluralism and conflict in order to create more space for social learning in non-formal and informal settings". They identify conflict not as the destructive, closing-down sort but rather as respectful explorations of divergent norms and values. In such dialogic processes, diversity and contextual depth are celebrated and conflict serves creatively to advance not debilitate transformative social learning.

Central to this process of deliberative ethical enquiry is uncovering and re-examining assumptions that lie at the heart of how we conduct ourselves in the world. How this might be achieved and what education's role might be remains loosely defined and under construction, but perhaps Jickling's (2004) call to make ethics "an everyday activity" is a bold step in a useful direction. When ethics becomes an everyday activity for ordinary people, ethical

positions become, unlike static ethical codes, open to reflection, deliberation and perhaps even revision – that is, ethics becomes an open-ended process of enquiry.

Öhman (2008) proposes that a pluralist approach taken up within a pragmatist philosophical tradition may provide a helpful foundation for deliberative engagement. Assuming critical thinking skills and the capability to take action to be in place – or at least readily developed – he notes that pluralist education situates the democratic process *in* education itself. This may counter some of the risks associated with normative approaches to environmental ethics such as indoctrination and erosion of education's emancipatory potential (Jickling, 1992; Wals & Jickling, 2002).

3.5.5 Socio-cultural influences on ethical action

Some years ago, I interviewed a group of Southern African educators studying a professional development course in environmental education. They described how their efforts to take responsible environmental action are influenced by factors as varied as financial concerns, time frames, social conformity, the value attached to the subject, and lack of alternatives to current practices (Olvitt, 2009). When asked what values or codes guide them when faced with making decisions affecting the environment, the students referred variously to:

- social concerns: "I'm guided by society e.g. what will people think about my decision";
- self-interest: "I am more concerned whether I'll end up in a safe side or not";
- cultural influences: "I respect it [nature] because it was made for me, therefore it is taboo to spoil it";
- religion: "As a Christian, the concept of stewardship of the earth is the most influential when it comes to my values";
- past experiences: "The prolonged drought I experienced in my childhood where I had to carry a 25 litre bucket of water [on my head] and 5-10 litres in hands from the spring... forced me to modify habits in handling and use of water" (Olvitt, 2006; 2009).

Similar insights were gained in a research project with a group of South African youths identified as "at risk" due to their social context of homelessness, poverty, substance-abuse, or gangsterism. The youths' narrations of their environmental actions revealed that their social and economic identities and experiences influenced their actions more than conscious

adherence to an explicitly articulated ethical code (Ayair, 2009). One of the youths, for example, stated that she willingly switched off the lights if she was the last to leave a room in the hostel, but that she was not permitted to do so at the family's rural home because her grandmother wanted all the lights in the home switched on so that others would know that the family could afford to pay the electricity bill. Another youth explained that he had in the past littered intentionally in the city streets with hopes of creating employment opportunities for garbage collectors. The same youths collectively recognised the importance of receiving more environmental knowledge in order to make better choices, and many indicated that they had, on the grounds of their educational interactions with the researcher, undertaken to act more responsibly in relation to environmental matters in future (Ayair, 2009, pp. 7 - 9).

These and other stories of people's authentic *in situ* struggles to live well in the world can offer insights into the diverse socio-cultural, economic and political spaces in which ethical practices are negotiated daily. They can offer glimpses into the complexity, contingency and generative possibility of people's lived experiences. For example, hearing from South African youths who alter their environmental practices as they shift between rural and urban identities, or from the Basotho school teacher whose passion for water conservation can be traced to her childhood burden of having to collect and carry her family's daily water allocation, can help environmental educators bridge philosophical propositions and lived experiences (Olvitt, in press). Wals (2007) suggests that learning processes in such contexts of sustainability are "rooted in the life-worlds of people and the encounters they have with one another" and are thus open-ended and potentially transformative. For Weston (1992/2009, p. 27), this is a significant opening for the work of environmental ethics. Recognising that values are socially and culturally shaped, "deeply embedded in and co-evolved with social institutions and practices," he concludes that values are, by their very nature, contingent and open to reshaping.

Thoughtful responsiveness and reasoned care in relation to people's diverse life worlds are needed in such processes of open-ended reshaping. This is what Archer (2003; 2007) describes as reflexive deliberation, and is the focus of the following section.

3.6 ETHICS-ORIENTED REFLEXIVE DELIBERATION

Section 2.4.4 has already introduced the Archerian view of reflexivity and the internal conversation, so in this section I provide a only a brief summary of Archer's general proposition, but now with a special interest in the ethical dimension of reflexive deliberation.

From a critical realist position, Archer (2003) explains that people's reflexivity arises from their unavoidable relationship with different strata of reality: the natural, practical, and social. These are the basic concerns that human subjects cannot escape and so, in their lives, people must "accomplish a relatively successful dovetailing of their concerns and commitments in each of them, working out a modus vivendi that comes to represent the bulk of their identity" (Maccarini & Prandini, 2010, p. 90) . A human individual is essentially a being-with-this-constellation-of-concerns (Archer, 2003).

The key concept here is that of 'ultimate concern', expressing 'what we care about most'. This is echoed by Sayer (2011, p. 2) who states that "we are beings whose relation to the world is one of concern". Archer (2007, p. 155) describes an ultimate concern as "the organising principle around which all else should be integrated". Deliberation involves a dialectical interplay between an individual's 'ultimate concerns' and his/her 'contexts'; that is, his/her moving back and forth (via the internal conversation) between the questions 'What do I want?' and 'How do I go about getting it?' Internal conversations thus perform a mediatory role and, although always fallible and subject to our own descriptions, they are the only way we can know or decide anything (Archer, 2007). This is summarised by Archer (2007, p. 17) in her Three-Stage Model of the interplay of objectivity and subjectivity. The three stages are:

> 1. Structural and cultural properties *objectively* shape the situations that agents confront involuntarily, and inter alia¸ possess generative powers of constraint and enablement in relation to
>
> 2. Subjects' own constellations of concerns, as *subjectively* defined in relation to the three orders of natural reality: nature, practice and the social.
>
> 3. Courses of action are produced through the *reflexive deliberations* of subjects who subjectively determine their practical projects in relation to their objective circumstances.

Archer (2007, p. 16) suggests that "ideologies, however hegemonic, are not in themselves influences, but rather attempts to influence". Here, I would extend Archer's reference to

ideologies to include discourses and ethical propositions. In critical realist terms, the dominant values and ethical discourses circulating in a workplace or course occur in the domain of the 'real' in that they have the *potential* to influence the employee or the student, but the potential of those values or discourses is actualised only once they have been subjectively dialectically reviewed in relation to the individual employee or student's 'ultimate concerns' and context. Thus, when Archer (2003; 2007) explains that it is through our deliberative internal conversations that we delineate our concerns, define our projects, and determine our practices, I understand her to mean too that it is through these same deliberative processes that environmental educators clarify their environmental values, position themselves as this or that kind of environmentalist and educator, and determine their professional and personal practices.

Although he does not use the term directly, Bauman (2008, p. 188) speaks of reflexivity when he explains that "the 'formation' of selves or personalities is unthinkable in any other fashion but that of an ongoing, perpetually unfinished, open-ended re-formation". This, he suggests, is the only way in which education and learning in a "liquid modern" society can be conceptualised. In the following section, I discuss sociocultural-historical perspectives on workplace learning and consider reflexivity as inherent to such processes.

3.7 WORKPLACE LEARNING AND REFLEXIVITY

3.7.1 Workplace learning as a diverse and emergent field

Conventionally, adult learning processes have been examined from the perspective of formal educational settings such as colleges, universities and other accredited education and training providers. According to Billet (2009), the impetus for the shift in gaze of educational researchers from institutional curricula to the even messier terrain of lived experience and learning 'beyond the classroom' seems traceable to work on situated cognition in the 1990s (see for example Lave & Wenger, 1991) together with anthropological accounts of learning and development outside of educational institutions or programmes.

Matthews (1999, pp. 19-20) synthesises earlier definitions of workplace learning to suggest that it involves "the process of reasoned learning towards desirable outcomes for the individual and the organisation [which should] foster the sustained development of both the

individual and the organisation, within the present and future context of organisational goals and individual career development". Fenwick (2006) is a little more cautious in presenting a unified account of workplace learning. Through an extensive review of workplace learning literature, she does, however, propose some key features of workplace learning:

> Despite inevitable variations and nuances influenced by contextual, theoretical and methodological differences, the common ground across this emerging field of research is recognition of the complex intertwining of cognitive, socio-cultural and historical dimensions of workplace learning processes. (Fenwick, 2006. p 296)

It is only since the late 1980s, and most substantially since the late 1990s, that an international body of research and literature has emerged on the subject of workplace learning. Fenwick (2008), for example, reports that a meta-review of leading journals in the areas of management/organisation studies, adult learning, and human resource development between 1999 and 2004 found that almost 20% (343 of 1780) of articles focussed on workplace learning. She is, however, circumspect about the clarity and uniformity of the field of workplace learning, noting that workplace learning spans at very least the areas of human resource development, adult education, professional and vocational training, labour studies, lifelong learning studies and organisational management. Each of these areas has particular (and often fundamentally different) starting points and purposes in which terms such as 'learning', 'development' and 'pedagogy' are conceptualised in radically different ways. Fenwick (2010a, p.80) goes as far as to suggest that the very concept of learning should be reconsidered as it is "a wily shapeshifter, conjuring itself in discursive guises such as policy imperative, code for growth, and synonym for education". She advises that learning should not be conceived of as a single object, and if objectified, it must at least be recognised as "a messy object" with blurred boundaries.

Fenwick (2010a) suggests that much time is wasted trying to reconcile definitions and theorisations of workplace learning when they are, ultimately, different objects from different ontological worlds. For example, in the abovementioned review of publications from 1999 to 2004, she notes that researchers adhering to a realist ontology distinguished between the real existence of objects or occurrences and people's perceptions of them, whereas those working within a social constructionist ontology conceptualised the objects, ideas, subjectivities, practices and learning processes at work as socially co-constructed with no 'real' beyond these constructions(Fenwick, 2010a).

Due to the critical realist underlabouring of this study, I take up the notion of workplace learning in this study as being "mediated by personal, social and natural factors" (Billett, 2009). This view is extended by Fenwick (2010b) who draws attention to the 'socio-material' dimensions of learning and knowledge in work, that is, recognising that "the material world is treated as continuous with and in fact embedded in the immaterial and the human" (p. 105). In the following section, I elaborate on this broad position by discussing workplace learning in terms of cultural-historical activity theory.

3.7.2 Cultural-historical perspectives on workplace learning

This section aims to establish a theoretically informed understanding of workplace learning and to argue that cultural-historical activity theoretical approaches to workplace learning allow for closer, contextually richer examinations of individual learning and reflexive deliberation within a complex and dynamic collective.

Relationality – and, by implication, context – are significant features of a sociocultural-historical view of workplace learning. The dynamic ecologies of workplace learning processes require a concurrent, integrated examination of knowledge, activities and communities. Rather than isolating and focussing on components (such as the employee, the mentor or the mediating tools), learning becomes understood as what occurs between these components (Fenwick, 2001, p. 8). These processes are relational. Billett (2008, p. 39) thus regards workplace learning as "a negotiated (i.e. relational) interdependence between social and personal factors". He explains that social interactions at work are mediated [reflexively deliberated] not only in relation to "a heritage of concepts and practices" in that particular workplace, but also in relation to "a history of earlier personal (i.e., pre-mediate) socially-derived experiences that shape how individuals interpret and construct what they experience" in their professional encounters.

When seeking to understand workplaces and the reflexive learning processes within them, it is necessary then to pay careful and close attention to their contexts. Context is important not only from a critical realist perspective (because it is in context that causal mechanisms are to be explored – see Sections 2.3 and 2.4), but also from a relational perspective. Bradbury and Bergmann Lichtenstein (2000, p. 551) propose that each organisation should be conceptualised as "an extended set of relationships" and that theorists should thus focus on the spaces between organisational members rather than on their individual properties. Organisations – and hence the specific workplaces within them – do not float in a neutral

environment but are instead in a constant, dynamic process of production and reproduction with the wider world (Mutch, Delbridge & Ventresca, 2006).

Engeström (2001, p. 134) refers to object-oriented actions within activity systems as "always, explicitly or implicitly, characterized by ambiguity, surprise, interpretation, sense-making, and potential for change". He argues that the presupposition of knowledge and skills being "stable and reasonably well defined" should be abandoned on contexts of workplace learning (Engeström, 2001, p. 137). As discussed in Section 2.6.4, tensions and contradictions within and between activity systems are important drivers of change, and hence of learning. Engeström (1999) discusses how change and innovation arise in the sociocultural-historical activity systems in which individuals participate. The mediation (or deliberation) of these tensions and contradictions is part of a wider expansive learning process in which (amongst others) the ethical dimensions of professional practice may be scrutinised, mediated and even transformed. Organisational discourses are recognised as one powerful element of these mediating tools and processes. The following section introduces some environmental discourses that may be of relevance later in this study when the various workplaces of the novice environmental educators are investigated.

3.8 ENVIRONMENTAL AND ETHICAL DISCOURSES IN WORKPLACE LEARNING CONTEXTS

3.8.1 Discourses: Their identification and analysis

Discourses are, in the most general sense, shared ways of understanding the world. They allow their subscribers to develop coherent 'stories' from the fragmented experiences and bits of information in the world around them, thereby helping to define common sense and legitimate knowledge (Dryzek, 2005, p. 9). Discourses are embedded in language and, as noted by Harré, Brockmeier and Muhlhäusler (1999, p. ix): "Language not only reflects and records but also shapes, distorts and even creates realities. Hence, discourses also embody political power in that they can influence definitions, perceptions and values, and can advance or suppress certain ideas (Dryzek, 2005, p. 9).

Workplaces are political places, with histories, practices, discourses and other tools which represent or convey power gradients. Discourses are systems of norms, values and/or symbols which frame (working) life in particular ways and affect how people view and conduct

themselves in relation to others. Geluykens and Pelsmaekers (1999, p. 7) note how outsiders or newcomers to a professional culture may struggle to understand what is going on because interactions are so specialised, especially in institutions and professions with high levels of task differentiation.

Fenwick (2001, p. 9) draws attention to the ways in which workplace discourses can control knowledge by privileging some things over others, thereby controlling people's desires, values and status and approving or marginalising certain identities. Consider, for example, the tacit and overt barriers experienced by a Muslim volunteer in a charity organisation dominated by Christian discourses, or those experienced by an environmental manager committed to principles of deep ecology and wilderness preservation in an organisation whose discourses centre on the utilisation of natural resources for social and economic development. As this study is concerned with the ways in which the ethical dimension of environmental education practices come to be deliberated, the following section briefly outlines some dominant environmental discourses.

3.8.2 Environmental discourses in workplaces

In this section I draw on Dryzek's (2005) book *The Politics of the Earth* which identifies and describes nine distinct environmental discourses. Dryzek (2005) notes that the double and overlaid complexity of ecosystems and human social systems has, particularly since the 1960s, led to a proliferation of perspectives on environmental issues. However, despite these varying perspectives making claims about what is natural, "...there is no single uninterpreted 'nature' capable of putting an end to political dispute" (p. 12). Table 3.2 outlines the nine environmental discourses that Dryzek proposes, in so far as they will be useful referents in Chapters Six and Seven when I describe environmental discourses in the various EETDP workplaces.

Table 3.2 Summary of Dryzek's (2005) typology of environmental discourses

Environmental Discourse	Basic entities recognised or constructed	Assumptions about natural relationships	Agents and their motives	Key metaphors and other rhetorical devices
1. Survivalism	•Finite stocks of resources •Carrying capacity of ecosystems •Population •Elites	•Hierarchy and control •Conflict	•Elites; •Unspecified motivation	•Environmental commons •Spaceship Earth •Cancer •Humanity as virus on earth •Images of doom and redemption
2. Promethean Discourse	•Nature as only brute nature •Markets & prices •Energy •Technology •People	•Hierarchy of humans over everything else •competition	•Everyone •Motivated by material self-interest	•Mechanistic
3. Administrative Rationalism	•Liberal capitalism •Administrative state •Experts & managers	•Nature subordinate to human problem solving •People subordinate to the state •Experts and managers control state	•Experts & managers •Motivated by public interest, defined in unitary terms	•Mixture of concern and reassurance •The administrative mind
4. Democratic Pragmatism	•Liberal capitalism •Citizens	•Equality among citizens •Interactive political relationships, mixing competition and cooperation	•Many different agents •Motivation is a mix of material self-interest and multiple conceptions of public interest	•Public policy as a result of forces •Policy like scientific experimentation •Thermostat •Network
5. Economic Rationalism	• Homo economicus •Markets & prices •Property •Governments (not citizens)	•Competition •Hierarchy based on expertise •Subordination of nature	•Homo economicus: self-interested •Some government officials must be motivated by public interest	•Mechanistic •Command & control •Connection with freedom •Horror stories

6. Sustainable Development	•Nested and networked social and ecological systems •Capitalist economy •Ambiguity concerning existence of limits	•Cooperation •Nature subordinate •Economic growth, environmental protection, distributive justice and long-term sustainability go together	•Many agents at different levels, transnational and local as well as the state; motivated by public good	•Organic growth; •Nature as natural capital •Connection to progress •Reassurance
7. Ecological Modernisation	•Complex systems •Nature as a waste treatment plant •Capitalist economy •The state	•Partnership encompassing government, business, environmentalists, scientists •Subordination of nature •Environmental protection and economic prosperity go together	•Partners; motivated by the public good	•Tidy household •Connection to progress •Reassurance
8. Green Consciousness Change	•Global limits •Nature •Unnatural practices •Ideas	•Natural relationships between humans and nature that have been violated •Equality across people and nature	•Human subjects, some more ecologically aware than others •Agency can exist in nature too	•Wide range of biological and organic metaphors •Passion •Appeals to emotions, intuitions
9. Green Politics	•Global limits •Nature a complex ecosystems •Humans with broad capacities •Social, economic and political structures	•Equality among people •Complex interconnections between humans and nature	•Many individual and collective actors, multidimensional motivation •Agency in nature downplayed though not necessarily denied	•Organic metaphors •Appeals to social learning •Link to progress

In reflecting on this range of environmental discourses, Dryzek (2005) takes up an environmental pragmatist position in noting that the different discourses may be applicable to resolving different kinds of problems. He notes, for example, that survivalism and

Prometheam discourses are concerned with global issues, whilst the green consciousness change discourse might be more useful in terms of lifestyle choices.

More specifically in terms of social learning in a social-ecological context, he notes that institutions and discourses need to be "capable of learning – not least about their own shortcomings" (Dryzek, 2005, p. 232); by this I take him to be referring to the need for institutional and discursive reflexivity. Some discourses, he notes, have little capacity for reflexivity (such as survivalism, Promethean discourse, and administrative rationalism) while others (such as democratic pragmatism, green politics, and sustainable development discourse) have the potential to promote dialogue, collective decision-making, open-ended explorations and so on. Although Dryzek does not pursue explicit educational links here, it seems tenable to conclude that these more 'reflexive discourses' have greater potential for learning and social change. The common thread that he identifies across these potentially reflexive environmental discourses is "a renewed democratic politics, an ecological democracy … which blurs the boundary between human social systems and natural systems" (Dryzek, 2005, p. 235).

3.9 CONCLUSION

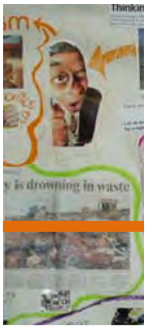
This chapter has centred on ethics and has endeavoured to scope the dimensions of ethics as they pertain to a study concerned with the ethics-oriented reflexive deliberations of novice environmental educators. It started with a broad consideration of the ethical turn in the 21st century, firstly in the context of deepening social-ecological risk, and secondly in working life. In the light of contemporary society's uncertainty, fragmentation, liquidity and floating moral responsibility, an argument is made for ethics to be released from detached and reified codes of conduct and once again re-personalised. As a backdrop to this, the next section of the chapter reviewed seven diverse theoretical propositions regarding ethics (utilitarianism, deontological ethics, virtue ethics, religious ethics, ethical relativism, ethical pragmatism and relational ethics) before turning more specifically to review environmental values and ethics. Inspired by Hattingh's (1999) environmental pragmatist proposition to work productively within the contested terrain of environmental ethics by regarding it as a "large toolkit", I make a case for environmental ethics to be regarded as an open-ended, attentive and pluralistic process of deliberative enquiry. I also introduced an environmental ethics

analytical framework proposed by Kronlid and Öhman (in press) as this will be used later in the study as an analytical tool (see Section 4.7.3.4).

Due to its significance in the study, I elaborate on the notions of reflexivity and ethical deliberation within the field of environmental ethics, and also in workplace learning processes. Drawing heavily on the work of Margaret Archer, the discussion suggests that reflexive deliberations occur in the dialectical interplay between individuals' 'ultimate concerns' and their context. In the context of workplace, discourses are understood to play an influential role in introducing new values or ideologies, and so the final section of the chapter reviewed nine types of environmental discourse that may be evident in institutional documents of other mediating tools of a workplace's activity system.

Chapters One, Two and Three have now laid the contextual, philosophical, theoretical, conceptual foundation for this study. Before presenting the case study data in Chapters Five to Seven, the following chapter (Four) describes the study's methodological framework.

CHAPTER FOUR:
THE DEVELOPMENT OF AN EXPLANATORY FRAMEWORK



Neither objects nor their relations are given to us transparently; their identification is an achievement and must be worked for. (Sayer, 1984, p. 81)

What society is held to be also affects how it is studied. (Archer, 1995, p. 2)

4.1 INTRODUCTION

This study's intention to examine ethics-oriented reflexive deliberations poses a rather obvious methodological challenge: how might a researcher observe, discuss and otherwise reflect upon something so internal and intangible? A critical realist perspective allows the researcher to move beyond the relativist pitfalls of the interpretivist tradition by attending to the generative, causal relationship between (inaccessible) deep material and social structures and (accessible, observable) phenomena. In this study, environmental values, ethics-oriented reflexive deliberations and the rich socio-cultural contexts in which they occur are not directly accessible to me, the researcher, but they do give rise to numerous discourses, practices and objects that *are* accessible[16].

Limiting the focus of research to observable actions and similar evidence of change may circumvent the difficulty of accessing tangible 'data' but, as noted by Archer (2003), this would tell an incomplete story because observable action is not synonymous with reflexivity. Exploring the internal conversation, she suggests, allows one to look *beyond* observable action without compromising the validity of the research in relation to other dominant approaches in qualitative social science research:

> All research touching upon our 'attitudes', 'beliefs', 'outlooks' or 'intentions' taps into synthesis of our mental activities; to explore the 'internal conversation' does not entail qualitatively different difficulties. That it is difficult is undeniable, but if it is

[16] This does not imply a direct, linear or causal relationship between deep structures and observable phenomena; data collected during this study can by no means exhaust the potentialities of such relationships, and simply because something was not observed does not deny its reality.

> deemed impossible, then so must all the research topics with which it has just been bracketed (Archer, 2003, p. 156).

Archer refers to "the unchartered nature of research on reflexivity" (Archer, 2007, p. 326) and this might explain the paucity of methodological discussion in even Archer's most recent works on reflexive deliberation and the internal conversation. She does, however, refer to the "tripartite relationship between ontology, methodology and practical social theory" (Archer, 1995, p. 57), commenting that "what society is held to be [i.e. ontology]... affects how it is studied [i.e. methodology] (ibid., p. 2)". Similarly, what we see as a result of our explanatory methodology can also challenge our ontological positions (Archer, 1995; Wheelahan, 2007) and hence our theorising of the social world. These concerns are the focus of the following section which begins with a summative reflection on the fundamental premises of a relational critical realist ontology and cultural-historical activity theory (as presented in Chapter Two) as they provide the philosophical and theoretical points of departure for the methodological decisions of this study.

4.2 CRITICAL REALISM AND CHAT: SOME METHODOLOGICAL IMPLICATIONS

In this section, my aim is to account for the ways in which data in this study was generated, analysed and represented in relation to the underlabouring relational critical realist ontology, and CHAT as the dominant theoretical framework. As theoretical and conceptual synergies and tensions between critical realism and CHAT have been considered in Chapter Two (see 2.8), this chapter's emphasis is on their methodological implications.

Critical realism is concerned with explanatory critique, that is, with identifying and describing structures, mechanisms and agents that – through their mutual inter-relationships across the ontological domains of real, actual and empirical – exist as underlying causal mechanisms of social phenomena. Danermark et al. (2002) note that this pursuit of explanatory critique requires the researcher to make an ontological shift from focusing on 'events' (which are limited to the empirical domain) to 'mechanisms' (which may arise also in the domains of the real or the actual).

Recognition that the properties and powers of structures and agents influence one another (emergence) necessitates an examination of their interplay. Here, Archer (1995, p 15) proposes analytical dualism (see Section 2.4.2) as a non-conflationist, emergentist methodology: "Analytical dualism is the guiding methodological principle underpinning non-

conflationary theorizing [that examines] the interplay between the 'parts and the people', the 'social and the systemic', 'structure and agency', or 'action and its environments'".

Having developed analytical dualism as a tool or procedure to make explicit the interactions between structure and agency which cannot usually be detected in the unfolding of social action (Danermark et al., 2002), Archer's next step was to develop the morphogenetic/morphostatic framework (see Section 2.4.3) which I employ in the final analytical stages of this study to trace the development of ethics-oriented reflexive deliberations in EETDP workplaces (see Chapter Eight). The morphogenetic/morphostatic framework allows researchers to examine the interplay of structure and agency across time and space. I return to this discussion of the contribution of the morphogenetic/morphostatic framework later in this chapter in Section 4.7.2 and its actual application is presented in Chapter Eight.

As clarified in Chapter Two, critical realism is not a social theory but a philosophical under-labourer that provides a foundation from which complementary social theories can be applied. To this end, I have employed CHAT as the primary theoretical frame and critical discourse analysis as a secondary theoretical tool to help me to systematically identify agents, structures and mechanisms and the dynamic nature of their interrelationships across time and space. Table 4.1 summarises the relationship between critical realism, relational ontology and CHAT in terms of their methodological implications and available tools (as used in this study).

Table 4.1 Summary of the main theoretical frames used in the study, and their associated methodological implications and tools

	Theoretical Frame	**Methodological Implications**	**Methodological Tools / Procedures**
Ontological / Philosophical	Critical Realism	Disentangling structure and agency across time-space through examination of real, actual and empirical domains; Explanatory critique through uncovering causal mechanisms.	Analytical dualism; Morphogenesis; Retroduction.
	Relational Ontology	Attention to complex relational webs; Examine relationships *among* rather than individual properties *of* agents.	

Social	Cultural-Historical Activity Theory (CHAT)	Identify inter-relationships, tensions and contradictions; historical and cultural emergence within/across activity systems.	3rd Generation Activity System heuristic (interacting activity triangles); Dialectic between object-oriented activities, goal-oriented actions, and conditional operations. Critical Discourse Analysis

Third generation CHAT's fundamental role as an analytical framework or tool is widely recognised. Sannino, Daniels & Gutiérrez (2009, p. 1) state that: "Activity theory seeks to *analyse* development within practical social activities" (my emphasis), and Daniels and Warmington (2007, p. 377) note its intention to "develop *conceptual tools to understand* dialogues, multiple perspectives and networks of interacting activity systems" (my emphasis).

CHAT's ability to identify and analyse the historical and cultural dimensions of human activity resonates with critical realism's concern with identifying underlying causal mechanisms. Moreover, critical realism requires social enquiry to draw on more than the empirical domain, to also consider the powers and mechanisms of the real and actual domains in ways that move beyond linear 'cause and effect' analyses characteristic of the positivist tradition (Danermark et al., 2002). CHAT achieves this because its primary unit of analysis (joint human activity) is conceptualised as a dynamic process of complex, heterogeneous, historically and culturally emergent, open-ended inter-relationships. These inter-relationships are causally efficacious across time and space, enabling an activity theoretical analysis to move beyond the empirical domain and to acknowledge the structures, mechanisms and powers of the real and actual domains too. Furthermore, the relational element of both critical realism and CHAT requires that these open-ended and dynamic processes that constitute social transactions are taken as the primary unit of analysis, not the units themselves.

I note here that Engeström's concern with *intervening* as well as explaining (as proposed in his theory of expansive learning – Engeström, 2001) is an aspect of activity theory which I have not developed in this study. The research interest here is to provide a detailed and nuanced account of ethics-oriented reflexive deliberation at the interface of environmental education workplace and course. Opportunities for expansive learning have, and continue to arise within my more immediate community of practice (such as the Rhodes University

Environmental Learning Research Centre, WESSA's SustainEd, the South African Qualifications Authority (SAQA) and the SADC Regional Environmental Education Programme) as insights from this study reveal historically and culturally embedded tensions and contradictions that require attention in present and future curriculum development processes, but such developments lie beyond the boundaries of this particular research project. In the early stages of developing this research project, my primary interest was a pedagogical one; I wanted to explore ways of *teaching about* environmental values and ethics on environmental education courses. However, I stepped back from this goal after preliminary work revealed how little is understood about the ethico-moral perspectives that people bring with them to each environmental learning moment. It seemed premature to focus on pedagogy when so much still needed to be examined in relation to the complex social flows preceding and following pedagogical interventions, especially in the context of workplace learning. Hence, having recognised the need to 'take a slow, careful look' at ethics-oriented reflexive deliberations at the interface of course and workplace learning processes, I felt that it would be equally premature to undertake an expansive learning project with the organisations involved in this research.

As will be shown in the remaining sections of this chapter and in Chapters Five to Seven, CHAT has provided a framework (and, importantly, a descriptive language) to disentangle the threads of social phenomena and systematically review their inter-relationships. Where I have needed to scrutinise environmental and ethical discourses in more detail (as backdrops to or indicators of ethical deliberation), I have employed discourse analysis, supported by an analytical tool focused on environmental ethics theory developed by Kronlid and Öhman (in press) (see Section 4.7.3.4and Table 4.7). During the first stage of analysis, CHAT enabled me to identify various texts (organisational documents, course materials, student assignments and course-based interactions) that were influential within the rules and mediating tools of the interacting activity systems. It was here that discourse analysis, informed by environmental ethics theory, was useful as a supplementary theoretical tool in analysing the specific environmental and ethical discourses to which CHAT had 'pointed' but had been unable to interrogate. Section 4.7.3 considers the relevance and contribution of critical discourse analysis in more depth and describes how I analysed various texts.

First, however, I introduce the two case studies of this research project (Section 4.3.2) and give an overview of the data generation process (Section 4.5) and the data generation methods used in the study (Section 4.6).

4.3 CASE STUDIES AND SITES

4.3.1 Making a case for the cases

This research project consists of several small and inter-related case studies. Case Study One is of Paul and Faaiz in the City of Cape Town's Environmental Resource Management Department, although I examine the details of their ethics-oriented reflexive deliberations separately as Paul's Case (see Case Study 1A in Section 6.6) and Faaiz's Case (see Case Study 1B in Section 6.7). Case Study Two focuses only on Nkanyiso (see Case Study 2 in Chapter Seven). The case of the EETDP Course (as discussed in Chapter Five) is common to Case Studies One and Two as Paul, Faaiz and Nkanyiso all completed the course, although its contextual differences due to its implementation in Cape Town in 2008/2009 in Case Study One, and in Johannesburg in 2009/2010 in Case Study Two are considered in Sections 6.2 and 7.2 respectively.

This study's interest in the ethics-oriented reflexive deliberations of novice environmental educators is underlaboured by critical realism which demands careful scrutiny of underlying powers, laws and other causal mechanisms (rather than merely describing 'events') so as to get closer to understanding the nature of these emergent phenomena. A qualitative case study approach is appropriate here because my aim is to *explore and understand more about the emergence of* ethics-oriented reflexive deliberations and how they occur at the complex nexus of workplace, course-based and socio-cultural contexts. Case studies provide concrete and context-dependent knowledge whose details and closeness to real-life situations help to develop the kind of nuanced view of reality I am seeking in this study, pushing me to move beyond the view that human behaviour can be understood "as simply the rule-governed acts found at the lowest levels of the learning process" (Flyvbjerg, 2001, p. 72). In light of the discussions in preceding chapters regarding the socioculturally and historically-constituted nature of people-environment relationships, of human reflexivity, of workplace learning and of ethical deliberation, it is indeed necessary for me to look beyond accounts of 'rule-governed acts' and to take a more in-depth, nuanced look at context-specific cases.

Sayer (2000) notes that there is more to the world than patterns of events which can be documented in terms of variables and regularities. Because the world has ontological depth (see Section 2.3.2), "… events arise from the workings of mechanisms which derive from the structures of objects, and they take place within geo-historical contexts" (p. 15). As such, events are not pre-determined before they happen and the future is open until something

happens. This insight has implications for how causal explanations are understood in social science research; it is a reminder that the same causal power can produce different outcomes (for example, an organisation's strongly articulated position on sustainable development might be irrelevant to one employee but for another employee it serves as the catalyst for her pursuit of more sustainable environmental practices in her workplace and home). Conversely, different causal mechanisms can produce the same outcome (for example, some people start recycling paper in their workplace because the office policy requires and monitors it, whereas others in the same office recycle their paper because they are informed of, and concerned about, the ecological impacts of commercial forestry). To report that both employees recycle their office paper would be true but it would also be 'only half of the story' because the account is limited to the domains of the actual and the empirical (see Section 2.3.2 and Figure 2.1) whilst the mechanisms and structures in the domain of the real remain obscure. Case study methodology is one way in which this understanding of causality can be responded to in social science research. Sayer (2000, pp. 15 – 16) explains the rationale thus:

> Given the variability and changeability of the contexts of social life, this absence of regular associations between 'causes' and 'effects' should be expected. The causes and conditions of any particular social change tend to spread out geographically and back in time from the point at which it happened. This is particularly marked in social change because of memory. What actors do at a given time is likely to be affected by dispositions which were 'sedimented' at some earlier stage, often in different places. In this sense, the past, and other places (now absent) are present in the here and now.

Case studies' provision of detailed, concrete, context-dependent knowledge (Flyvbjerg, 2001) enables the researcher to identify these 'sedimented dispositions' and geographically and temporally dispersed causes and conditions. As will be described later in this chapter, in this study I have used in-depth, semi-structured interviews, document analysis and extensive workplace and course-based observations to build up detailed, concrete and context-dependent (but always fallible and incomplete) knowledge for each case.

This does not, however, resolve the difficulty of identifying causal responsibility in complex open systems such as the case studies presented in this research. But Sayer (2000) suggests that interrogating the case study data with a series of critical realist questions may help the researcher to "… distinguish between what *can* be the case and what *must* be the case, given certain preconditions" (p. 16, emphases in original). Below, I adapt Sayer's (2000) generic questions to speak more directly to the focus of this study:

- What does the existence of novice environmental educators' ethics-oriented reflexive deliberations presuppose? What are its pre-conditions?

- Can/ could ethics-oriented reflexive deliberations occur without the EETDP Course? Or independently of the workplace? Or outside of a sociocultural context?

- What is it about novice environmental educators' ethics-oriented reflexive deliberations that enables them to pursue the environmental (education) practices that they do?

As will be described in Section 4.7 (which focuses on how the data of this study was analysed) and in Chapter Eight (which discusses the findings of this study), I have been able to pursue these questions methodologically and propose some answers. Significantly, it is only through the case study methodology that I have been able to access and work with the context-specific and nuanced detail of these complex and open-ended social processes.

The narrative approach I have taken in presenting the case study data is not uncommon in case study research and is, according to Sayer (2000) a way of approaching the complexities and contradictions of real life. Quoting the sociolinguist William Labov, Flyvbjerg (2001, p. 86) explains: "… when a good narrative is over 'it should be unthinkable for a bystander to say "So what?"'… The narrative has already supplied the answer before the question is asked. The narrative itself is the answer". Striving for this goal, I have used 'thick description' (Cohen, Manion & Morrison, 2004) in which I attend to the details of phenomena under consideration, and I have drawn extensively on direct speech from the research participants.

4.3.2 Selection of the case studies

Selection of the individual case studies was dependent on my selection of an appropriate professional development course. There are not many professional development courses in environmental education offered in South Africa. Criteria for selecting a course were:

- the course must focus on environmental education and attract learners who are practising environmental educators;

- the course should have a practical component, or some workplace dimension, as my interest was in the interface between course and workplace;

- the academic level of course should require in-depth discussion about ethical concerns, and attract learners with enough social confidence and educational grounding to be able to engage with a researcher in English on such topics;

- the course should be geographically and logistically accessible to me;

- the course should be offered in a timeframe that makes collection of quality data feasible (i.e. a two-year course would be too protracted whereas a one-month course would possibly not provide sufficient depth for me to make claims about the influence of the course on professional practice).

The National Certificate: EETDP qualification offered through WESSA met most of the above criteria. The course focused specifically on the professional development of environmental educators and, as it was offered in the form of a year-long learnership, it had a detailed curriculum and a significant workplace learning component. As it was an entry level course (i.e. the first level of study beyond school), I was concerned that many learners might struggle to communicate the complexity of their ideas about environmental values and ethics in English, the course's medium of instruction, but I also felt confident that I would be able to identify a handful of suitable learners from the larger group. Additionally, the nationally prescribed unit standards for the qualification included some very explicit references to environmental values and ethics, and I felt it would be interesting to investigate how this was taught and assessed on an entry level course, and also how learners related such course content to their professional practices. The biggest variable was the question of geographical accessibility because WESSA had offered the course in various locations around the country before, usually determined by funders who selected and sponsored clusters of learners from various provinces around South Africa.

After selecting the National Certificate: EETDP as a focus of the study, the next level of selection was largely beyond my control as I waited to hear from WESSA where the next iteration of the course was to be implemented. This turned out to be Cape Town (Case Study 1) in 2008 - 2009 and Johannesburg (Case Study 2) in 2009 - 2010.

It was only once each course commenced and I had met and interacted with the group of learners that I could start identifying potential clusters of learners for the more in-depth case studies on their environment-oriented ethical deliberations. My criteria for selecting these research participants were:

- ideally, a cluster of 3 to 4 learner-practitioners from the same organisation so as to facilitate workplace observations and avoid dispersing data generation across numerous sites;

- the learner-practitioners should be willing and able to interact with me on the subject of environmental values and ethics;

- the workplaces of the selected learners should be geographically and logistically accessible to me;

- ideally, the selected learner-practitioners' organisations and typical environmental education practices should be representative of more than one sector in South Africa, for example, the agricultural sector, local governance, biodiversity conservation and so on.

In Case Study 1, there were few selections to be made. The group of learner-practitioners was very small (eleven), of which nine worked for the City of Cape Town's Environmental Resource Management Department, one for Kirstenbosch Botanical Gardens and one for WESSA. Within the City of Cape Town cluster, three learner-practitioners worked in two different local nature reserves which, although falling under the same organisation, would effectively count as two substantially different workplaces. So I narrowed my selection to the six learner-practitioners who worked at the Wale Street office in the centre of Cape Town, and decided to interact with all six in the early stages of the course and make a final case study selection only once I had had a chance to get to know them and their work better.

This strategy worked well as various factors determined my final selection over the next few months. One of learner-practitioners seemed reluctant to engage with me and made several excuses on different occasions for having 'just missed' me, or forgotten to inform me of an event I could have attended with him, phoning in sick on days when I visited the workplace and so on. Another learner-practitioner worked in the communications section and noted to

me that his work was more typical of corporate marketing and communications than education per se. I investigated this and confirmed that most of his work involved designing promotional banners, distributing pamphlets, co-ordinating functions and so forth. Another learner-practitioner experienced health problems, followed a month or two later with domestic challenges, and he withdrew from the course after four months. Another learner-practitioner, and initially a potential candidate, was approaching retirement and experienced a lot of stress with the pressures of studying again after so many years. From my interactions with him, I discerned that selecting him for the final case study would add a level of anxiety and a perceived sense of 'performance' to his work that he could ill-afford, and so I opted not to pursue the case study with him. Finally, I ended up working in detail with only two of the original six learner-practitioners: Paul Arends and Faaiz Adams.

In Case Study 2, my selection of research participants was much more personally determined. The group was large (over 50 learners) and was from various parts of the country, although the majority of learners were based in Johannesburg, Gauteng. For this reason, all four of the course contact sessions were to be held in Johannesburg. Unlike Case Study 1, I needed to select research participants during the first few days of the course because, due to the large class size, much teaching was done in smaller sub-groups and I would need to stay with one group for consistency of data generation. Two learner-practitioners (Mdu Mchunu and Nkanyiso Ndlela) were from the town of Howick, KwaZulu-Natal and were based in the same office complex as the WESSA national office and SustainEd, the project through which the EETDP Course was implemented. I had previously worked for WESSA in the same offices six years earlier (but in a different project), and through my work at Rhodes University, I returned quite regularly to Howick for workshops and meetings. By selecting to work with Mdu and Nkanyiso, I would have easy access to a familiar workplace and staff, more opportunities to meet with them when I visited Howick for other work, and logistically and financially it was attractive as I had friends in the area who could accommodate me during such fieldtrips. The project on which Mdu and Nkanyiso were working in Howick, the Mondi Wetlands Project, was, however, little known to me and so I felt that, despite my familiarity with their broad work context, I had no personal involvement or vested interest in it.

Figure 4.1 illustrates how the EETDP Learnership was implemented twice (in 2008/2009 and in 2009/ 2010) and research participants from two different organisations were selected for each. As will be described later, it should be noted that while Mdu and Nkanyiso both worked

part-time for the Mondi Wetlands Project, they also worked for the Duzi-Umngeni Community Trust and Midlands Meander Association Educational Project (MMAEP) respectively.

Although I generated data between 2008 and 2010 with these four learner-practitioners, I struggled to generate adequate data in Mdu's case study. Due to illness, he was frequently absent from work, missed two of the four EETDP Course contact sessions and did not submit assignments for assessment beyond Module One. Mdu passed away in December 2011 of HIV/AIDS and it was with sadness that I withdrew his data from the study's analysis. In this chapter, I include accounts of data generation activities related to Mdu's case study as they often overlapped with Nkanyiso's and were integral to my overall fieldwork experiences.

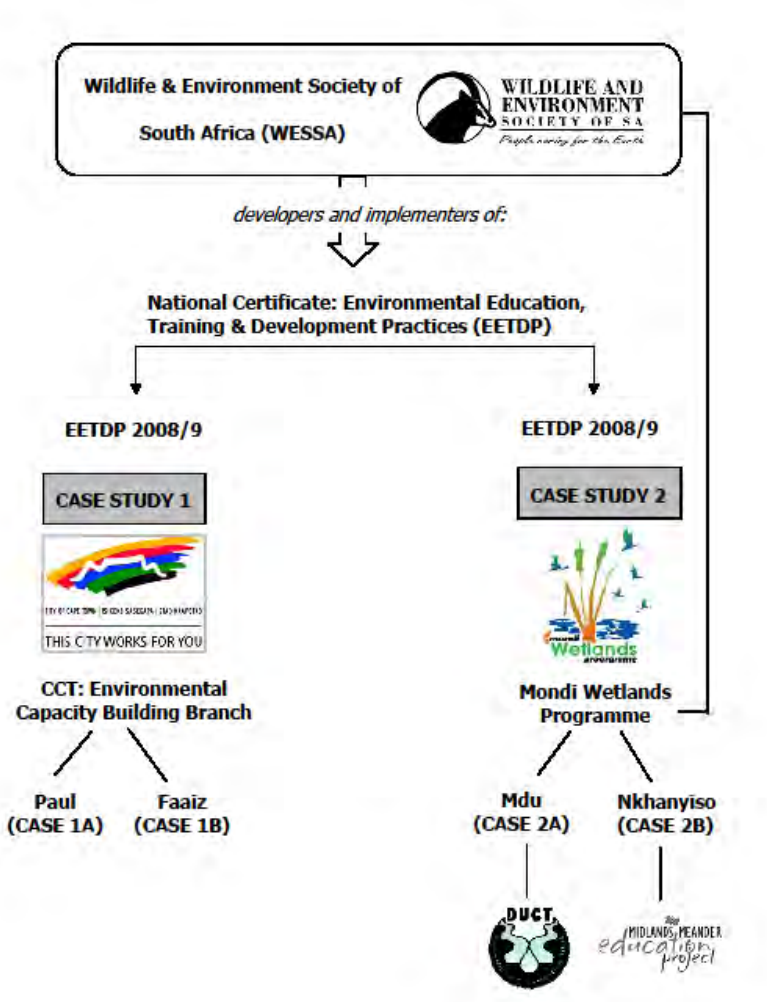


Figure 4.1 Diagrammatic summary of the two case studies of this research project and their relation to the EETDP Course

4.4 REFLEXIVITY, RESEARCH ETHICS AND VALIDITY

4.4.1 Linking Research Reflexivity and Research Ethics

Guilleman and Gillman (2004) distinguish between 'procedural ethics' in research and 'ethics in practice'. Procedural ethics is most commonly associated with ethics committees or compliance with codes of professional practice. During the research proposal stage, attending to the ethical aspects of the proposed research "is a formality, a hurdle to surmount to get on and do the research" (p. 263). 'Ethics in practice' (or 'micro-ethics'), refers to the ethically important moments that arise in day-to-day research practice. These include, for example: "the way the researcher responds when participants indicate discomfort with their answer, or reveal a vulnerability; when a research participant states that he or she does not want to be assigned a pseudonym in the writing up of the research but wants to have his or her real name reported" and so on (Guilleman & Gillman, 2004, p. 265). They note that procedural ethics can be inadequate when dealing with the ethically important moments in the research process and they propose that the notion of reflexivity can be drawn on as a resource for understanding how ethical practice in research can be achieved.

This reflexivity is "an active, ongoing process that saturates every stage of the research" and "an active process that requires scrutiny, reflection, and interrogation of the data, the researcher, the participants, and the context that they inhabit" (Guilleman & Gillman, 2004, p. 274). In a similar vein, Alvesson and Sköldberg (2000, p. 5) explain that the concept of reflexivity in qualitative research means:

> … that serious attention is paid to the way different kinds of linguistic, social, political and theoretical elements are woven together in the process of knowledge development, during which empirical material is constructed, interpreted and written.

They explain that this requires the researcher to pay close attention to the complex relationship between the process of knowledge production and the context and dynamics of that process (Alvesson & Sköldberg, 2000). McGraw, Zvonkovic and Walker (2000, cited in Guilleman & Gillman, 2004, p. 276) discuss ethics as one aspect of reflexivity, describing reflexivity as "… a process whereby researchers place themselves and their practices under scrutiny, acknowledging the ethical dilemmas that permeate the research process and impinge on the creation of knowledge". This kind of reflexivity, argue Guilleman and Gillman (2004) implies more than a way of improving the quality and rigour of a study; it implies continuous

scrutiny of the ethical dimensions of everyday research practices and the ethically important moments of research practice (that might fall outside of codes of conduct or ethics committees), and careful consideration of the researcher's means and capacity to respond to such (often unanticipated) moments.

Acknowledging this relationship between reflexivity and research ethics, and responding to Maxwell's (2009) injunction to consider ethical concerns in every aspect of research, I have attempted, in these nine chapters, to make the research project's reflexive and ethical processes inherent. The following sections may help to make these tacit processes more visible.

4.4.2 Research Validity

Maxwell (2009) identifies seven possible strategies to deal with validity threats in qualitative research, noting that not all are appropriate in every study. Below, I discuss four strategies which are most relevant to this study.

4.4.2.1 Intensive, long-term involvement

The sustained presence of the researcher in the setting helps to reduce the risk of premature theories and false associations. It also provides opportunities to develop and test hypotheses (Maxwell, 2009). In this study, the data generation period of each case study exceeded a year as I attended all contact sessions of the 12-month EETDP Course, and conducted workplace observations and interviews between these course sessions and after the course was completed. This enabled me to 'keep an eye' on emerging issues and on my own understandings of them, and to follow up (often through interviews) to probe something further.

Towards the end of the data generation period, in May 2010, I noted in my research journal that:

> I've reached a kind of 'ceiling' – the depth and range of what the guys [Nkanyiso and Mdu] are talking about is at a point where I don't think it'll go any further. Both are covering the same ground, giving the same examples and perspectives over again, consistent with interviews/ conversations I've had with them over several months. I feel confident to stop this line of discussion now as the pattern and content is clear.(J2b, p. 22).

4.4.2.2 "Rich" data

The extensive workplace and course-based observations, combined with interviews and document analysis, enabled me to generate what Maxwell (2009, p. 244) calls 'rich' data that are "… detailed and varied enough [to] provide a full and revealing picture of what is going on". Interviews were audio-recorded and transcribed (see Appendix 1) and observation notes in my research journal provided detailed accounts of the concrete events that I observed (see Appendix 2).

4.4.2.3 Respondent validation

Respondent validation involves the researcher soliciting research participants' feedback on what she has been saying or writing about the data in which they are implicated (Maxwell, 2009). This study seeks to investigate ethics-oriented reflexive deliberations which cannot be observed or represented. The most I can do is give an account of the indicators of such deliberations, and to do that, I have worked in a very narrative style in Chapters Five, Six and Seven. The narratives are, inevitably, my construction, my story of someone else's story. It was therefore important to share these narratives with the three learner-practitioners and give them an opportunity to confirm, contest or clarify any aspects.

In October 2011, I conducted my last workplace observation in Cape Town and had my final interviews with Paul and Faaiz. A few days before I flew to Cape Town, I emailed my draft narratives to Paul and Faaiz respectively and asked them to review what I had produced so far. I did not send the entire chapters but selected only those sections where I presented a narrative of their biographies and professional practices. Once in Cape Town, I intended to integrate the discussion about these narratives into my final interviews. I imagined using the draft documents as a springboard into more in-depth critique, but in Paul's case, he said he had read the document, found it very interesting and had no issues to follow up on. In Faaiz's case, he expressed his surprise at how bad his grammar is and how he appreciated seeing how I had taken so many fragments and turned them into a single piece about him. Like Paul, he stated that he was happy with the way I had represented his story and would like to see the final version (because at that stage I had not analysed and represented the data of his Smart Living Presentation).

In January 2012, I emailed the relevant extracts of Chapter Seven to Nkanyiso. Even though I had selected only the sections directly relevant to his biography and professional practice, the

document was 30 pages long. Nkanyiso replied that he would read the document in stages and give me feedback. A few days later he emailed to say that he had started reading and was happy so far with the content. His only comment was that I had consistently misspelt his name, an error for which I apologised and duly corrected. A week later he emailed me to say he had completed the document and was satisfied with my account.

4.4.3 Relationality

The complex relational webs (Donati, 2011a, p. 18) evident in the case study data were equalled by the relational webs of the research process itself. The EETDP Course was run by WESSA's national office in Howick, KwaZulu-Natal, a non-governmental organisation with which the Rhodes University Environmental Education & Sustainability Unit had long-standing and close connections. I had formerly been at employee of WESSA and worked in the same building and with many of the same colleagues as Nkanyiso (Case Study 2). The EETDP Course lead curriculum developer, and the more recently employed course tutor, and Nkanyiso's workplace mentor, were all students on the Rhodes University Masters programme in environmental education, and several of the tutors and assessors involved with the 2009/ 2010 implementation of the EETDP Course (Case Study 2) had previously completed professional development courses or their Masters Degrees through the Rhodes University. Additionally, less direct connections could be traced in the wider networks of environmental education in South Africa. For example, one of my students on the Advanced Certificate in Environmental Education (ACEE) course in 2009/ 2010 worked for the non-governmental organisation with which Paul worked to implement his Marine Week Programme (Case Study 1) and Nkanyiso's new manager in the MMAEP (Case Study 2) registered for the ACEE course in 2011. I mention these connections not to suggest that they are problematic or pose some kind of risk to the validity of this research, but rather to demonstrate that the 'complex relational webs' that are the *object of* social science research, also constitute the *context in which* such research occurs – and this has required me to consider very carefully the way I frame interview questions, talk about my fieldwork experiences with colleagues, and represent the data in the final dissertation.

4.4.4 No anonymity

I decided not to make the case studies anonymous as I felt that this would only have provided symbolic anonymity because many of the 'interested and affected parties' in our community of practice would know the real identities. I believe that the use of real names and events has

actually increased my reflexivity and rigour throughout the study. Instead of regarding the data as a construction about anonymous research participants and nameless organisations towards the production of a dissertation, I have been forced to see it as a narrative account that speaks directly about (and to) our community of practice. With this in mind, I have at times been challenged to rephrase or completely reconsider the way I represented or commented on a piece of data, conscious that I am making a claim about somebody's professional practice who I (and others) know and respect. This does not mean omitting 'uncomfortable' data from the study; it means taking a second, more careful look at the wording of a first draft and asking 'Is there another way of saying this that would be more respectful or open?' In doing so, I have been startled to find how easily the tone and implications of the data shifted to what I believe is a fairer account of the phenomenon.

4.4.5 Research Journal

During workplace and course observations, I made notes in my research journal of issues in the research process which I felt needed to be considered and, over the months, these served to remind me of certain dynamics. For example, in November 2009 I noted in my journal:

> Last week when Charlene [Nkanyiso's workplace mentor] was at Rhodes for the M.Ed week, we were chatting about me coming up to Howick for more workplace observations and she mentioned that Nkanyiso had told her how nervous he was when I went with him to Mpophomeni last time. This comment has reminded me to pay more attention to the dynamics of my 'researcher' relationship with the guys. I'm not sure what more can be done as we seem to have a good channel of communication established and I've explained my research and role a couple of times. But I guess these power gradients are pervasive despite good intentions and formalities. I need to spend more time interacting slowly and carefully with Mdu and Nkanyiso around such things [J2a, p. 45].

4.4.6 Professional Interactions

I had numerous opportunities to talk about my research project with colleagues. Some were formal presentations, such as during the PhD Weeks that are offered three times per year in the Rhodes University Education Faculty; others were more informal tea-time and corridor chats with colleagues, often after I had returned from fieldwork. Many of these interactions were with my supervisor, Heila Sisitka, who offered insights that were sometimes challenging, sometimes reassuring. In September 2011 I attended the conference of the International Society for Cultural and Activity Research in Rome, Italy, where I presented a paper on the influence of ethical discourses and practices in workplace learning, based on this

study's data, and participated in a PhD Researchers Day prior to the main conference where I gave a presentation on my efforts to achieve coherence between theoretical and methodological frameworks and the purpose of the study. Cumulatively, this range of sustained professional interactions about my research project, through all its stages, significantly enhanced my reflexivity.

4.5 OVERVIEW OF THE DATA GENERATION PROCESS

4.5.1 Negotiating Access

The process of negotiating access to the various course sessions and workplaces took place in different ways and at different stages as the research unfolded. Having identified WESSA's EETDP Learnership as a suitable case study in 2008, the first step was to seek WESSA's – and in particular SustainEd's – approval of my proposed research. This was formalised through Debbie Perry, who at that stage was the newly-appointed manager of SustainEd. Through a series of brief emails and a conversation with Debbie when I was on a work-related visit to the SustainEd offices in the first quarter of 2008, I secured her full support for the research project. One tension I was aware of needing to mediate and clarify was Debbie's regular use of the term 'evaluation' when referring to my proposed research. This may have originated from my earlier involvement (in 2006/7) with an evaluation of the pilot implementation of the EETDP Learnership, which had been one of Debbie's first introductions to me.

Due to the close working relationship between WESSA's national office in Howick, and the Rhodes University Environmental Education & Sustainability Unit (RUEESU), my proposed project was generally known about, discussed and supported by the relevant staff, including WESSA's Chief Executive Officer, Mumsie Gumede, and the Director of Environmental Education, Dr Jim Taylor.

Debbie copied me into email correspondence with Patrick Dowling, head of Environmental Education in WESSA's Cape Town office, who would be the lead facilitator of the EETDP course, and Lindie Buirski, Head of Environmental Education in the City of Cape Town. I had known Patrick professionally since about 2002 when I was employed by WESSA's national office in Howick and so extensive introductions were not necessary. He expressed his supportive interest in the proposed study and welcomed my attendance in the course

sessions that he would be facilitating. I had known Lindie also since 2002 when I participated in the Youth Environmental Schools (YES) Week activities in Cape Town in my then-capacity as a WESSA employee promoting low-cost environmental education materials. She, too, was supportive of the proposed research and offered her support, especially regarding conducting workplace observations and accessing relevant organisational documents.

During the first contact session of the Cape Town-based EETDP Learnership (Case Study 1), I requested Patrick to allocate me a 30-minute slot in the programme to introduce myself and the study to the course participants, and to request their informed consent to participate in the study. To accompany my verbal presentation, I gave each course participant a copy of a letter (see Appendix 3) explaining my research project and the terms under which I requested their involvement. I explained my intent to use an audio recorder, notebook and stills camera to keep records of selected course interactions, and that I would use such data to make presentations for seminars or conferences, or publish academic work. Should I, however, publish such photographs or audio recordings on the Internet or similar media, I would seek permission from those concerned. All eleven students on the course expressed their verbal agreement, asked some questions about the study, and offered their full support of the project. I consciously chose not to seek participants' written consent; I felt that the combination of the positive group dynamic, institutional support and the group's collective verbal consent in the presence of their course tutor would suffice and that additional procedures such as signing formal consent forms risked generating a false sense of risk, legality and vulnerability which I did not want to promote in relation to the research project.

I did follow up with more formal confirmation of research participants' willingness to remain involved in the research project once I had narrowed down the research participants to two from the course and had commenced analysing the data. In July and August 2011, I secured written consent via email from the two main participants: Paul and Faaiz who, as is evident in their emails, remained fully supportive of the project (See Appendix 4).

In the second case study, negotiating access to the course was straightforward as my involvement as a researcher was already established through Case Study One and I had maintained a good working relationship with the WESSA-SustainEd team. The course co-ordinator, Preven Chetty, was to be the lead facilitator of this 2009/ 2010 iteration of the course, and was registered as a Masters student in Environmental Education through our Department at the time. Additionally, one of the co-tutors, Jonathan Wigley, was well-known

to me through previous work at WESSA, in particular my involvement in the initial development of the EEDTP Course in 2004/5 and the evaluation of the pilot phase in 2006/7. (In Section 4.4 I reflect on the implications of these and numerous other relational connections in the study, including the extent to which they have heightened my reflexivity and sense of accountability as researcher).

Having selected Nkanyiso as the principle research participant of Case Study Two, I needed to negotiate access to his workplaces. Nkanyiso worked part-time for the Mondi Wetlands Programme and part-time for the Midlands Meander Association Education Project. During the first contact session of the EETDP Course in 2009, I made a brief presentation to the whole group to explain my presence. At this stage I had not identified specific research participants and I explained that I would be considering options during the week. I approached Nkanyiso and Mdu towards the end of the first contact session and explained that I was keen to work with them as participants in this research project, and they both expressed their willingness to participate. These arrangements were subsequently confirmed via informal email correspondence.

4.5.2 Overview of the data generation process

Fieldwork commenced on 12 May, 2008 when I attended the first contact session of the EETDP Learnership in Tokai, Cape Town and met the learner-practitioners from the City of Cape Town's Environmental Capacity Building, Training, Sustainable Livelihoods and Communications Branch. Over the next ten months I attended all four of the contact sessions as a participant observer. Each contact session was conducted for five days (Monday to Friday) from 09h00 – 17h00. Table 4.2 lists the dates and venues of these contact sessions.

Table 4.2 Contact Sessions of the EETDP Learnership attended in Cape Town (Case Study 1)

Session	Date	Venue
One	12 – 16 May 2008 (4½ days)	WESSA regional office, Tokai, Cape Town
Two	21 – 25 July 2008 (4½ days)	WESSA regional office, Tokai, Cape Town
Three	20 – 24 October 2008 (5 days)	WESSA regional office, Tokai, Cape Town
Four	26 – 27 February 2009 (2 days)	WESSA regional office, Tokai, Cape Town

Between attending these course sessions, I conducted workplace observations with the City of Cape Town learner-practitioners. During these visits, I accompanied some of the learner-practitioners on their day-to-day work, sometimes driving with them to attend a meeting or a teaching activity. I also used the opportunity to collect relevant organisational documents, take photographs, conduct interviews and generally immerse myself in the working environment of the City of Cape Town's Wale Street office. Table 4.3 lists the dates and my main activities during these workplace visits.

Table 4.3 Workplace Visits conducted in the CCT's Environmental Capacity Building and Training Branch (Case Study One)

Date	Venue	Main Activities
18–23 August, 2008 (5½ days)	CCT Offices, 44 Wale Street, Cape Town	• general orientation to the CCT workplace arrangements and routines; • introducing myself and getting to know other staff; • attend meetings with CCT learner-practitioners; • conducting interviews; • begin to map the CCT enviro education workplace as an activity system, identify rules, tools etc.
13 – 15 October, 2008 (3 days)	CCT Offices, 44 Wale Street, and general Cape Town environs.	• accompany Paul on EduTrain coach for his lesson on marine ecology; • attend launch of Marine Week at Cape Town's Waterfront; • attend Marine Week exhibit with school visits; • accompany Paul to meeting convened by Plastics Federation re waste management and awareness raising in Cape Town.
7 May, 2009 (½ day)	CCT Offices, 44 Wale Street, Cape Town	• general observation of workplace practices; • interview with Lindie.
21 July, 2009 (½ day)	CCT Offices, 44 Wale Street, Cape Town	• attend meeting r.e. Draft Evaluation Report on CCT's Environmental Education activities.
7 – 9 September, 2009 (3 days)	CCT Offices, 44 Wale Street, Cape Town	• observation of Paul's Heritage Week educational excursions (x2); • accompanied staff for tree planting ceremony in Company Gardens; • observation of Faaiz's typical office practices; • interviews with Paul and Faaiz.

The start of the second iteration of the EETDP Learnership in Johannesburg (Case Study 2) commenced in August 2009 and overlapped slightly with my workplace observations in Cape Town. The data generation process followed the same basic structure as Case Study 1, that is, I attended the course's five contact sessions and conducted workplace visits over the next ten months. Table 4.4 lists the dates and venues of these contact sessions in Gauteng and Table 4.5 lists the dates and main activities of my workplace visits in Howick, KwaZulu-Natal.

Table 4.4 Contact Sessions of the EETDP Learnership attended in Gauteng (Case Study Two)

Session	Date	Venue
One	19 – 22 August, 2009 (4 days)	Walter Sisulu Botanical Gardens, Gauteng
Two	12 – 16 October, 2009 (5 days)	Pilanesberg Game Reserve, Gauteng
Three	18 – 22 January, 2010 (5 days)	Delta Environmental Centre, Gauteng
Four	8, 10 – 12 March, 2010 (4 days)	Delta Environmental Centre, Gauteng
Five	13 – 14 May, 2010 (2 days)	Delta Environmental Centre, Gauteng

Table 4.5 Workplace Visits Conducted in KwaZulu-Natal (Case Study Two)

Date	Venue	Main Activities
28 - 30 September, 2009 (3 days)	WESSA National Office in Umgeni Valley, Howick, KwaZulu-Natal; and Mpophomeni Township	• accompany Nkanyiso on site visit to Mpophomeni; • accompany Mdu and Liz on site visit to Mpophomeni. • general workplace observations.
10 – 13 November, 2009 (4 days)	WESSA National Office, Howick; and Mpophomeni Township	• general workplace observations and interactions; • accompany Nkanyiso to Triandra Farm School; • conduct four interviews; • accompany Mdu on site visit to Mpophomeni.
31 March, 2010 (1 day)	WESSA National Office in Umgeni Valley, Howick	• review and copy Mdu and Nkanyiso's submitted assignments; • try to locate Mdu and Nkanyiso.
13 – 14 April, 2010 (2 days)	WESSA National Office in Umgeni Valley, Howick; and local school	• interview Mdu and Nkanyiso's line managers; • general workplace observations; • observe Nkanyiso teach Grade 7 class about wetlands.

In total, between May 2008 and May 2010, I spent 36 days conducting course observations (16 days in Case Study 1 and 20 days in Case Study 2), and 20½ days conducting workplace visits (12½ days in Case Study 1 and 10 days in Case Study 2). During these 56½ days 'in the field', I used two main data generation methods: observations and interviews. I additionally collected, and later reviewed, relevant institutional documents, course materials and samples of learner-practitioners' course assignments. These data generation methods are the focus of the following section (4.6).

4.6 METHODS OF DATA GENERATION

4.6.1 Participant Observation

4.6.1.1 The experience of conducting observations across Cases One and Two

My overall impression, after conducting over 20 days of workplace observations, is of the highly naturalistic but also highly unpredictable nature of workplace observations. Where other sites of observation can be very focused (such as observing a lesson or a workshop), workplace observations require a lot of patience, adaptability and attentiveness. Things unfold in the day-to-day realities of working life in ways that are not always advantageous for research. The object of research (in this case, ethics-oriented reflexive deliberations) is not always visible, or its visibility peaks and recedes according to the flows of activity at that time.

Both workplace and course-based observations were filled with 'background noise' – often quite literally, but also metaphorically in terms of other interactions going on that are fascinating to participate in, but are of very little relevance to the research interest. The data I have generated through observations in this research project is a potential source of data for numerous other studies, and it was difficult at times to 'let go' of a compelling piece of data that speaks to another research question.

As a participant observer, I was cognisant from the start of data generation process of the need to establish trust and a good rapport with the research participants, and I believe I was mostly successful in achieving this.

The dynamics of my participation differed across the two case studies. During Case Study One, where the group was very small and sociable, I worked to establish my identity in the group not only as an interested and focused researcher, but as someone with a commitment to

environmental sustainability and environmental education. During course observations, my levels of participation in group discussions were low to moderate. I shared my insights or experiences where I felt it was necessary but avoided getting so embroiled in group discussions that my opinions might start to influence people's responses. I chatted informally with the group during tea and lunch and tried to neither downplay nor over-emphasise my research interest or the research process. In other settings it was appropriate to be less interactive, such as in the staff meetings that I attended during workplace observations in the City of Cape Town.

However, I concur with Bassey (1999, p. 82) that "the actors know that they are being watched". During Case Study One, I suspected that the tutor highlighted ethical dimensions of some group discussions slightly more comprehensively than he would probably have if I had not been present. I believe he did so out of support for the research project and it did not, I believe, compromise the validity of the study in any way because my primary interest was in understanding learner-practitioner's deliberations regarding ethical concerns, not course pedagogy. There were a few occasions during course sessions when a contentious topic was being discussed and one of the learner-practitioners would joke about how I was recording everything. But in spite of this inevitable awareness of my presence as a researcher, I felt well-integrated and welcome in the group.

My experience of being a participant observer in Case Study Two was also positive, although course-based interactions were less interactive and collegial. This was mostly due to the size of the group (over fifty learner-practitioners) which established a social dynamic that resembled a school or college group. Everyone on the course was aware of who I was and seemed to have a basic idea of my role as a university researcher, but overall my levels of active participation during the teaching sessions were low to moderate. There were a few occasions when I joined in the group discussions, mostly in the smaller tutorial group which I shadowed as both Mdu and Nkanyiso were in that group. Most of those interactions were didactic, such as when that group's tutor was called away for a medical emergency and the group was left without tutor support for that session, or when I could see that the learner-practitioners were very confused and I felt professionally obliged to help explain a concept or clarify an assignment instruction. But mostly, I sat amongst the learner-practitioners and made notes and listened during the course-based interactions.

Workplace observations during Case Study Two were often unpredictable. Due to the situation of both learner-practitioners working part-time across two different workplaces, it was hard for their colleagues (and for me) to keep track of where they would be based from one day to the next. It was often also difficult to communicate with Mdu and Nkanyiso at short notice as their cellular phones were often switched off. I discussed with each of them their anticipated work schedule for the next six to eight weeks, and from there we would negotiate possible events that I could participate in as an observer.

My reflections of participant observations, based on my experiences in both case studies, is that it is a highly nuanced, complex social process for which the researcher can only prepare to a certain extent. My preparations involved ensuring that I had the appropriate 'tools' (digital audio recorder and camera, spare batteries, notebook) and that I had adequately prepared my thoughts for each day's observations. For example, I would make preparatory notes in my research journal (where I also made all my observation notes) outlining key areas to consider, topics to follow up on, and so on.

4.6.1.2 Methods of recording data during participant observations

I used the same equipment and data generation instruments for workplace and course-based observations across both case studies. Basic equipment was a digital camera and a digital audio recorder. Due to the open-ended nature of my research interest, and the diversity of aspects that I needed to observe and document, I felt that an observation schedule would be too limiting. Instead, I made extensive notes in three A4 notebooks of anything that occurred in the workplace or during course sessions that I felt might contribute (even in a small way) to the development of each case study. These detailed descriptions proved invaluable in constructing the narratives of Chapters Five, Six and Seven. Appendix 2 contains a two-page sample of one of these research journals.

I was selective in my use of the audio recorder during workplace observations. In most cases, I relied on a combination of my observation skills and note-taking skills to document incidents and interactions in the workplace. I was not only aware of the intrusive nature of an audio recorder in a professional environment, but also of the risk of generating vast quantities of data that would need to be transcribed for maybe only a few minutes or seconds of relevant data.

When I started generating data through participant observations in May 2008, I did not anticipate the direction this study would take in terms of discourse analysis and its recognition of the influence of environmental and ethical discourses in the workplace. As such, I did not set this study up to attend to the details of spoken interactions in the way that I would have in a study with a more explicit discourse analysis focus. The few workplace interactions that I recorded during my observations were of the learner-practitioners teaching others; in retrospect, it would have been useful to record some professional interactions about environmental concerns so as to analyse environmental and ethical discourses more comprehensively.

I innovated with some minor observation techniques as I responded to the situations I was in. In the CCT workplace, for example, I found myself in an open-plan office needing to understand the environmental education practices of that activity system. I experimented with what I have called a 'snapshot' technique which involved documenting what each staff member in the open-plan office was doing at hourly or two-hourly intervals. While a somewhat crude instrument, I found it helpful in establishing a basic understanding of people's typical activities, and it helped me to identify patterns of practice across individuals and across the office. Data generated in this way during my observations in the YES Programme is presented in Section 6.6.5.

In Case Study Two with Mdu and Nkanyiso, I developed a photographic method intended to produce a photograph-based account of their professional practices without me needing to be present. Similar to the snapshot method described above, I asked Mdu and Nkanyiso to take photographs of whatever they were doing at work at hourly intervals on a selected day. A variation of the task was for them to take photographs at any time of things they felt were significant in their work. I hoped that, through the combination of these two tasks, I would be able to use the photographs as stimulus during an interview. The second set of photographs could stimulate discussion about what kinds of activities, interactions and places are significant to each learner-practitioner, while the first set of photos would provide a more objective insight into typical daily tasks. Unfortunately, neither Mdu nor Nkanyiso completed these tasks. Mdu said he had lost the downloading cable for the work camera and that he would return to the task when he had resolved that technical problem. After several reminders, Nkanyiso shared photographs with me during a lengthy interview, but he appears not to have understood the details of the task. On the afternoon of our interview, he brought more than thirty photographs of himself and his colleagues at the MMAEP that he had on his

computer at work. Although this was not in line with the specific photo-based method I had planned, we were nevertheless able to have a rich discussion stimulated by a few of the photographs (Int.02-12) which was very useful in constructing the narrative of Chapter Seven. I believe that this photograph-based method is worth pursuing in workplace-based research but note that the instructions would need to be more carefully mediated than the emailed communications that I used in this case.

4.6.2 Document Review

I collected a range of documents that would help me to (i) get an understanding of the rules and mediating tools of each activity system (such as an organisation's vision and mission statement; annual reports and newsletters); (ii) construct a biographical profile of each learner-practitioner; (iii) enhance my understanding of their current professional practices; (iv) review aspects of their course-based ethical engagement and (v) review the mediating tools of the EETDP Course activity system. Documents used in the analysis of the study's data are listed in Table 4.6.

Selected extracts from some documents were analysed in greater depth to examine the various environmental and ethical discourses in the interacting activity systems of the course and workplaces. These are discussed in more detail in Section 4.7.3 which describes my use of discourse analysis in this study.

4.6.3 Semi-structured Interviews

I conducted over 30 interviews during the data generation period although only 27 were analysed and presented in Chapters Five, Six and Seven(see Table 4.6).(The omitted interviews were those I conducted with the late Mdu Mchunu, as well as some early interviews with assessors and tutors when I pursued areas that were of limited relevance to the study). All of the interviews were semi-structured and many could be more accurately described as open-ended due to the indeterminate nature of conversations about ethics (for example, see Appendices 1 and 5). Archer (2007) relied almost exclusively on interviews in her investigation of modes of reflexivity, noting that she conducted each interview for as long as was necessary for the interviewee to express what was important to him or her. In many cases, the interviews I conducted took a similar meandering form and usually lasted between 10 and 90 minutes. In all cases, I prepared for each interview by articulating what I wanted

to achieve through the interview (often in my research journal), and then drafting questions that would help to keep me focused during the interview.

Interviews with the learner-practitioners about their ethical concerns were the most difficult to keep on track. On the one hand, it was important to create a sense of open-endedness to encourage the interviewee to pursue his own track of thinking and not feel constrained by the interviewer. On the other hand, all three learner-practitioners struggled to understand what I was trying to research (or even achieve through each interview) and it was often necessary for me to redirect, repeat or completely rephrase questions to get the depth responses I was seeking.

Transcribing these interviews proved to be an onerous task, especially on top of the audio recordings of course and workplace interactions. I did some of the transcriptions but in many cases over the three-year period, I paid radio journalism students at my university to do them. This help significantly in getting transcriptions completed and ready for use, but once I started analysis, I found problems with the quality of some of the transcriptions. Often, the problems were due to the students' lack of knowledge of the names, organisations, policies and so on that were referred to during interviews, which meant that they depended entirely on phonetic spelling (for example, 'SAQA', the acronym for the South African Qualifications Authority, was written 'sakwa') and these kinds of technicalities needed reworking. One particular batch of transcriptions were found to be quite inaccurate, as the student had not worked closely (that is, word-for-word) with the actual audio. Where this occurred in core interviews, I had them re-transcribed by another more reliable student or redid them myself; in cases where the transcript was less central to my data, I merely noted on the top of the transcript that there were inaccuracies and I double-checked specific extracts against the original audio only if I drew on and/or quoted them in Chapters Five to Seven.

4.6.4 A note about the language edits to the raw data

Some extracts from course assignments, emails and interviews that I quoted in the data presentation chapters contained grammatical, spelling or punctuation errors. I edited these wherever I felt that the edits would not alter the meaning of the text but would facilitate the reader's understanding. In the transcriptions of interviews and course and workplace interactions, the edits were usually to make the 'untidiness' of informal, spontaneous speech more accessible in the written form. For example, where a transcript recorded: "No like to be

honest, it's, it's not easy to, to change" [Int.02-13], I would quote that as: "No, to be honest, it's not easy to change".

I kept editing to a minimum when quoting directly from assignments but did make some minor changes to punctuation, spelling or basic grammar. Initially, I did not make any changes to the learner-practitioners' written work but when I prepared copies of the draft data presentation for them to member check (see Section 4.4.2.3), I realised how stark these errors were and how, in many cases, they unnecessarily made the learner-practitioner appear unprofessional. I do not believe that these minor editorial changes compromised the validity of the data because I was in most cases analysing the spoken and written extracts for their *content* relevant to ethical deliberations, not for the technicalities of their English language writing skills.

Table 4.6 Summary of Data analysed in the study and its Indexing

Data Index	Descriptor
Documents	
Doc.1-01	EETDP Course Materials (learner handbooks and assignments) 2008/ 2009
Doc.1-02	EETDP Course Materials (learner handbooks and assignments) 2009/ 2010
Doc.1A-03	Paul's EETDP Course Application
Doc.1A-04	Paul's Job Description
Doc.1A-05	YES Programme's & Projects
Doc.1A-06	YES 2008/2009 Weeks
Doc.1A-07	YES Numbers 1999 - 2011
Doc.1A-08	YES Background Information
Doc.1A-09	Evaluation of CCT's EE&T Programmes: Final Summary Report
Doc.1B-01	Faaiz's Job Description
Doc.1B-02	Faaiz Biographical Note
Doc.1B-03	Philosophical Terms Reflection Summary
Doc.02-01	MMAEP Vision & Mission
Doc.02-02	MMAEP Bug Newsletter
Doc.02-03	Nkanyiso's MMAEP Letter of Appointment & Terms of Service
Doc.02-04	MMAEP information: A Good Place
Doc.02-05	MMAEP Report March 2010
Doc.02-06	Mondi Wetlands Programme in a Nutshell
Doc.02-07	Mondi Wetlands Programme Who We Are & History
Doc.02-08	Mondi Wetlands Programme Guiding Principles
Doc.02-09	Mondi Wetlands Programme Evaluation Report, June 2009
Doc.02-10	Mondi Wetlands Programme Internship Capacity Building Proposal
Doc.02-11	Nkanyiso's Letter of Appointment to Mondi Wetlands Programme
Doc.02-12	Mondi Wetlands Programme Modus Operandi
Doc.02-13	Email from Nikki re Nkanyiso

Doc.02-14	WESSA-SustainEd's Overview of EETDP Learnership
Doc.02-15	EETDP Course Module 1 Contact Session Programme August 2009
Doc.02-16	EETDP Course Module 2 Contact Session Programme October 2009
Doc.02-17	EETDP Course Module 3 Contact Session Programme January 2010
Doc.02-18	EETDP Course Module 4 Contact Session Programme March 2010
Doc.02-19	PowerPoint slides: Environmental Philosophies and Approaches to Conservation
PoE 1A	Portfolio of Evidence: Paul
PoE 1B	Portfolio of Evidence: Faaiz
PoE 2	Portfolio of Evidence: Nkanyiso
Observations	
J1	Research Journal [Case Study 1]
J2a	1st Research Journal [Case Study 2]
J2b	2nd Research Journal [Case Study 2]
Course Interactions	
CI.01-01	Day One Introductions
CI.01-02	Ethics Unit Standards Discussion
CI.01-03	Sustainability Practices in CCT
CI.01-04	Group Discussion re issues in Cape Town
CI.01-05	Values Clarification Activity
CI.02-01	Tutorial Discussion 21 August 2009
CI.02-02	Conservation, Wilderness, Land Ethic Plenary
Workplace Interactions	
WI.01-01	Paul's Marine Week EduTrain Lesson
WI.01-02	Faaiz's Smart Living Presentation
Interviews	
Int.01-01	Paul re Purpose of EE Branch
Int.01-02	Paul re Heritage Week and Power Station
Int.01-03	Faaiz re Purpose of ERMD
Int.01-04	Patrick re Involvement in EETDP Course
Int.01-05	Lindie re EE Branch
Int.01-07	Faaiz re Power Station
Int.01-08	Paul Final Interview
Int.01-09	Faaiz Final Interview
Int.02-01	Preven re EETDP Course as Activity System
Int.02-02	Preven re Environmental Values & Ethics in EETDP Course
Int.02-03	Jonathan re EETDP Course
Int.02-04	Jim re EETDP Course
Int.02-05	Assessors Reflections re ethics assessment
Int.02-06	Jonathan Reflections after Eco-philosophy Section
Int.02-07	Nkanyiso Titanium Mining
Int.02-08	Damian & Vaughn re Mondi Wetlands Programme
Int.02-09	Nikki re MMAEP
Int.02-10	Nkanyiso Reflections after Session 2
Int.02-11	Nkanyiso Meaning of Ethics
Int.02-12	Nkanyiso Photo Narrative
Int.02-13	Nkanyiso PoE Conversation
Int.02-14	Elizabeth re Ethics Assessment

Int.02-15	Shanu re Ethics Assessment
Int.02-16	Solly re Unit Standards Mismatch
Int.02-17	Preven after Ethics Session
Int.02-18	Jonathan after Ethics Session
Int.02-19	Nkanyiso reflection on Titanium Mining Activity
Critical Discourse Analysis	
CDA.01-01	Analysis of Extract from CCT's IMEP principles
CDA.01-02	Analysis of Introduction to the *Smart Living Handbook*
CDA.01-03	Analysis of Extract from CCT's 2006 Sustainability Report
CDA.01-04	Analysis of Environmental Education & Training Principles from CCT's EE&T Strategy
CDA.01-05	Analysis of Introductory paragraph on the EE Branch's Webpage
CDA.01-06	Analysis of Paul's Marine Week Lesson dialogue
CDA.01-07	Analysis of Faaiz's Smart Living presentation in Bellville Civic Hall
CDA.01-08	Analysis of Paul's EETDP Course Assignment on Sharks
CDA.02-01	Analysis of Mondi Wetlands Programme 2009 Evaluation Report
CDA.02-02	Analysis of Mondi Wetlands Programme Objectives
CDA.02-03	Analysis of an article from the MMAEP quarterly newsletter
CDA.02-04	Analysis of a textual overview of the MMAEP from the project website

4.7 DATA ANALYSIS

4.7.1 Stage One of Analysis

I analysed the data in two stages. In the first stage, it was necessary to reduce the vast and much dispersed data that I had generated over a three-year period. I had conducted extensive workplace and course-based observations with notes contained in slightly over two A4 notebooks, more than 30 interviews and I had collected a wide range of organisational and course-related documentation. None of these (except a few of the interviews) was focused directly on my research question, but all offered something towards the cumulative picture that I needed to construct.

Early in the data generation process, I realised the significance of workplace and course-based discourses around ethics and environment. I then developed an analytical tool (see Section 4.7.3.4) to systematically review these discourses in a manner that aligned well with my research focus on environmental ethics-oriented reflexive deliberation. I used the tool to review numerous organisational texts as well as Paul's and Faaiz's verbal presentations during their educational interventions (see Sections 6.6.8 and 6.7.8). (I did not analyse Nkhanyiso's verbal interactions as both lessons were conducted mostly in isiZulu). Later in this section, I provide more substantiated account of my use of critical discourse analysis in this study – see Section 4.7.3.

During the first stage of analysis, I developed a structure – framed mostly by CHAT – to guide the representation of each case study. Through this, I identified areas that I would need to discuss, for example, the dimensions of the various interacting activity systems (object, rules, mediating tools, community and so on) and the historical background to these activity systems. However, CHAT analysis as I used it in this study does not reveal ethics-oriented reflexive deliberations; it merely gave me a more systematic way of understanding the sociocultural-historical context in which such deliberations occur. Beyond an activity systems focus, I still needed to make the ethical dimensions of the individual learner-practitioners' professional practice explicit. To this end, I added sections on, for example, environmental and ethical practices in the workplace.

With this framework in place for each case study, I worked through the raw data to extract the data needed to elaborate each section. I was very familiar with much of the data, in particular my observation notes and the interviews that I had transcribed; I re-read the rest of the data so that I had a holistic picture in my mind of what the full data set contained. In many cases, I used coloured 'Post-it' tags when I found something in a piece of data that I thought was particularly noteworthy or was at risk of being overlooked later because it was in an obscure place. I then started to write into the structure of the framework, working across all relevant pieces of data to focus on one area at a time. For example, when writing the section on Nkanyiso's ethics-oriented learning during the EETDP Course, I worked with data extracts from his course assignments; with interview transcripts where he had spoken about his course experiences; with my course-based observation notes in my research journal; and with transcripts of interviews with his course tutor and assessor. Later, I would go through these same data sources, but looking for different data according to the section I was then constructing.

In this way, I constructed a narrative of each case study which, as noted above, was sent to each learner-practitioner for member checking. The framework I had used to reduce and focus my data was easily adapted into the structure of the three data presentation chapters (Chapters Five, Six and Seven). This first round of data reduction and analysis produced a self-contained and focused account of three separate cases of ethics-oriented reflexive deliberations as they occurred at the interface of workplace and course-based activity systems. This provided the platform for the study's second round of analysis which worked across the three cases in pursuit of causal explanation.

4.7.2 Stage Two of Analysis

4.7.2.1 A concern for causality

As discussed in Sections 2.3.2 and 2.4.3, a critical realist study must concern itself with causal relationships, seeking to understand the mechanisms and structures that make social life possible. This requires us "...to address questions about the relationship between our physical and social environments, what we say and do about them and how we live within them" (Sims-Schouten, Riley & Willig, 2005, p. 105). Danermark et al. (2002, p. 52) explain that "If we wish to understand the dynamic dimension of reality [a central concern in this study] … the abstract and structural analyses must be supplemented by analysis of *the causal conditions*" that is, causal analysis. They go on to say that "causal analysis deals with *explaining* why what does happen actually does happen" (emphasis in original). However, they note that such explanations do not take the form of natural laws as in the natural science tradition, but rather that such explanations recognise that causes are about relations, the nature of those relations, and about how objects work (for example, how the workplace discourses and environmental practices, and the course's mediating tools enable the novice environmental educators' ethics-oriented reflexive deliberations to be what they are).

4.7.2.2 Morphogenetic and retroductive analysis

In the second stage of analysis, I conducted a morphogenetic and retroductive analysis across the three cases to identify causal mechanisms related to the ethics-oriented reflexive deliberations of the three learner-practitioners (see Sections 8.2 and 8.4).

As explained in Section 2.4.3, morphogenesis is a methodological framework for examining the interplay over time between the powers of structure(s) and human agency. I applied a morphogenetic/morphostatic analysis to three contexts in each case study: the workplace context, the course context, and the sociocultural and ecological context. In so doing, I was able to consider the interactions of these contexts over time and the way in which such interactions shaped the nature of the ethics-oriented reflexive deliberations presented in Chapters Six and Seven. It should be noted here that, while I use the Archer's morphogenetic/ morphostatic approach to analyse the interacting contexts, I am aware that this is an analytical move only. The sociocultural, social-ecological, workplace and course contexts are of course overlapping and mutually constitutive in reality. Archer (1995), however, explains that analytical dualism (see Section 2.4.2) is, "not a static method of differentiation but a tool

for examining the dynamics" between structure and agency (p. 94). Here, I apply a similar logic in distinguishing between interacting contexts for analytical purposes in the way that Archer distinguishes between structure and agency.

Once these complex and often indeterminate interactions had been mapped out using the morphogenetic approach, I was able to 'step back' from them and pose the retroductive question: 'What makes Paul's, Faaiz's and Nkanyiso's ethics-oriented reflexive deliberations what they are?' Retroductive analysis is a thought operation through which the researcher moves from empirical observation of events to "a conceptualization of transfactual conditions" (Danermark et al., 2002, p. 96). Sayer (2010, p. 72) describes retroduction as "the mode of inference in which events are explained by postulating (and identifying) mechanisms which are capable of producing them. Some of these mechanisms may be familiar and/or observable (such as a tutor's comments written on an assignment draft to clarify a concept for the learner-practitioner) while others may be hitherto unidentified and thus need to be hypothesised. I used retroductive inference in a broad way at the end of the analytical process to comment on patterns I had identified across all three cases in the social-ecological and sociocultural strata (see Section 8.4).

In this staged way, I was able to the work progressively towards answering the study's research question: 'How does ethics-oriented reflexive deliberation take place in the interacting activity systems of course-supported EETDP workplaces?' Following the morphogenetic and retroductive analysis, I was able to propose seven findings which are presented in Section 8.5.

4.7.3 Critical Discourse Analysis

4.7.3.1 Rationale for drawing on discourse analysis

Chapter Three introduced environmental and ethical discourses and argued that attention to discourse is fundamental to both critical realist and cultural-historical activity theory research. At this point it is worth recapping briefly the role of critical discourse analysis within the overall study and, to do this, I work backwards from the desired endpoint of the research project. The study was designed to provide insights into the little-understood terrain of the ethics-oriented reflexive deliberations of environmental educators, with a special interest in understanding the role of professional development courses in such deliberative processes. As these ethical deliberations can never be fully observed, and even first person

accounts of them are incomplete, it was necessary for me to 'map out' as comprehensive a picture as possible of the wider relational, contextual landscape in which such deliberations occur, so that I might have more reality-congruent, diverse and nuanced starting points from which to identify and explore causal structures and mechanisms. Drawing on cultural-historical activity theory, I was able to identify the rules, unspoken protocols, material constraints, division of tasks, mediating tools, symbols and so on that make the various activity systems what they are. Early in the stage of data generation, however, I found that the rules and mediating tools of these activity systems generated (but were also simultaneously produced by) powerful discourses which I felt ill-equipped to unravel. CHAT had enabled me to *identify* them, but I needed a more focused tool to help me to understand their historical and cultural depth and their influence on other dimensions of the activity systems. Hence, I turned to discourse analysis as a way of systematically investigating the ways in which texts (in this study, mostly organisational documents, course notes and classroom conversations) shape, but are in turn shaped by, social practices. My interest in doing so was to gain a better understanding of the way(s) in which discourses influence ethics-oriented reflexive deliberations which are, as suggested in Sections 3.5 and 3.6, inherently processes of learning and change.

4.7.3.2 An Introduction to Critical Discourse Analysis

Critical discourse analysis is identified as an established and rigorous research methodology, as "a resource which can be used in combination with others for researching change in contemporary social life" (Fairclough, 2001, p. 229), which is highly compatible with critical realist approaches (as elaborated in Section 2.4.2). Critical discourse analysis is not bound by any specific discipline, theory or single methodology; rather, it sees itself as an interdisciplinary "heterogenous school" (Wodak, 2004, p. 198) aimed at offering "a different 'mode' or 'perspective' of theorizing, analysis and application" (van Dijk, 2001, p. 354).

Critical discourse analysis is 'critical' because it tries to illuminate relations between language and aspects of social life that are often opaque, and it aims to show non-obvious ways in which language is involved in social relations of power, domination and ideology. Further to that, it has an emancipatory interest and is concerned with progressive social change (Fairclough, 2001; van Dijk, 2001; Wodak, 2004). Social issues and problems are thus a central concern for critical discourse analysts. Their aim is to show the role of language in social processes by moving back and forth between careful analysis of texts and

social analysis of various kinds. Fairclough (2001) explains that a critical discourse analysis approach looks outwards from social issues as the starting point and turns to texts and conversations in order to better understand the social context, not the other way around.

Fairclough (2005, p. 924) holds a relational view of critical discourse analysis. For him, the term discourse:

> ... primarily registers a relational way of seeing linguistic/ semiotic elements of social events and practices as interconnected with other elements. The objective of discourse analysis, on this view, is not simply analysis of the discourse per se, but analysis of the relations between discourse and non-discoursal elements of the social, in order to reach a better understanding of these complex relations (including how changes in discourses can cause changes in other elements).

Fairclough (2005) explains that, although the discursive and non-discursive elements of social events and practices are ontologically different, the researcher should still regard them as being mutually constitutive, without being reducible to one another.

Social institutions (such as workplace and courses) can be viewed as speech communities and ideological communities which "... impose ideological and discursive constraints on [their subjects] as a condition for qualifying them to act as subjects" (Fairclough, 1985, p. 750). For example, to become/be an environmental educator requires one to master the discursive and ideological norms which the field of environmental education (most generally) and which the employer (more specifically) endorse as appropriate. However, these institutional ideologies become naturalised and opaque: (a) when a single 'ideological discursive formation' (Fairclough, 1985) dominates and holds enough ideological/ discoursal power to withstand external challenges and (b) when subjects remain unaware of the extent to which institutional ideologies and discourses construct their identities and positions. Fairclough (1985) uses the term 'ideological discursive formations' to describe the discursive manifestations of speech communities and ideological communities within institutions which have their own discourses and ideological norms. He claims that, if undisputed, ideologies and ideological practices (and here I would extend his categorisation to include values and ethical positions) become naturalised over time so as to become common-sensical and taken-for-granted within the institution. They then form the knowledge base on which discursive interactions are based, and provide these interactions with a certain 'orderliness'. Here, Fairclough (1985) uses the term orderliness to refer to the feeling held by members of a group that things are as they should be, things are going as expected. In other words, there is a general coherence to

the ideological discursive framework. One of the goals of critical discourse analysis, claims Fairclough (1985,p. 739) is to denaturalise the orderliness of the ideological discursive formations by making explicit how "social structures determine properties of discourse, and how discourse in turn determines social structures".

"It is quite possible", claims Fairclough (1985, p. 753), "for a social subject to occupy institutional subject positions which are ideologically incompatible with his or her overt political or social beliefs and affiliations, without being aware of any contradiction". This leads Fairclough (1985) to propose that researchers focus on institutions as a 'pivot' between society (the highest level of social structuring) and the particular social event or action (the most concrete level).

4.7.3.3 Synergies between Critical Discourse Analysis, Critical Realism and CHAT

While critical realism is ontologically bold, it is epistemologically cautious, acknowledging that we can never fully access or truly know the deep material and social structures of the world (Bhaskar, 1997a; Sayer, 2000). The presence of these deep structures can only be deduced from the phenomena that they generate. Discourses are one such phenomenon and, alongside practices, are therefore closely considered in this study.

Fairclough, Jessop and Sayer (2004, pp. 38 – 39) note that critical realism has, in its short history, not paid much attention to semiotics, but they go on to argue that "critical realism would benefit from sustained engagement with semiotic analysis". Symbols systems, language, orders of discourse and so on are central, causally efficacious features of the social world which, if taken for granted or overlooked, may result in oversimplified or incomplete analysis. Other critical realist researchers (Jones, 2004; Parker, 2004; Fairclough, 2005; Sims-Schouten et al., 2007; Price, 2007) agree that critical discourse analysis as a research methodology is highly compatible with a critical realist ontology. A study of discourse draws our attention "... to those mechanisms at work in constructing and maintaining subjectivities within particular social contexts" (Joseph & Roberts, 2004, p. 4). In this study, for example, a critical discourse analysis of organisational documents, course materials, transcriptions of interviews and classroom discussion and so forth can enable me to reconsider teaching and learning processes in terms of causal mechanisms and the maintenance and transformation of social structures.

The field of critical discourse analysis is traditionally dominated by post-modernist, social constructionist and relativist accounts of relations between social structures, social processes and human agency, that is, social phenomena are constructed by people's concepts of the world. But as critical realists such as Joseph and Roberts (2004), Fairclough (2005) and Sims-Schouten et al. (2007) argue, the socially constructed nature of the social world does not imply the absence of structures and processes that exist regardless of our knowledge or experience of them. Extreme social constructivist approaches collapse ontology and epistemology by denying the role of non-discursive, 'real' structures in determining discursive resources and practices. This point is succinctly illustrated by Dryzek (2005, p. 12) who, from an environmental perspective, explains:

> Just because something is socially interpreted doesn't mean it is unreal. Pollution does cause illness, species do become extinct, ecosystems cannot absorb stress indefinitely, tropical rainforests are disappearing. But people can make very different things of these phenomena and – especially – their interconnections...

This recognition of social phenomena being "socially constructed in discourse" (Fairclough, 2005, p. 916) is significant for the study, obliging me to examine influential texts (such as course notes and organisational documents) in more detail than CHAT is able to provide. Sims-Schouten et al. (2007, p. 107) explain that "the ways in which people can understand themselves are structured both by the available discourses in their social milieu and the material conditions in which they find themselves and which offer a range of possible ways of being". This critical realist discourse analysis position complements sociocultural-historical theories of human activity and learning (see Section 2.5) which similarly conclude that our understandings and actions of/in the world are formed and constrained by psychological, conceptual, discursive and material configurations.

4.7.3.4 Selecting a Suitable Analytical Tool to Apply Critical Discourse Analysis in this Study

The depth provided by conventional detailed semiotic or linguistic analysis went beyond the parameters of the study, yet without those (or equivalent) analytical details, the validity of a critical discourse analysis process seemed compromised. I experimented with an open-ended, intuitive approach to the textual analysis, namely, reading the text with a 'critical eye' and making notations about points I perceived to be relevant. While this was a valuable process which helped me to 'tune in' to the selected texts, I felt that it fell short of serving the study well as a systematic, consistent and hence rigorous research tool. It was then that I

encountered and experimented with O'Regan's (2011) Text as Critical Object (TACO) framework which a colleague at my university had encountered during her attendance of a pre-conference workshop on critical discourse analysis during the 2011 International Association of Critical Realism Conference. O'Regan (2011) based his TACO framework on social theory rather than linguistics, thereby making his analytical tool more accessible to social science researchers working outside of the field of Systematic Functional Linguistics on which many of the existing critical discourse analysis tools are based.

O'Regan's (2011) workshop notes provide a set of systematic questions, the TACO framework (see Table 4.6), which I have employed in this study to analyse a range of texts, ranging from formal organisational documents to informal verbal course interactions. O'Regan's (2006, 2011) framework requires interpretation from four perspectives: (i) the Descriptive Interpretation which considers the topic, genre, visual organisation and preferred reading of the text; (ii) the Representative Interpretation in which various features of the discourse are considered such as grammar, vocabulary, image and genre; (iii) Social Interpretation in which the social context in which the text is read is considered; and (iv) the Deconstructive Interpretation which takes a holistic view of the descriptive, representative and social interpretations, looking for contradictions or internal tensions across them.

Table 4.7 Questions with which to interrogate a text, as per O'Regan's (2011) Text as Critical Object (TACO) framework

Descriptive Interpretation	1A. What is the frame of the text (i.e. What elements are part of this text)? 1B. What's the genre (e.g. advert, news report, narrative, political statement, notice etc.)? 1C. What is the topic? 1D. How is the topic being presented (e.g. formal, informal, persuasive, aggressive, angry, friendly, humorous, comic, etc.)? (cf. interpersonal meanings) 1E. What is the preferred reading (the main message of the text; the reading which accords with the way the text seems to want to be read; the reading of minimal consensus)? 1F. Who might be the ideal reader of this text? E.g. A person who…
Representative Interpretation	2A. How is the text organised visually? For example, does the text use words and pictures? If so, what is the balance between words and pictures? 2B. If the text is a combination of visual and written modes, or is written in a variety of formats, what is on the left (in the given position)? What is on the right (in the new position)? What is located in the upper part of the text (in the ideal position)? What is located in the lower part of the text (in the real position)? (cf. ideational, interpersonal and textual meanings)

	2C. What are the effects of these choices on the text? 2D. What kind of vocabulary is used in the text? E.g. formal/informal, positive/negative, casual/dramatic, emotional/serious (cf. interpersonal meanings) 2E. What semantic fields (word families) do vocabulary choices belong to? (cf. ideational meanings) 2F. What vocabulary is associated with the participants in the text? Do these choices create a particular impression of the participants? (cf. interpersonal meanings) 2G. Is there any vocabulary which seems very important? (cf. ideational meanings) 2H. What words are given capital letters, italicised, underlined, put in inverted commas? 2I. What are the effects of these choices on the text? 2J. What tenses are used in the text? Do any of these seem very important? (cf. ideational meanings 2K. Does the text use 'we', 'you' or 'I'? When and how does the text use them? (cf. interpersonal meanings) 2L. What modal verbs are used (e.g. should, must, could, can, etc.) (cf. textual meanings) 2M. Are there any nominalisations in the text? When are they used? (cf. textual meanings) 2N. When are active and passive constructions used? Are there any common themes attached to the use of these different voices? What is usually foregrounded or backgrounded in these constructions? What types of agents are used – people/things? (cf. textual meanings) 2O. In the text as a whole which information is put first? What is thematised? (cf. textual meanings) 2P. What are the effects of these choices on the text? **Genre:** 1. Is there mixing of genres? 2. If there is mixing of genres, what are the effects of these choices on the text?
Social Interpretation	3A. What social frameworks is the text a part of (e.g. gender, race, economy, business, politics, family, class, income, age, sex, property, geography, etc.)? 3B. What typical kinds of social knowledge do these frameworks suggest? (cf. ideational meanings)
Deconstructive Interpretation	4A. Does any aspect of the text's internal structure (descriptive, representative, social) appear to contradict or undermine the text's preferred reading?

Useful as the TACO analysis was, I found after applying it to a few texts, that I was still not able to get a nuanced enough perspective of the environmental and ethical dimensions of the texts. I then had the good fortune to interact with David Kronlid of Uppsala University, Sweden who was visiting Rhodes University. He shared with me a paper he had just co-authored with Johan Öhman of Örebro University, Sweden entitled 'An Environmental Ethical Framework for Research on Sustainability and Environmental Education'. In this paper, Kronlid and Öhman (in press) propose a framework for conceptualising environmental ethics, especially in relation to environmental education. The paper suggests examples of schemes of questions that can be used to analyse the environmental ethical content of textbooks, educational policy texts and classroom conversations and so on. This was precisely the kind of tool that I had been seeking and so, as I had already commenced some data analysis using only O'Regan's TACO analytical tool, I integrated the two to produce a more comprehensive analytical tool. Table 4.7 below presents the analytical tool I used based on Kronlid and Öhman (in press) framework, and Appendix 6 shows the combination of the O'Regan (2011) TACO Analytical Tool with the Kronlid and Öhman (in press), including a textual analysis of one of the workplace texts analysed in Case Study Two.

Table 4.8 Analytical Tool (after Kronlid and Öhman, in press) used in this study to interrogate selected workplace texts and educational presentations

1. Who / what is constituted as moral objects?

NATURE					
Non-human animals able to experience pain and suffering	***Non-human animals with a sense of self***	***Social non-human animals***	***All individual organisms***	***Ecosystems and species***	***Other***
HUMAN					
Present human generations	***Present and future human generations***	***Past, present & future human generations***	***Local human generations***	***Global human generations***	***Other***

2. What kinds of values of nature are constituted?

INTRINSIC VALUE				
Inherent worth (independent of moral agents)	***Inherent value (dependent on moral agents)***	***Systemic or emergent value (dependent on transactional processes between***	***Other***	

		nature and humans)		
INSTRUMENTAL VALUE				
Demand value (nature provides satisfaction for felt preferences)	*Transformative value (nature encounters transform preferences and meaning)*	*Constitutive value (the conception of nature constitutes the conception of humanity)*	*Need value (nature meets human needs)*	*Other*

3. How are the ontological relations of Humans and Nature constituted?

INTEGRATION				
Shared geographical space	*Shared historical space*	*Shared biological features*	*Discursively constructed community*	*Other*
SEPARATION				
Separate geographical space	*Separate historical space*	*Different biological features*	*Nature excluded from discursive community*	*Other*

4. Which relational spaces are touched upon?

A space of individual worldviews	*A political space (institutions for decision-making)*	*A gendered space*	*A discursive space*	*A situated everyday practical space*	*Other: A managerial space*

5. How are solutions to the environmental crisis constituted?

As identifications with Nature and a deeper sense of belonging	*As an egalitarian political system that acknowledges the suffering of humans and non-humans*	*As practices of care, partnership, kinship, love, friendship etc.*	*As local narratives of human-nature integration*	*Treated as an empirical question, a task for open-ended, pluralistic enquiries*	*Other: Improved Environmental Management*

6. How are the causes of the environmental crisis constituted?

As an inability to identify with nature	*As egalitarian hierarchical institutional relations*	*As patriarchal power relations*	*As discursively constituted disconnected & dominant relationships to nature*	*Treated as an empirical question, a task for open-ended pluralistic enquiries*	*Other*

I found this tool to be highly appropriate for the analytical purposes in this dimension of the overall study, that is, to examine how environmental values and ethics perspectives operated in the interacting activity systems of course and workplace.

4.7.3.5 Selection of texts for analysis

As noted above, the texts to be analysed needed to deepen my understandings of various activity systems, and ethical perspectives in particular. As such, my main criterion in selecting texts for analysis was their potential to serve as representative samples of discourse(s) at work in various activity systems. Secondly, I specifically sought texts that would offer some insight into the environmental values and ethics in course and in the various workplaces. For example, in selecting extracts from the City of Cape Town's Environmental Education and Training Strategy, I focused on the executive summary for its potential to provide a general overview of the organisational ethos; thereafter, I selected the section "Some Principles for Environmental Education and Training" (page 9) in the belief that this section would be more likely to reveal values and ethical orientations than would, by comparison, the section on "National Directives and Legal Requirements". A third criterion was to achieve diversity wherever possible in the selection of texts as this would enable me to identify discrepancies or consistencies more easily across, for example, manifestations of environmental discourse in local policy documents, organisational publications and on the worldwide web).

I did not predetermine a number (sample size) of such representative texts as some texts were more comprehensive and focused than others. My intention was to identify texts that, when viewed together, were practically adequate (Sayer, 2000), that is they were sufficiently diverse, comprehensive and representative to allow me to identify trends, contradictions and so on with some degree of reliability. Table 4.9 summarises the selected texts analysed in Case Study One plus a brief rationale for their selection. Table 4.10 summarises the same for Case Study Two.

Table 4.9 Texts selected for critical discourse analysis in Case Study One

Textual source	Name and form of text	Rationale for selection
Environmental Texts produced within the City of Cape Town		
Environmental Resource Management Department	i) extract from pages 6- 7 of CCT's Integrated Metropolitan Environmental Policy (IMEP) Principles[CDA.01-01]	The IMEP is the main policy document formulated by CCT, specifically for environmental management in the City.
	ii) Introduction to the *Smart Living Handbook* (pages v – vi) (CCT, 2008) [CDA.01-02]	The Handbook is widely distributed and recognised as one of CCT's key environmental publications. It is used professionally by the educators of this case study.
	iii) Extract from CCT's 2006 Sustainability Report [CDA.01-03]	The report reflects the key environment and development concerns in Cape Town as represented by CCT's ERM Dept.
EE, Capacity Building, Training, Sustainable Livelihoods and Communications Branch	i) Principles for Environmental Education & Training from the CCT's Environmental Education & Training Strategy(pg. 9). [CDA.01-04]	The strategy is the official policy document guiding the professional activities of both educators in this case study. It focuses on EE and Training, which is the focus of this research project.
	ii) Introductory paragraph on the Branch's Webpage within the CCT website: *www.capetown.gov.za/en/EnvironmentalResourceManagement/functions/Pages/EnvironmetalCapacityBuilding.aspx* [CDA.01-05]	This is a concise text, crafted as one of the main channels of communication between CCT and the public.

Table 4.10 Texts selected for critical discourse analysis in Case Study Two

Textual source	Name and form of text	Rationale for selection
Environmental Texts produced within the Mondi Wetlands Programme		
Seven Objectives of the Mondi Wetlands Programme		Objectives encapsulate the programme's priorities.
Mondi Wetlands Programme Evaluation Report June 2009		The report provides holistic and reflective perspectives on the programme's objectives and modus operandi.
Environmental Texts produced within the MMAEP		
Article from the MMAEP quarterly newsletter		The quarterly newsletters are the project's primary tool for representing their work (content and orientation).
Overview of the MMAEP from its website		This is a carefully considered representation of the project and its concerns.

4.7.3.6 The analytical process

In most cases where the text was available in electronic format, I started the analysis by orientating myself to its content and style with an annotated reading. Notes were made directly into the document using Microsoft Word's Track Changes reviewing tool. Making my own open-ended notes helped me to 'tune in' to the document and get a sense of its whole. Thereafter, I worked through the questions of the O'Regan (2011)/Kronlid & Öhman (in press) Analytical Framework. It was from these analytical tools that I constructed narratives about the various workplace discourses, as presented in Chapters Six and Seven.

4.8 CONCLUSION

This chapter has given a careful account of how the study's data generation and data analysis tools and processes were designed and implemented to be consistent with the relational, critical realist ontology of the study, and its complementary theoretical frame of CHAT. Extensive observations were conducted in the 2008/2009 and the 2009/2010 iterations of the

EETDP Course, as well as in the City of Cape Town (where Paul and Faaiz work) and the Mondi Wetlands Programme and Midlands Meander Association Education Programme where Nkanyiso works part-time across both workplaces. Semi-structured interviews with the three learner-practitioners, course developers, tutors and assessors, and workplace mentors and managers were opportunities for me to probe numerous aspects that I needed to understand in order to represent the EETDP Course and the environmental education workplaces as activity systems. A wide range of documentation supported the observations and interviews, such as organisational reports, course materials and the learner-practitioners' assignments.

The chapter has described the two stages of data analysis, starting with a broadly CHAT-based analysis to reduce and focus the vast quantity of data (including the application of a specialised analytical tool to scrutinise the environmental discourses of selected organisational texts). This stage of analysis was the foundation of the data that is presented in Chapters Five, Six and Seven. The second stage of analysis worked more explicitly within a critical realist frame, drawing on Archer's morphogenetic/morphostatic approach, followed by a retroductive analysis across the three cases.

The following Chapter Five presents the data of the EETDP Course which was the core professional development course completed by all three learner-practitioners in this study. Thereafter, Chapter Six focuses on Paul and Faaiz who both work as environmental educators in the City of Cape Town, and who studied the EETDP Course in 2008/2009. Chapter Seven presents the data relevant to Nkanyiso who worked part-time across two workplaces: the Mondi Wetlands Programme and the Midlands Meander Association Education Programme.

CHAPTER FIVE:

THE NATIONAL CERTIFICATE IN ENVIRONMENTAL EDUCATION, TRAINING AND DEVELOPMENT PRACTICES (EETDP)

As much as you want to encourage environmental education practitioners to question and be critical and to be open to new ways of seeing and doing things, at the same time you need to be grounded in a position, need to be grounded into something. (Jonathan Wigley, lead curriculum developer of the EETDP Course)

5.1 OVERVIEW OF CHAPTER FIVE

This chapter provides an historical overview of the National Certificate in Environmental Education, Training and Development Practices (EETDP), with special attention to the environmental values and ethics component of the course. All three learner-practitioners whose case studies are shared in this study completed this EETDP Course as part of their professional development. As such, it is necessary to begin with a description of the curriculum origins, structure and basic content. Variations in the pedagogies, resources used on the course and so on occurred from year to year as different tutors facilitated the sessions, as learners' professional contexts differed and as course materials were revised. These kinds of specific variations, especially those relevant to the environmental values and ethics component of the course and learner-practitioners' ethical deliberations, are described within each case study (see Sections 6.2 and 7.2). However, this chapter now focuses on the more generic and historical development of the EETDP Course curriculum.

Cultural-Historical Activity Theory (CHAT) is used to frame much of the following description of the course. A CHAT perspective enables the sociocultural and historical underpinnings of the course's curriculum to be traced towards understanding certain influential curriculum design features, pedagogies and environmental and ethical discourses. I begin, therefore, by outlining the EETDP Course as an activity system and introducing three other influential activity systems with which it interacts. In the last part of the chapter (Section 5.5), the EETDP Course's environmental ethics mediating tools are described, with an emphasis on their social and historical emergence.

5.2 AN OVERVIEW OF THE EETDP COURSE

From late 2003, WESSA, in close partnership with the Rhodes University Environmental Education and Sustainability Unit (RUEESU), the Environmental Justice Networking Forum (EJNF) and the Department of Environmental Affairs and Tourism (DEAT) started working on a collaborative endeavour to (i) establish the Environmental Learning Forum (ELF) to support emerging and accredited environmental education providers navigate the complexities of the emerging SAQA system, and (ii) to develop a 120-credit, year-long learnership in Environmental Education, Training & Development Practices (EETDP) at level five on the National Qualifications Framework[17]. The South African 'learnership' model of professional development is based on the apprenticeship system in that it requires learners to be placed in a workplace or community work context for the duration of the qualification and to have a workplace mentor allocated to them. Unlike apprenticeships, however, learnerships are structured and assessed according to nationally prescribed learning outcomes, must be offered through an accredited education and training provider, and lead to a full qualification such as a National Certificate or National Diploma. A Learnership curriculum is required to be 70% guided workplace learning and 30% formal instruction.

The Learnership would qualify learner-practitioners with the National Certificate in Environmental Education, Training and Development Practices (EETDP). The stated purpose of the qualification is to:

> … prepare candidates to function as entry-level environmental education practitioners. It will apply in particular to part-time practitioners working in environmental education centres and to people who may be employed primarily in fields other than education, but who may develop an environmental education role in their workplace, e.g. field rangers, outreach officers, interpretive officers, etc. (SAQA, 2005)

Learner-practitioners are required to meet ten exit level outcomes:

- Demonstrate knowledge of environmental education goals, principles and methods and their appropriateness in different contexts;

- Select, plan and adapt a contextually-relevant environmental learning programme;

[17] Level 5 on the National Qualifications Framework is equivalent to the first level of study after exiting the schooling system after Grade 12.

- Implement and evaluate an environmental learning programme;
- Select, adapt and use existing environmental learning support materials and develop own supplementary learning aids;
- Network broadly in order to source information and support around a key environmental issue or risk and recommend possible solutions;
- Research and analyse a local environmental issue in terms of principles of environmental justice and sustainability;
- Apply appropriate social protocols in the workplace and community;
- Apply fundamental knowledge of environmental ethics to a field of work or study;
- Demonstrate a general understanding of people-environment relationships and current environmental challenges; and
- Review a variety of approaches to learning, teaching and evaluation. (SAQA, 2005)

More specifically, the curriculum is framed by 27 Unit Standards (see Appendix 7). Unit standards are the smallest units of educational achievement that can be credited for certification (Allais, 2003). They are "a collection of knowledge, skills and attributes in which a candidate must prove competence (in a structured assessment) to gain credit on the NQF." (Fasset, 2004, p. 3). The unit standards related to the environmental values and ethics component of the course are discussed in more detail in Section 5.4.

WESSA, as the lead agent in the Environmental Learning Forum, expressed the anticipated contribution of the EETDP Learnership as follows:

> This learnership will assist organisations in a number of sectors to be able to provide better environmental education and training to enable better management of environmental issues and concerns and thus contribute to the right of all South Africans to a healthy environment. (WESSA, 2004)

By 2005, the Education, Training and Development Practices Sector Education and Training Authority (ETDP SETA) registered the EETDP National Certificate in EETDP as a

Learnership with the Department of Labour (Wigley & Olvitt, 2005). WESSA accordingly established a training division, called SustainEd, at its national office in Howick, KwaZulu-Natal. The curriculum development process and strategic management of SustainEd was led by Jonathan Wigley who is frequently referred to in this chapter and in Chapter 7 (see Section 7.2) as he was also a tutor on the 2009/ 2010 implementation of the EETDP Course.

WESSA's Course Orientation Handbook explains that the course is structured around three main themes: environment, education and ethics (see Figure 5.1). It adds that: "The EETDP course will support you [the learner-practitioner] in the **educational** work that you do in response to **environmental concerns**, and asks you to consider what **values and ethical choices** could influence that work" (WESSA, 2005, p. 5, emphases in original). Learner-practitioners work and learn at the interface of these dimensions.

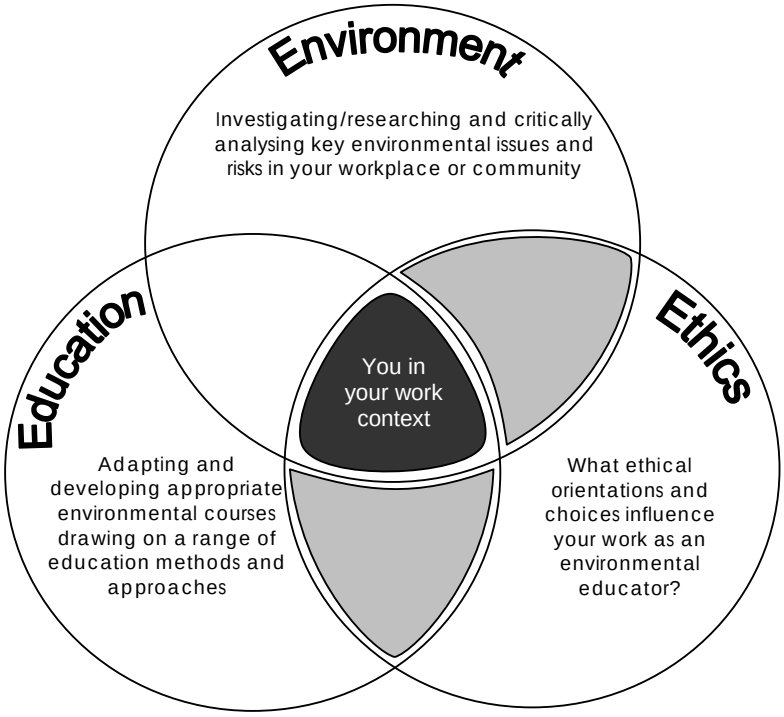


Figure 5.1 WESSA EETDP Course themes: environment, education and ethics

Beyond needing to be framed by and assessed according to the 27 unit standards, and meeting the requirements of a learnership being 70% workplace-based learning, the National Qualifications Framework does not stipulate course content or a course delivery model.

WESSA, in collaboration with various partners[18], opted to cluster the unit standards around four modules, as summarised in Table 5.1.

Four contact sessions (teaching blocks) of five days each are held over the one-year period and intermittent tutorial support is provided, often in the form of one-day tutorial meetings, between each session. During the contact sessions, learner-practitioners are given a workplace assignment to complete as part of their everyday work. These assignments are designed to strengthen and support work that the learners would be doing anyway in the normal course of their work duties. The course's handbooks, case studies and supplementary readings are intended to support the workplace assignments [Doc.1-01 and Doc.1-02].

Table 5.1 Modular structure of the EETDP Course curriculum as developed by WESSA-SustainEd in 2006 (based on information from the Learnership Information Sheet [Doc.02-14] (see Appendix 8).

Module	Module Name	Purpose of Module
Module 1	The Context of Environmental Education & Training	To give the practitioner a background in environmental concerns, education and ethics and begins to enable the practitioner critically analyse the context of their workplace or community, using a specific example of pollution.
Module 2	Planning a Contextually-Relevant Learning Programme or Action Project	This module further develops the critical analysis skills developed in Module 1. It requires the practitioner to go deeper into the nuances of their social-ecological context, and determine the implications for developing an appropriate learning programme.
Module 3	Planning and Implementing an Environmental Learning Programme or Action Project; + Electives	To assess a learning programme prior to implementation by reflecting how the methods and materials used articulate with the broad goals and principles of environmental education. The practitioner then refines the learning programme for implementation.
Module 4	Implementing & Evaluating a Learning Programme or Action Project; + Electives	Practitioners continue to implement the learning programme developed in Module 3, but the emphasis is on reflection – learning the appropriate ways to evaluate their own learning programme.

[18] Main partners in the participatory curriculum development process were the RUEESU, DEAT, EJNF, the RainMan Foundation, Earthlife Africa and the Zero Waste Institute.

Cross-Cutting Module	Developing Workplace Skills	To develop general workplace skills that cut across all modules e.g. the "administrative" unit standards and those requiring long-term reflection.

The EETDP Course was piloted with 11 learner-practitioners in 2006 and had been implemented six times by 2011. Two rounds of the course implementation are focused on in this study: in 2008/ 2009 with nine learners from the City of Cape Town (see Chapter Six) and in 2009/ 2010 with 54 learners who were mostly funded by DEAT (see Chapter Seven). As will be discussed in Chapters Six and Seven, many of the EETDP Course activity system's mediating tools (such as course notes and assignments), community members (such as curriculum developers and tutors), and rules (such as assessment frameworks and timeframes) influence the way the environmental values and ethics component of the course is taught, which in turn may influence the ethical deliberations of the learner-practitioners. With this in mind, the following section gives an account of the historical emergence of the EETDP Course's mediating tools and rules in relation to other activity systems with which the course activity system interacts.

5.3 THE EETDP COURSE IN INTERACTION WITH OTHER ACTIVITY SYSTEMS

5.3.1 Overview of interacting activity systems

The activity system of the EEDTP Course can best be understood in relation to the other main activity systems with which it interacts as these have been influential in shaping its object, rules, community, division of labour and mediating tools. The interacting activity systems discussed here are the SAQA/NQF activity system, the WESSA activity system and the Rhodes University Environmental Education and Sustainability Unit activity system (see Figure 5.2).

5.3.2 Interactions with the WESSA-Sustain-Ed Activity System

It is perhaps more accurate to describe the EETDP Course as nested *within* rather than merely interacting with the WESSA-SustainEd activity system because the course was developed by, and is currently implemented by WESSA-SustainEd. The lead curriculum developers and

tutors have always been in the full-time employ of WESSA and, although the curriculum development process was collaborative, the meetings occurred mostly at WESSA's Umgeni Valley office in Howick, and subsequent communications were managed through WESSA structures.

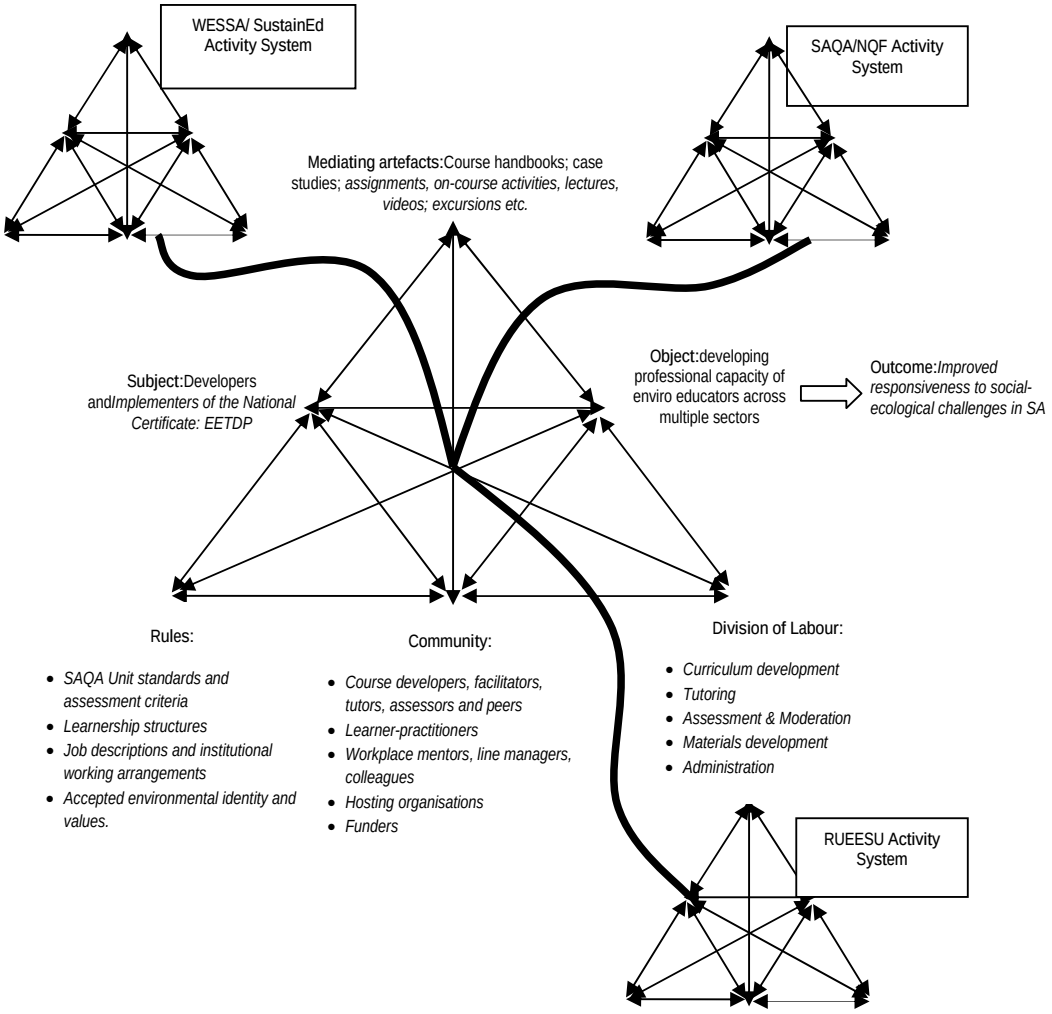


Figure 5.2 The EETDP Course activity system and the three main activity systems with which it interacts

As one of the oldest environmental NGOs in South Africa, WESSA has a long history of conservation-based work and, since the 1970s, of environmental education and training too. Seen as an activity system, WESSA's 'object' could be seen in terms of its vision to "promote public participation in caring for the Earth" (WESSA, 2010) which implies a strong education and training orientation. It has only been since the turn of the century that WESSA has turned its attention to putting formal structures in place and strengthening its identity as

an environmental education and training provider. This was made possible in the later 1990s when the South African Qualifications Authority (SAQA) and the National Qualifications Framework (NQF) permitted organisations other than higher education institutions to become registered education and training providers. However, achieving this status through the SAQA system proved to be an expensive and frustrating experience for WESSA; its now-formalised environmental education and training structure, SustainEd, remains under pressure to secure sufficient students and donor-funded projects to evolve into a financial viable section of the organisation.

Hence, the EETDP Course's activity system in interaction with the WESSA-SustainEd activity system is characterised by tensions related to the changing 'rules' of the WESSA-SustainEd activity system. WESSA's traditionally nurturing, open-process approach to people and projects finds itself in tension with its more recently acquired patterns of project management, policy compliance and reporting.

5.3.3 Interactions with the South African Qualifications Authority/ National Qualifications Framework Activity System

In the late 1990s, the South African National Qualifications Act (RSA, 1995) and the subsequent National Qualifications Framework (NQF) triggered the development of new qualifications across all sectors in South Africa. As a government authority, the mediating tools and rules of the South African Qualifications Authority / National Qualifications Framework activity system were massively influential on the EETDP Course activity system's rules. Through its numerous structures and mechanisms – such as the Education, Training and Development Practices (ETDP) Sector Education and Training Authority – the South African Qualifications Authority was responsible for the regulation and quality assurance of curriculum design and assessment of learning.

The object of the South African Qualifications Authority/ National Qualifications Framework activity system is strongly influenced by South Africa's history of inequity and racial discrimination, and by its legislated intention to contribute to post-apartheid education system transformation. In line with the SAQA Act of 1995 (since superseded by the NQF Act No. 67 of 2008 [RSA, 2008]), the objective of the National Qualifications Framework is to create a cohesive national framework for education and training that facilitates articulation and progression within career paths, that enhances the quality of education and training, and that

accelerates the redress of apartheid's legacy of an inequitable, discriminatory education, training and employment system (SAQA, 2006).

The mediating tools and artefacts of the South African Qualifications Authority/ National Qualifications Framework activity system (for example unit standards, specific outcomes, assessment criteria, embedded knowledge, assessment frameworks, guiding documents, strategies, and so on that were in place at the time of this research) were created towards the realisation of these objectives.

The 'community' of the South African Qualifications Authority/ National Qualifications Framework activity system is extensive, including, for example, the national Department of Education (DoE), the Department of Labour (whose training role has been absorbed by a new Department of Higher Education and Training), the standards generating bodies, sector education and training authorities (SETAs), learners, and accredited education and training providers, such as WESSA.

WESSA's development of the EETDP Learnership curriculum at NQF Level 5 was the sector's first substantial curriculum development endeavour to align with the rules of the South African Qualifications Authority/ National Qualifications Framework activity system. In the article 'Ethics-oriented learning in environmental education workplaces: An activity theory approach' (Olvitt, 2010 – see Appendix 9), I discuss how tensions and contradictions between the various rules of the South African Qualifications Authority/ National Qualifications Framework activity system (such as between the purpose of the EETDP qualification, its unit standards, assessment criteria and learning outcomes, and the credit weighting of some unit standards) were counter-productive in interaction with the activity system of the EETDP being implemented by WESSA-SustainEd. Some consequences of these tensions and contradictions for the environmental values and ethics component of the course are described later in this chapter in Section 5.3.2.

5.3.4 Interactions with the RUEESU Activity System

WESSA and the Rhodes University Environmental Education and Sustainability Unit had worked very closely on research and innovation in the field of environmental education since the early 1990s. Most education staff at WESSA national office in Howick completed the Gold Fields Participatory Course in Environmental Education or Masters Degree through Rhodes University, and all Environmental Education and Sustainability Unit staff have

participated in various WESSA projects such as development of resource materials or tutoring on courses. Three of the six tutors in the 2009/ 2010 implementation of the course (see Section 7.2) had completed their Masters Degrees in Environmental Education at Rhodes University within the past three years. This section sketches how this strong community of practice influenced the development and implementation of the EETDP Course offered by WESSA.

5.3.4.1 The Gold Fields Course legacy

The influence of the environmental education community at Rhodes University on the EETDP Course can be traced to the development of the EETDP unit standards in 2000. At the time, a major professional development opportunity for environmental education in the country was the Gold Fields Course which was funded by Gold Fields, and was offered through the Rhodes University Environmental Education Unit, in partnership with a wide range of national partners including WESSA. When the EETDP Standards Generating Body was convened in 1999 to develop unit standards for the soon-to-be-created EETDP qualification, the Gold Fields Course curriculum was a significant influence, though not the only influence. Heila Lotz-Sisitka, who had held the position of Director of Gold Fields Environmental Education Service Centre at Rhodes University, through which the Gold Fields Course was offered, recalled how the Standards Generating Body needed a starting point from which to conceptualise how an entry-level environmental education curriculum might be framed, and the Gold Fields Course was one of the more successful models at the time (Lotz-Sisitka, pers. comm, 2010). She noted that there were other influences such as courses offered through the University of South Africa (UNISA), and the South African National Botanical Institute's Assistant Education Officer's programme, but no programme with the national reach of the Gold Fields Course. Having been quite closely involved with the early curriculum development of the EETDP course from 2004 to 2006, my personal recollections are that there was a strong interest in 'breaking away' from the structure of the Gold Fields Course in this new qualification, but that this was quite difficult to achieve because some of its unit standards had drawn on available conceptual/ cultural capital provided by the Gold Fields Course, and many of those involved in the early curriculum development work (myself included) had been strongly influenced by the 'logic' of the Gold Fields Course and its particular methodologies.

The Gold Fields Course curriculum did not, however, include an explicit environmental values and ethics component. This shows that other sources of intellectual capital were drawn on for the development of the full EETDP Course curriculum, notably the involvement of Professor Johan Hattingh of Stellenbosch University who was commissioned by the EETDP Standards Generating Body to draft the environmental ethics-oriented unit standards (see Table 5.2).

5.3.4.2 Influence of the Rhodes University Masters programme in environmental education

As will be described later in this chapter, Jonathan, the lead EETDP curriculum developer, and Preven, who took over from him in 2009, were both part-time students in the M.Ed (Environmental Education) programme at Rhodes University (Jonathan in 2004/ 2005 and Preven in 2009/ 2010). Jonathan's Masters research thesis was entitled 'Understanding Workplace Learning Contexts to Inform Curriculum Development: The case of a Level 5 EETDP qualification'. Additionally, I, now researching an aspect of the EETDP Course within my doctoral degree through Rhodes University, and having been involved in the earlier curriculum development processes, had also been through the M.Ed (EE) programme in 2002/ 2003 and am currently on the teaching staff of that programme. Not only has the M.Ed (EE) programme's orientation to environmental values and ethics been influential in the personal and professional practices of Jonathan, Preven and myself in terms of our engagement with environmental values and ethics, but the course capital can been traced very tangibly into the mediating tools of the EETDP Course activity system.

Professor Lotz-Sisitka, coordinator and lead teacher on the M.Ed (EE) programme since 2002, explains how she had synthesised numerous aspects of the programme's environmental ethics capital into a set of lecture notes in 2002 (Lotz-Sisitka, 2011, pers. comm). This capital reflected the previous few years' work in the Rhodes University Environmental Education Unit, led by Professor Janse van Rensburg, who had invited Professor Hattingh of Stellenbosch University's Philosophy Department to present an environmental ethics workshop to her M.Ed (EE) students in the late 1990s[19]. Janse van Rensburg had also met Anthony Weston and Bob Jickling, both North American environmental ethicists and educators, at an international environmental education conference in the late 1990s and

[19] It is interesting to note here that Hattingh was commissioned in 1999 to write the ethics-unit standards for the EETDP Standards Generating Body (SGB). He was approached by Janse van Rensburg of Rhodes University who was chairing the SGB at the time (Lotz-Sisitka, 2011, pers. comm).

subsequently invited Jickling to visit Rhodes University and run a workshop on environmental ethics for the current M.Ed class. Both Hattingh and Weston positioned themselves as environmental pragmatists, with Hattingh publishing a paper in the Southern African Journal of Environmental Education (edited at the time by Janse van Rensburg) in which he (drawing on Weston amongst others) argued that: "Within the framework of a non-dogmatic, non-metaphysical, pluralistic and *pragmatic approach to environmental ethics*, I do not think we should settle for one conclusion only" (Hattingh, 1999, p. 81, my emphasis). The influence of environmental pragmatism on the course is a significant one and is considered in more depth in 'Contradiction 2' of Section 5.4.2.

Lotz-Sisitka's (2002) M.Ed (EE) lecture notes begin by acknowledging their origins in the "… 1998 notes prepared by E Janse van Rensburg, and workshop notes of B. Jickling (1999) and J. Hattingh (1998)". The 26 pages of lecture notes presented a case for attending to ethical concerns in the field of environmental education, drawing on supplementary readings from international and national thinkers in environmental ethics and proposing a deliberative orientation to environmental ethics within environmental education. A small part of this narrative was the inclusion of a glossary of ethics-related terminology (ethics, morals, values, attitudes and so on) as well as a brief overview of diverse ethical orientations (based on Hattingh's paper [1999] which was included as a supplementary reading). This discussion focused on concepts such as 'anthropocentrism', 'ethical extensionism' and 'ecocentrism'. These concepts were summarised (in glossary style) in half a page of notes but more elaborately critiqued over the following six pages.

It was the former, however, that came to be copied into the first round of the EETDP Course handbook in 2006 and referenced to the M.Ed (EE) notes from Rhodes University. These concepts, and the 'logic' of engagement with the field of environmental ethics that they established, thus came to be the primary mediating tool in the environmental values and ethics component of the course, but in this reduced format they were disembedded from the theoretical depth and educational critique of the Masters level programme, presenting themselves instead as a plethora of confusing jargon for the average EETDP learner-practitioner.

Jonathan recalls how, when he and the others in WESSA-SustainEd were under pressure to produce the course handbooks, they "… went to the literature to dig up all the old Lotz-Sisitka, O'Donoghue, Taylor and Jickling and Hattingh and all the rest of them … to

synthesise and summarise and write a bit about what the field is saying for environmental ethics" [Int.02-03, p. 6]. These efforts were evident in the text that Jonathan produced in 2006 and that were used in the 2008/ 2009 course, but they were later reduced to only three pages in the 2009/ 2010 course (as described in Section 5.5).

5.3.5 Conclusion

These three activity systems are foregrounded here for their influence (in some cases, over several years) on the community of the EETDP Course activity system, and especially for their influence on its mediating tools. It should be noted, however, that other interactions with other activity systems were also influential. From my own involvement in the process, I can recall how the mediating tools (social justice capital) of the Environmental Justice Networking Forum, for example, influenced the early development of the course curriculum, in particular during the consultative sectoral workshops and early participatory writing workshops. Other partners such as the Department of Environmental Affairs and Tourism and WWF-South Africa played significant roles which are not scrutinised here because their influences were mostly of a supportive or structural nature which lies outside of this study's concern with ethical deliberations. Through the initial participatory curriculum development process, partners such as Earthlife Africa and Environmental Justice Networking Forum provided a flood of potential mediating tools which Wigley (cited in Chetty, 2009, p. 12), described as "a literary mountain to overcome".

5.4 ENVIRONMENTAL VALUES AND ETHICS COMPONENT OF THE EETDP CURRICULUM

5.4.1 A Unit Standards-based Curriculum

The environmental values and ethics focus of the National Certificate: EETDP qualification is provided for in one of the qualification's ten exit level outcomes; learners are required to: "Apply fundamental knowledge of environmental ethics to a field of work or study". The content, scope and depth of this broad outcome is specified through four unit standards, each with a particular emphasis or application. Table 5.2 lists these four ethics-oriented unit standards and their credit value and indicates some of their socio-historical origins; while Table 5.3 provides the detail of one of these unit standard's Specific Outcomes (SO) and Assessment Criteria (AC). All 26 unit standards for the whole qualification contain this level of detail regarding Specific Outcomes and Assessment Criteria as shown in Table 5.3, and to

achieve accreditation to offer the course, WESSA-SustainEd was required to demonstrate to SAQA how it would assess each Specific Outcome.

Table 5.2 Ethics-oriented unit standards within the National Certificate: EETDP

Unit Standard Title	Credits	Socio-historical note
13668: Work ethically and professionally as an environmental education practitioner	3	Within the NQF, all educational qualifications require this unit standard. The specialisation is added where appropriate.
13649: Apply fundamental knowledge of environmental ethics to a field of work or study	6	Prof. J Hattingh of Stellenbosch University was commissioned by the EETDP Standards Generating Body (SGB) in 1999 to develop this unit standard and its assessment criteria. Hattingh is an environmental pragmatist by philosophical orientation and, beyond his influence in these unit standards, his work was also highly influential in the RUEESU's Masters Programme (see Section 5.3.4.2).
13640: Research and analyse an environmental issue in terms of principles of environmental justice and sustainability and recommend possible solutions.	8	This unit standard reflects the influence of post-apartheid government policy around social justice, equity and sustainable development. Members of the Environmental Justice Networking Forum and the wider environmental justice movement were involved in the Standards Generating Body.
8367: Understand and develop conservation ethics	4	This unit standard was not conceptualised as part of the qualification but was added by SAQA after the SGB's submission. It was originally developed by the Nature Conservation Standards Generating Body as part of a conservation qualification.

Table 5.3 Detail of unit standard 13649, including specific outcomes and assessment criteria

Unit Standard 13649: Apply fundamental knowledge of environmental ethics to a field of work or study	
Specific Outcome (SO)	**Assessment Criteria (AC)**
SO 1: Demonstrate fundamental knowledge and understanding of environmental ethics	AC 1: Demonstrate broad knowledge and understanding of key concepts related to environmental ethics. AC 2: Demonstrate some depth of understanding of different perspectives in environmental ethics and associated value positions.

	AC 3: Demonstrate an understanding of the practical implications of the contested and ambivalent nature of environmental values.
SO 2: Analyse a range of environmental practices and problems and develop a synthesis	AC 1: Analyse a range of environmental and development practices in the light of a fundamental knowledge of environmental ethics. AC 2: Analyse a range of environmental problems in the light of a fundamental knowledge of environmental ethics. AC 3: Describe the variety of environmental value positions held by stakeholders associated with these environmental practices and problems. AC 4: Summarise and describe the ethical dilemmas reflected in the scenarios analysed. AC 5: Recommend ethically responsible alternatives or solutions to these practices and problems.
SO 3: Demonstrate an understanding of the environmental value positions	AC 1: Demonstrate knowledge of key international and South African environmental policies and legislation that have a bearing on the learner`s field of work or study. AC 2: Where relevant, demonstrate knowledge of workplace-based environmental policies and procedures. AC 3: Analyse selected policies and procedures and identify environmental value positions reflected in these. AC 4: Compare the environmental value positions reflected in environmental policies and procedures.
SO 4: Develop a code of environmental ethics guiding practice within the field of work or study	AC 1: Describe the learner`s current or future work context. AC 2: Identify responsibilities, procedures or practices that may have an impact on the environment. AC 3: Identify characteristics of environmental best practice in the field. AC 4: Draw up a code of environmental ethics to guide workplace practice. AC 5: Critically evaluate own performance against these criteria.

5.4.2 General features of the values and ethics-oriented unit standards

The wording and general construction of the Unit Standards implies a non-impositional position aligned with environmental pragmatism or environmental pluralism, acknowledging

the diverse and even contradictory nature of environmental values positions and applied ethics. As described in the preceding sections, this may be traced to Professor Hattingh's involvement in the EETDP standards generating process, and also to the influence of his work in the M.Ed (EE) programme at Rhodes University whose teaching staff were members of the EETDP Standards Generating Body.

The educational expectation from this cluster of unit standards is that learner-practitioners will be able to clarify and develop their own positions through reflexive engagement with this range. Three unit standards are discussed below as evidence of this:

- US 13669 notes that: "This unit standard should help the learner to clarify and evaluate his/her own environmental values in relation to the field of work or study. It also introduces the learner to the contested and ambiguous nature of environmental values related to his/her field of work or study" (lines 5-7 of Purpose of the Unit Std).

- US 13668 states: "This unit standard encourages learners to determine for themselves guidelines for ethical and professional conduct that befit an environmental educator".

- Assessment criteria 3-5 of specific outcome 2 of US 13649 require learners to: "Describe the variety of environmental value positions held by stakeholders associated with these environmental practices and problems"; "Summarise and describe the ethical dilemmas reflected in the scenarios analysed" and "Recommend ethically responsible alternatives or solutions to these practices and problems".

Contextual application is emphasised in most of the ethics-oriented unit standards, and concrete examples and scenarios are recommended. Learner-practitioners are required to apply their understandings of environmental ethics and value positions to a range of contexts, from global and national sustainability concerns, to situations in the workplace and professional practice, to personal lifestyle choices. For example, US 13649 recommends that:

> A variety of concrete examples of environmental problems and practices related to the learner's field of work or study should be selected for analysis. These should be relevant to the South African context, and should reflect the contested nature of environmental values (e.g. land use options, industrial and community development, animal rights etc.). Environmental value positions should include perspectives from various cultures and societal groups, including indigenous traditions. (SAQA, 2005)

Finally, I reviewed the ethics-oriented unit standards to identify the leading verbs across all 50 assessment criteria and clustered them according to the general type of response required by the learner. 20 different verbs were identified, such as 'identify', 'compare', 'critically examine' and variations of 'demonstrate understanding of...'. These were then categorised as:

- **analytical** (including verbs such as evaluate, analyse, compare);
- **applied** (including verbs such as develop, draw up, recommend);
- **descriptive** (all introduced with the verb 'describe');
- **demonstrative** of knowledge and understanding (including actions such as demonstrate broad knowledge of..., discuss understanding of...);
- **investigative** (including verbs such as identify, clarify).

The occurrence of these categories were tallied as follows: analytical (14); demonstrative (11); applied (9); descriptive (9); and investigative (3).

This simple analysis indicates that the broad teaching and learning processes associated with environmental values and ethics predominantly require learners to *demonstrate* their knowledge and understanding of core concepts and to work in *applied, analytical* and *descriptive* ways.

5.4.2 Systemic Tensions and Contradictions

Elsewhere, I have described how tensions *within* the EETDP Course activity system and *between* other activity systems with which it interacts, have produced anomalies in the course design and pedagogy (Olvitt, 2010 – see Appendix 9). Below, I summarise one of the contradictions described in the earlier publication and I introduce a second contradiction that emerged through more recent interviews with course tutors and assessors.

- ***Contradiction 1:The scope and complexity of the qualification's unit standards, outcomes, assessment criteria and essential embedded knowledge [rules] exceed the scope and depth of the stated purpose of the qualification [rule] and are untenable in relation to the credit-weighting of some unit standards [rule].***

This is evident, for example, in Unit Standard 8367 (‘Understand and develop conservation ethics’) which is worth four credits, that is, approximately 40 notional hours, 70% of which should be workplace-based. The unit standard contains five specific outcomes, each with their own assessment criteria which are not listed here: (1) Identify values, situations and behaviours which have caused global environmental crises; (2) Develop a personal set of extrinsic and intrinsic values of ecosystems; (3) Distinguish differing interests and values underlying current practices in ‘Conservation’; (4) Interact with people to address issues of conflict of a bioregional context; and (5) Explain differing interests and values underlying local environmental conflict.

Over and above the achievement of these specific outcomes, learners must be assessed in terms of a 17-point list of Essential Embedded Knowledge (EEK) which is specified against that unit standard, including knowledge such as: “Man-Earth-God relationships (spirituality values)”; “Eco-feminism” and “Conflict management” (SAQA, 2001). The scope and complexity of this content is incongruous not only with the unit standard’s value of a mere four credits, but with the overall purpose of the qualification and the profile of the entry-level learners who register for it.

This anomaly can be traced to an earlier systemic contradiction between the rules and community of the SAQA/NQF standards-generating activity system in 2001. The exit level outcomes and unit standards for all EETDP qualifications were developed during 2000 and 2001 by the Environmental Education Standards Generating Body and submitted as a coherent qualification outline. However, a SAQA official subsequently added two unit standards: 8367 (‘Understand and develop conservation ethics’) and 8385 (‘Facilitate conservation understanding’), to fulfil a technical requirement of overall credit weighting – although the Environmental Education Standards Generating Body had intentionally kept space in the qualification for training providers to select sector or context-specific unit standards as electives. The two unit standards that were added originated in the Nature Conservation Standards Generating Body “disrupted the coherence of the ethics-oriented unit standards already in place in the education qualification” (Olvitt, 2010, p. 83).

These tensions and contradictions between various rules of the EETDP course’s activity system substantially affect the teaching and learning of the environmental values and ethics component of the Course. For example, Preven, the course coordinator since 2009, notes that unit standard 13649 [“Apply fundamental knowledge of environmental ethics to a field of

work or study"] is worth six credits which should translate into 60 notional hours, 70% of which must be workplace-based according to the Learnership model. "That's 42 hours in the workplace and 18 hours on course... I don't even get 18 hours on the course. About four hours, two hours per session. And not even [that much] at the last session" [Int.02-02, p. 6]. Unit standard 13649 is only one of 27 unit standards making up the qualification, leaving Preven and the other tutors to strategise (rather than conceptualise) each contact session from the starting point of 'How can we squeeze all this content and assessment into the next five-day teaching block?'.

- ***Contradiction 2: There is an uneven understanding of environmental values and ethics between the EETDP Course developers, tutors, assessors, workplace mentors and learners [Community] and the course's handbooks, presentations and assessment tasks [Mediating Tools].***

Activity systems are dynamic and their elements change over time. This is evident in the case of the EETDP Course whose primary mediating tools (most especially the course handbooks, slide presentations and activities) have been developed and modified as course developers and tutors respond to tensions and contradictions between the mediating tools and the activity system's various understandings of and responses to environmental values and ethics.

I interviewed the course developer, Jonathan, in late 2009, almost four years after he had led the initial curriculum development process described in Section 5.2, and tutored the first three iterations of the Course. Jonathan had subsequently resigned from WESSA-SustainEd to pursue an alternative lifestyle which he felt strongly was as a more appropriate, practical and ethical response to the social-ecological crisis. In the interview, he was thus critical of his earlier work on the EETDP Course, in particular its handling of the environmental values and ethics component. Jonathan reflected on his "confusion" at the time around social critical theory[20] and his understanding of the role of education "… to open up a space for critique … to challenge people, to break through assumptions" [Int.02-03, p. 4], but never to take up a position as educator for fear of imposition. According to Jonathan, he has come to see that this position deprived the course of an explicit environmental ethos (although the socially

[20] Jonathan's own first professional development encounter in the field of EETDP was the Rhodes University Certificate Course in Environmental Education in the late 1990s, followed by his enrolment in the M.Ed (EE) in 2004 – 5, also through Rhodes University. Both courses were deeply rooted in socially critical approaches to environmental education and were highly influential in Jonathan's professional development in the field.

critical ethos was clearly defined) and that has created "… this relativist space of, well, anything goes as long as you're questioning and being critical" [Int.02-03, p. 4]. Jonathan reflects:

> When I look at it now, … it [the EETDP Course] feels a bit empty in that way, it feels like there's something lacking. … it's like the course doesn't know where it stands and it leaves people feeling a bit unsure. Like sure, you question the question we ask, and we look around and we become critical, but what do we *do*? Where do we stand huh? [Int.02-03, p.4].

Beyond the abovementioned socially critical orientation that influenced the curriculum development process, Jonathan also reflects on what he perceives as a reluctance to talk unapologetically and unambiguously about the need to respect and care for the planet. He sees a need to articulate:

> … an ethos of respect for life, but it gets a bit mushed and confused and hidden in all the academic jargon. For example, when you look at the ethics section, where you look at ecocentric approaches and anthropocentric. The theories of ethics for me kills ethics; ethics is not something you can talk about or even write about. Ethics is not something that can be theorised. Ethics is something that is lived. And yet in trying to put it into a course, in trying to make it something that can be spoken about, it actually takes one further from the essence of what ethics really is. Or what ethics is trying to reach….
>
> So in that sense, even though we're trying to bring into the course a sense of respect for life and this beautiful planet that we live on, and the incredible biodiversity and the incredible beauty of this world, we keep haggling ourselves with theoretical nonsense that takes us away from that…. We cover ourselves in all sorts of academic jargon and we not prepared to just stand up and say things the way they are. We're here to care for this beautiful planet that we live on and this is part of (as environmental educators) *what* we are and *who* we are. We seem a bit afraid of using that kind of language and even of placing ourselves in that position. I'm not sure why. [Int.02-03, p. 5]

Jonathan held these views at the time of developing the EETDP curriculum but reflects that he aligned his professional work with the assumptions and culture of his employer, WESSA, which "has a very specific way of seeing and understanding environmental issues, shaped by its history of environmental education, and that itself has been shaped by the broader environmental education community over the years, by EEASA [Environmental Education Association of Southern Africa] conferences, by the Rhodes EE [Environmental Education] Unit" [Int.02-03, p. 3].

Jonathan recalls the process of producing the EETDP Course handbooks under great time pressure for the first iteration of the course:

> I actually remember being quite frustrated about this whole environmental ethics section even when it was finished and we were sending the books off to the printers. Just thinking 'Aah man, I wish I had another month to work on this!'… It didn't feel like what we were saying and the way they were introducing it was grounded. It felt like it was a conversation that was floating in the air….
>
> Hallam wrote some of it and possibly Melissa but when it came to the final edit and final draft, I just remember very specifically going through and changing quiet a lot actually. … I remember doing a pretty strong edit on it. Chucking out quite a lot of it but I also remember putting a whole lot of new stuff in it. I think it was because it was something that I was wanting to do, that whole expectation that I wanted it to be something that was a strong part of the course. And I didn't achieve it… [Int.02-03, pp. 6 - 7].

Jonathan would like to see the EETDP Course approach environmental ethics more introspectively, considering, for example, who we are, where we come from, and why we believe the things we do: "If we can get learners to start doing that, we don't even have to say one word about ethics, or anthropomorphism or anything like that". Instead, Jonathan laments that, in its current form, the environmental ethics component of the course "takes the carpet out of everyone's feet. And everyone is left thinking, 'Holy Smoke, what just happened there?'" [Int.02-03, p. 7].

It was with this background that Jonathan's colleague, Preven, took over the coordination of the course when Jonathan resigned in 2009. I had an equally interesting interview with Preven about the environmental values and ethics component of the course in late 2009. My general impression from this interaction was that, where Jonathan's reflections on the course were grounded in his in-depth understanding of the historical emergence of the course as it was situated within the broader field of environmental education, Preven's reflections (as a relative newcomer to the activity system) were more grounded in the content and structural details of the course. He noted how Module Two's focus on people-environment relationships, and the course's consideration of international guidelines such as the Tbilisi Principles and NGO Forum Principles create:

> …an undertone of the course [as being] as being in favour of the environment and in favour of environmental education and being community-driven, especially when Jonathan's on the Course. And then we do people-environment, and animals and environment and people relationships and all that stuff [Int.02-02, p. 2].

Like Jonathan, Preven agrees that the course's open-endedness and resistance to taking a clear stance regarding environmental ethics in favour of encouraging learner-practitioners to develop their own critical perspectives (what Preven calls "playing devil's advocate") generates much confusion around the environmental values and ethics component. He states: "We need to stop being so bloody neutral and get a bit more, kind of, I dunno ..." [Int.02-02, p. 9]. Although he adds that he won't make that move to "push for a position [because] it's not what the course is about, it's not what WESSA's about, and it's not what environmental education is about" [p. 9]. There are some issues, though, which Preven feels the course is not neutral about, such as "industrial agriculture, excessive pollution, even the actual capitalist system … those things that cause damage to the environment…. And also those things that cause environmental injustice" [Int.02-02, p. 2].

Preven's approach to working with the ethics-oriented unit standards provided by SAQA appears to be one of compliance although he personally does not find them useful, as the following extract from my interview with him reveals:

> PC: They [the unit standards] fundamentally tell me what to put into the manuals. And the course content and what I need to assess for. And ummm... [laughs] they are very heavy as well.
>
> LO: What do you mean by heavy?
>
> PC: I mean that they require a lot! They require me to go, or us to go, into ... ummm..anthropomorphism ... ummm...
>
> LO: Do they actually specify that?
>
> PC: They talk about eco-feminism, they specify that essentially embedded knowledge needs to be about eco-feminism, anthropomorphism, wilderness preservation and a whole lot of stuff which they [the learner-practitioners] never will hear about again. And probably has no impact on them. A nice to know, anyway. But, umm, even running it like that for the last four incarnations has proven to be disastrous! Totally disastrous. Listening to a unit standard and trying to provide evidence from a learner's point of view for that unit standard is actually ... it's not... it's not tenable. So what now we try to do is the 'under-handed' approach [laughs] which is going through 'what are your feeeelings about this?' What are your values about this? Ok, this is what ethics is: ethics is about values and feelings and ok, we're leaving it there, [let's move onto the] next module!

It appears that Preven was working consciously to find more effective ways of mediating ethics-oriented learning in the Course and his strategies were influenced by: his awareness of the need to align with the unit standards; his personal philosophy that education should be

fun; his experience of how learners on an entry-level NQF 5 course struggle with critical thinking and literacy skills; and by his own perspectives and prior knowledge of environmental ethics.

Like Jonathan, Preven feels strongly that the environmental ethics component of the course should foreground "the individual perspective more than understanding these kinds of philosophical camps" [Int.02-02, p. 5] although he tends to frame the discussion more strongly in relation to the field of philosophy than Jonathan:

> But I also think that ethics and philosophy are subjects that one really needs to get into and it cannot be done in a year [laughs]! And it definitely needs a love for it. You know, you really need to ... it needs to be your cup of tea, you can't just walk into it and say Hey, you know, I'm a philosopher! Try as everyone likes to be a philosopher, or wants to be, I think the rigours of philosophy and its origins and how far it's come and its history... and environmental ethics is also very very short, it's like thirty, forty years – but it's steeped in philosophical tradition. … So I don't think I'm ever going to be satisfied with any learners' understanding of the course, as required by the unit standards. But I *am* going to be satisfied if they understand what are *their* values, what are *their* feelings toward the environment. I'll be totally happy. … I mean because I can go off and recite to you every single environmental ethical camp and tell you exactly what they're about and this and that, but really, have I fundamentally *changed*? [Int.02-02, p. 5].

Of all the course developers, tutors and assessors, Preven had the most substantial formal background in environmental philosophy, having studied it as a semester course in his second year of university. He explains: "I've always been attracted to environmental philosophy. So myself, I feel very comfortable with it, but I still feel shaky with it as well" [Int.02-02, p8]. Preven expresses his reservations around Hattingh's environmental pragmatist position which was very influential in the historical emergence of the EETDP Course's environmental ethics perspective through interactions with the RUEESU and its uptake of Hattingh's work. He feels that exposing learner-practitioners to different ethical perspectives is insufficient to guide them towards finding their own niche, passion or purpose [Int.02-0, p. 9].

So far, this section has described Jonathan's and later Preven's struggles to clarify their personal-professional position regarding environmental ethics and reconcile it, and seek ways of mediating it, within the unit standards-based curriculum, implemented within the particular ethos of WESSA, for learners from disadvantaged educational backgrounds. Assessment of learner-practitioners' 'performance' in the environmental ethics component of the course was a further site of tension as the assessors themselves expressed uncertainty regarding their preparedness to assess this area. One tutor referred to the levels of confusion evident in the

learner-practitioners' assignments but added: "… there's confusion in my head as well, between ethics and values and sometimes the way we write in our documentation, sometimes we use the words interchangeably. And sometimes we say ethics *and* values and someone will say ethics *or* values" [Int.02-05, p. 2]. She later added: "I would have also just abandoned all hope if I had been a student coming across that [the course handbooks' use of philosophical terminology] for the first time and having been asked to interpret it" [Int.02-05, p. 9].

Tutors in the 2009/ 2010 Course expressed concern that, in trying to streamline the more demanding aspects of the course (such as the environmental values and ethics component), Preven was making *ad hoc* changes to the course handbooks, activities and daily programmes, but the assessment tasks were not being amended accordingly: "It's quite difficult to keep track of things that are falling off the bus" [Int. 02-05, p. 10].

The greatest challenge for the assessors, however, seemed to be in making a criterion-referenced assessment of learner-practitioners' accounts of their ethical perspectives: "these things are subject to interpretation and, as assessors, as an assessment *team*, we're supposed to be striving for consistency in our decisions. But it's quite complex, that notion of consistency, and you can try and order it to a certain extent, but you always gonna get [variations between assessors] [Int.02-05, p. 6].

This section has presented data revealing that behind the formal unit standards that shape the environmental values and ethics component of the course, lies a community of curriculum developers, tutors, learners and assessors whose understandings of and aspirations for environmental ethics are quite uneven. These have been highly influential in the activity system's development of ethics-oriented mediating tools, which is the focus of the following section.

5.5 MEDIATION OF ENVIRONMENTAL VALUES AND ETHICS THROUGH THE EETDP COURSE MATERIALS

5.5.1 General review of the approach to environmental ethics

I did a general reading of the sections in the EETDP module handbooks that focused on environmental values and/or ethics. The picture that emerged was of environmental ethics as

a complex and intimidating area that would need to be struggled through. Conceptual capital was kept to the minimum (especially in the 2009/ 2010 version of the course materials) and the main emphasis was on personal clarification and professional application, supported mostly by the Course's assessment tasks.

Although the course was structurally the same in both case studies, that is, the time frames, unit standards, course delivery model and even most of the course materials and assessment tasks were the same, both iterations of the course played out – and ethics-oriented learning was mediated – in very different ways. This was mostly due to the influence of different tutors, to the class size, and to the different workplaces in which the learner-practitioners were placed during the Learnership. In the light of these case-specific variations, I have opted to present data regarding the mediation of ethics-oriented learning at the start of each case study (Sections 6.2 and 7.2) so that it can be considered in relation to the Paul, Faaiz and Nkanyiso's ethics-oriented reflexive deliberations. In this section, my aim is now to highlight some of the more general characteristics of the environmental values and ethics component of the course which can serve as a backdrop to the more case specific accounts later. I begin in Section 5.5.1.1 below with a comparative analysis of the introductory paragraph of the environmental ethics section as it was presented in the 2008/ 2009 and the 2009/ 2010 iterations of the course. Thereafter, in Section 5.5.1.2, I review some of the ethics-oriented assessment tasks that were common to both iterations of the course.

5.5.1.1 Introducing Environmental Ethics in Module Two

I reviewed two extracts from the course's module handbooks in more detail. These are: (i) the introductory paragraph to the environmental ethics section in the 2008/ 2009 version of the Course and (ii) the equivalent paragraph after amendments were made in the 2009/ 2010 version. These extracts are presented below, followed by a brief comparative discussion.

2008/ 2009 Version

> An Introduction to Ethics and Values
>
> As an environmental education and training practitioner, it is not only essential for you to recognise the range and complexity of environmental issues around you, but also to identify appropriate reactions to a particular issue. This is true at a personal level, as well as for your workplace, organisation or community. How you respond to and understand an environmental issue will to a large extent be shaped by your moral values. The moral values of individuals and groups in society play a large role in determining our actions and what we see as acceptable or unacceptable practice or

> actions. Values are very subjective and are not always easy to define. To make things even more complicated, we often have conflicting values that may lead to ethical dilemmas when a certain set of values conflicts with another set in a particular action or event. [Module 1 Handbook of 2008, p. 15]

2009/ 2010 Version

> Environmental Ethics
>
> Environmental ethics is a broad field with many grey areas. Environmental ethics is the discipline that studies the moral relationship of human beings to, and also the value and moral status of, the environment and its nonhuman contents. It is a branch of philosophy as it deals with relationships, rights, morality and ethics. In this module we want you to develop a basic understanding of environmental ethics and what is your set of values towards the environment. As we will see everybody has some sort of ethic towards the environment but just don't have the terminology that philosophers love to deal in. And it is important to note here that you should be more concerned with what is your "personal ethic" towards the environment rather than what you can call it. Throughout this course we will help you build on your experiences and thoughts to understand environmental ethics. [Module 1 Handbook of 2009, p. 35]

One main shift from the 2008/9 text to the 2009/10 version is in how environmental values and ethics are situated within the field of EETDP. The opening sentence of the 2008/9 text foregrounds *professional* concerns: "*As an environmental education and training practitioner*, it is not only essential for you to recognise the range and complexity of environmental issues around you, but also to identify appropriate reactions to a particular issue". The opening sentence in the 2009/10 version, however, no longer introduces environmental ethics as a professional concern, but more as a body of knowledge that needs to be thought about: "Environmental ethics is a broad field with many grey areas". The paragraph later states: "In this module [implying that ethical engagement is confined to this module], we want you to develop a basic understanding of environmental ethics and what is your set of values towards the environment". Note how the emphasis shifts from framing ethical engagement as something situated in environmental education practice, to being a personal endeavour. There is an inherent tension in this second text between the way ethical concerns are, on the one hand, framed in terms of systemic, intellectual capital ["the discipline that studies…" and "branch of philosophy"] and, on the other hand, are devalued as "the terminology that philosophers love to deal in" and the claim that learner-practitioners should be more concerned with their "personal ethic".

Where the 2008/9 text did not define values or ethics as such, the 2009/10 text defines environmental ethics as "the discipline that studies the moral relationship of human beings to, and also the value and moral status of, the environment and its nonhuman contents". It does not, however, clarify what 'morals', 'values' and 'moral status' might mean in the context of environmentalism or environmental education, training and development practices.

Both texts foreground the complexity of environmental ethics. The 2008/9 text in particular, seems to prepare the reader for uncertainty and even confusion: "Values are very subjective and are *not always easy to define*. To make things *even more complicated*, we often have *conflicting values* that may lead to *ethical dilemmas* when a certain set of values *conflicts* with another set in a particular action or event and *how challenging it can be* to engage with this area" [my emphases].

Where both of these textual examples reveal how the authors were trying to 'make a difficult section easier' through using a straightforward, conversational style of writing, their efforts were generally undermined by the selection of supplementary readings (mostly photocopied from books about environmental ethics) and other sections in the actual handbooks. These language issues are considered in the following section.

5.5.1.2 Assessing environmental ethics learning

Module One's Portfolio of Evidence (PoE) took the form of a 34-page workbook with eight Contact Tutorial Activities and two Workplace Assignments. Space was left within the booklet for learner-practitioners to write their responses to each Contact Tutorial Activity. The activities covered all aspects of the module, including how to investigate environmental issues, reflections on the fieldtrip, and reviewing educational orientations. There were three activities that focused directly on environmental values and ethics; these are presented below:

> **Contact tutorial activity 4**: **Personal values and ethics**
>
> You have been introduced, through presentations and an activity, to environmental values and ethics. Reflect here on your understanding of environmental ethics.
>
> 1. In my understanding, environmental ethics is:
>
> _____
> _____
> _____

2. My own lifestyle and life-choices reflect the following environmental values/ethics – please illustrate your explanation with examples:

_____
_____
_____

Contact tutorial activity 5: Ethics in my workplace

1. Think about general practices and behaviour in your workplace and describe what environmental ethics might lie behind such practices and behaviour.

_____
_____
_____

2. In documentation sent to you before you attended contact tutorial 1, you were requested to bring a copy of your organisation's environmental policy, education materials or programmes or a similar document. The following activity focuses on an analysis of these documents. Choose a relevant section e.g. one paragraph of one of these documents and analyse it in terms of the implied environmental values and ethics – photocopy the relevant section and paste it in here (or handwrite it neatly):

_____
_____

Write up your analysis of this text in terms of implied environmental ethics/values here:

_____
_____

Reflections: Record here what you found most and/or least useful about the section on environmental ethics:

_____
_____

Contact tutorial activity 6: Creating my own set of environmental education goals, principles and ethics to guide my workplace practice

You have been introduced to basic concepts in environmental ethics as well as environmental education goals and principles through readings, your learner manual and presentations by your tutors on course. Read through the section on environmental ethics and the goals and principles of environmental education

(Section 2.3 and 2.4 respectively) and now develop a set of five principles and a set of guiding ethics in the space provided that can apply to your current workplace and to your chosen environmental issue. This task can either be done individually or as a group task. Discuss with your tutor in class the best way to go about this activity. PLEASE NOTE: You must not simply "cut and paste" goals, principles and ethics but also be able to justify why you selected these principles and even adapt them to suit your context.

6.1 My personal set of environmental education goals and principles. (Note: Pick just your best 5.)

_____
_____

6.2: Why I have selected these environmental goals and principles and how they apply to my work context and my environmental issue:

_____
_____

6.3: Relate these goals and principles to the continuum of anthropocentric and eco-centric camps of environmental ethics and justify your position. [Refer to your learner manual section 2.3 and to presentations during the course].

_____
_____

Across these Module One assessment activities, there is a progression from articulating a personal ethical response (Activity 4), to reviewing an organisational response (Activity 5) and then relating these to wider environmental, philosophical and professional contexts (Activity 6).

As was the case with all PoE workbooks in the Course, the intention is for the numerous Contact Tutorial Activities to be completed during the teaching blocks, supported directly by a tutor, and often in groups. From my observations of all the contact sessions of the 2008/ 2009 and the 2009/ 2010 courses, only a small percentage of the activities were mediated in this way due to time limitations, and learner-practitioners completed them days, weeks or sometimes months later in their workplace or at home. Despite the intention that these activities would be supported directly by the capital provided though on-course presentations, group discussions, tutor guidance, given the time delay, it was usually only the few pages of written text in the Module Handbooks that learner-practitioners would have to refer to when

completing their PoE tasks. (Supplementary readings were provided with all the module handbooks but, as I never observed them being read or even referred to during course sessions, and they were never once cited in any of the learner-practitioners' assignments, reviewing them in this chapter seems redundant).

5.5.2 Language and Conceptual Barriers

Learner-practitioners generally appeared to struggle with the language and philosophical terminology of the EETDP Course's environmental ethics section. Jonathan and Preven separately commented to me that negotiating the language barrier and supporting learner-practitioners to actually sit, read and understand the written texts about ethics was a substantial and ongoing challenge. Jonathan, for example, stated that "the language is not useful" and that it is "actually more of a barrier to try and understand values and ethics than it is something that is helping it" [Int.02-03, p. 7]. One of the assessors in the 2009/ 2010 Course, herself an English second language speaker, noted: "The word ethics is a bit difficult to understand, you know. Like, what are environmental ethics? Just the *word* ethics…" [Int.02-05, p. 2].

It is important here to distinguish between the barrier of English vocabulary and the barrier of philosophical terminology because, whilst they are related, they are not the same. Systematic analysis of learner-practitioners' levels of English proficiency in relation to the vocabulary and sentence construction used in the EETDP Course materials goes beyond the scope of this study (but would, I believe, be an interesting and important complement). Here, I draw briefly on an anecdote to illustrate the profound effect that low levels of English language proficiency have on the teaching and learning processes of the course. In January 2010, during the one and only controlled (but open-book) test of the course, one of the learner-practitioners raised his hand, indicating that he had a problem with one of the questions. The question concerned was: "Name two aspects that you will consider when conducting a guided walk". The learner-practitioner had raised his hand to ask the meaning of the word 'aspect'. This made me wonder how, with that level of vocabulary, he would be able to respond to the other questions in the test such as: "Eco-feminists argue that 'a relationship exists between the oppression of women and the degradation of nature'. Do you believe that such a relationship exists? Give a reason for your answer." [J2, p. 76; PoE 1a, Knowledge Test].

Although Preven and Jonathan both felt strongly that the ethics component of the course should take an applied and contextualised approach, and avoid heavy philosophical jargon, many sections in the course materials fell short of achieving this objective. The 2008 version of the Module 1 course handbook [see Appendix 10] reflected a combination of contextualised, accessible narratives with the more philosophical, terminology-laden text boxes alongside the narratives. The text boxes were intended to support learner-practitioners to extend their conceptual capital as they engaged with the more contextualised narratives. For example, in the 2008/ 2009 Module 1 Handbook, the first section considers some of the ethical struggles somebody might experience when choosing a car to buy, noting how different values influence the ethical decision-making. Alongside this applied text is a text box containing a glossary of relevant terms such as 'ethics', 'values', 'morals', the majority of which were sourced from the M.Ed (EE) course notes compiled by Lotz-Sisitka (see Section 5.3.4). This section, written primarily by Jonathan, was ten pages long and included sections on 'ethical orientations' (and defining concepts such as strong and weak anthropocentrism), 'ethics and policy and legislation', 'assumptions and bias in the media', and the notion of self-validating reduction (which was a frequently discussed concept in the M.Ed (EE) course, supported by a reading by Cheney and Weston, 1999).

Learner-practitioners appeared not to understand, engage critically with – or in some cases even read – this lengthy introductory section to environmental ethics, and Preven's response in 2009 was to reduce its length and conceptual complexity. The 2009 version of the section is thus three and a half pages long (see Appendix 11] with only basic vocabulary presented in the text boxes, a half-page diagram illustrating a range of positions from anthropocentrism to holism, and a half-page text box containing an extract from a website. The latter seems to be the only text in which the scope and purpose of environmental ethics is articulated, although, in the light of the language barrier concerns highlighted above, it is uncertain how effective this extract is in mediating ethics-oriented learning. Consider, for example, the accessibility of the first few sentences of that extract:

> Suppose that putting out natural fires, culling feral animals or destroying some individual members of overpopulated indigenous species is necessary for the protection of the integrity of a certain ecosystem. Will these actions be morally permissible or even required? Is it morally acceptable for farmers in non-industrial countries to practice slash and burn techniques to clear areas for agriculture? Consider a mining company which has performed open pit mining in some previously unspoiled area. Does the company have a moral obligation to restore the landform and surface ecology? And what is the value of a humanly restored

> environment compared with the originally natural environment? [Module 1 handbook, 2009, p. 35]

Another example of a text containing inaccessible language and philosophical concepts was the appendix to Module Three about different ethical orientations (see Appendix 12). The note presented short sections on preservationist and conservationist orientations, and explained concepts such as 'wilderness', Aldo Leopold's Land Ethic, and anthropomorphism (which was frequently confused by some tutors with anthropocentrism). The extract below is the section explaining environmental pragmatism. Note the moderate levels of English vocabulary (words such as 'relatively', modifying', 'dominate' and 'annihilate'), the sometimes awkward style of expression (for example, "Understanding that it is impossible of finding one ethic that will completely and accurately solve all conflicts of right and wrong is pragmatism's lead word") and the assumptions about learner-practitioners' prior knowledge which would help them to access the new concept of environmental pragmatism presented here (for example, "… has its foundation in American pragmatism").

> The relatively new philosophy of environmental pragmatism has its foundation in the American pragmatism, which was developed at the end of the 19th century. The main thought of environmental pragmatism lies in the importance of the environment, as it provides humans with experience, which facilitates in developing modifying and changing ethics and values as time goes by. Understanding that it is impossible of finding one ethic that will completely and accurately solve all conflicts of right and wrong is pragmatism's lead word.
>
> The environment is seen as an important source in the search for a mixture of ethics that will, not solve, but ease many of the problems in the world today. Attempts to dominate nature are, according to environmental pragmatism, not recommendable, as this will annihilate parts of nature that might have served as sources of experience to humans. The exclusion of any environmental ethic anthropocentrism, eco-centrism, bio-centrism) is also not supported by this philosophy since denying one ethic for another might prevent us from reaching a good value system that can relive some of our life's burdens (Parker 1996). [Appendix to 2008/2009 Module 3 Handbook; see Appendix 12]

This text did not appear in the 2008/ 2009 version of the course materials and was added as an Appendix in the 2009/ 2010 handbook to scaffold the learner-practitioners' engagement with the field of environmental ethics after Preven realised that learner-practitioners had few, or no, other sources of intellectual capital to draw on when completing the assessment tasks. During an informal conversation with Preven in 2010 about the barriers contained in this text, Preven explained that it had been written by a young Swedish volunteer at Umgeni Valley Nature Reserve who had become a close friend. He died in a car crash during his stay in

South Africa and Preven regarded the inclusion of this text as a tribute to his life and he was hence reluctant to critique its pedagogical value.

5. 6 CONCLUSION

This chapter has reviewed the EETDP Course as an activity system and presented data to show how the interactions within that system (between the rules and the community, or the object and the mediating tools, and so on) are embedded in social and historical contexts. It has similarly shown how the EETDP Course cannot be fully understood in isolation from other activity systems with which it interacts or has previously interacted.

The perspectives of course developers, tutors and assessors reveal the highly contingent nature of curriculum development and teaching processes. Through a particular focus on the environmental values and ethics component of the course, I have presented evidence of the ways in which the EETDP Course's mediating tools have been crafted (knowingly, and sometimes unknowingly) by individuals whose concerns, capabilities, and reflexivity place their professional actions regarding ethics-oriented teaching in constant tension with other members of the Course's activity system, as well as with the system's rules and object.

As stated earlier, the aim of this chapter has been to present a general historical overview of the EETDP Course as developed and implemented by WESSA-SustainEd. The following two chapters will each start with a section about the EETDP Course as it was implemented in that specific case.

CHAPTER SIX:
CASE STUDY 1 – PAUL AND FAAIZ IN THE CITY OF CAPE TOWN

At times [this section on ethics] made me feel uncomfortable because I had to dig deep to really see and understand how I really feel and where I fit into the whole picture. [Paul's PoE, Mod 1, p. 20]

6.1 INTRODUCTION TO CHAPTER SIX

The purpose of this chapter is to present data generated within Case Study One, focusing on Paul Arends and Faaiz Adams, two learner-practitioners working as environmental educators within the City of Cape Town (CCT). At the time of generating most of the data (2008 – 2009), Paul and Faaiz were also studying the National Certificate in EETDP offered by WESSA. In line with my research interest in ethics-oriented reflexive deliberation at the interface of workplace and course-based learning, this chapter is primarily concerned with:

- **Course-based interactions** (tutor presentations, course handouts, classroom discussions, assignments and so on) that provide insight into the environmental values and ethics component of the EETDP course. The focus in this chapter is specifically on the 2008/ 2009 implementation of course in Cape Town(see Section 6.2), but it should be read in conjunction with the more general background to the National Certificate in EETDP as described in Chapter 5.

- **Workplace-based interactions** that do (or may) influence how Paul and Faaiz come to know about, think about and respond to matters concerning people-nature interactions. These range from – but are not limited to – the policy and strategic frameworks that set an explicit agenda in the environmental education workplace; key mediating tools such as websites, publications and other educational resources which provide a particular type of conceptual capital in the workplace; and professional discursive practices such as educational presentations made by Paul and Faaiz as part of their professional practice.

- **Personal socio-cultural and historical perspectives** are interwoven in the presentation of these other dimensions because (as will be discussed in Chapter Eight), course-based and workplace-based learning processes and, by implication, ethics-oriented reflexive deliberations, appear to be substantially influenced by individuals' personal circumstances, aspirations, past experiences and so on. It is important to note that, whilst I refer to these as *personal* socio-cultural and historical perspectives, they should not be read as an attempt to reify individualisation. Instead, my intention is to reveal the relational, complex and dynamic socio-cultural and historical landscape in which Paul and Faaiz, *as individual agents*, come to learn and act *in relation to* others – and hence in relation to the ethical complexity of their educational work.

The task of the following sections, then, is to present in detail the discursive and material practices at the interface of the environmental education course and workplace.

6.2 THE NATIONAL CERTIFICATE IN ENVIRONMENTAL EDUCATION, TRAINING AND DEVELOPMENT PRACTICES

6.2.1 Overview of the Cape Town-based EETDP Course

The general background, purpose and structure of the National Certificate in Environmental Education, Training and Development Practices (EETDP) was introduced in Chapter Five. This section focuses on the course as it was offered between May 2008 and February 2009 in Cape Town, although certain aspects such as the unit standards and assessment framework apply also to the 2009 / 2010 course as presented in Chapter Seven. Sections 6.6.9 and 6.7.9 will build on this to examine how Paul and Faaiz respectively responded to these sections through their participation in the course.

The 2008/ 2009 EETDP Course was administered through WESSA's national office in Howick, KwaZulu-Natal, but implemented by Patrick Dowling of the WESSA Western Cape office. The group of learners was small (nine), dominated by environmental educators from the City of Cape Town (seven), with one local WESSA employee and one assistant education officer from the South African National Biodiversity Institute (SANBI) based in Kirstenbosch Gardens. All four course contact sessions (held from Monday to Friday at six to ten week intervals) were conducted at the WESSA regional offices in Tokai, Cape Town.

Patrick taught all the course sessions, with occasional guest speakers, videos and field trips to complement the programme. Although Patrick tutored the learner-practitioners towards completion of their numerous assessment tasks, he was not permitted (in line with SAQA regulations) to conduct the final assessments. All assignments and other evidence of workplace learning (collectively referred to as the Portfolio of Evidence, or PoE) were assessed by staff at WESSA's national office in Howick.

6.2.2 Orientation of the course tutor

A tutor's role on the EETDP Course is to mediate learning and help learners to make connections between their prior knowledge and experiences, their professional context, the new knowledge, skills and values introduced in the course, and the assessment requirements of the course. This is a powerful and influential role and so, before presenting the detail of course-based interactions related to the environmental and professional ethics dimension of the course, it is necessary to introduce the main tutor who mediated those interactions.

Patrick is a white male in his late fifties who has lived and worked in Cape Town all his adult life. Patrick works for the Western Cape branch of the Wildlife and Environment Society of South Africa (WESSA) as the Head of Education. His profile on the WESSA webpage explains that, for him, the purpose of education is "...enabling people to participate effectively in life, solve problems, integrate issues, deal with complexity and make informed, ethical decisions" (WESSA, 2011). Patrick is also an active member of the social network TransitionTowns (www.transitionza.ning.com) where he describes himself on his profile page as an "environmentalist and educator by profession" with particular interests in water, energy, waste and governance.

6.2.3 Overview of typical teaching and learning processes on the EETDP Course

Course sessions were very participatory and filled with dialogue between Patrick and the learner-practitioners. WESSA-SustainEd's intention was for the Course to be learner-centred and interactive, and this was made possible in the 2008/ 2009 iteration of the course due to the small class size and generally very high levels of critical engagement and professionalism by the group of learner-practitioners [J1, p.3]. Figure 6.1 presents a collage of four photographs taken during contact sessions, showing the highly interactive nature of the course.

Figure 6.1 Collage of photographs taken during contact sessions of the EETDP Course between May 2008 and February 2009 showing the collegial, interactive and relaxed dynamics of the course interactions

PowerPoint presentations related to core areas of the contact sessions were provided by WESSA-SustainEd as a standard package of mediating tools for use in all iterations of the Course. Due to the nature of these PowerPoint presentations (highly simplified texts, image-rich) Patrick often seemed uncertain of what the developer of the presentations had intended, but he used them more as starting points for more contextualised discussion which was made possible by the small class size and the group's fairly homogenous nature. All nine learner-practitioners were based in Cape Town, with seven of them working for local government. This seemed to enable group discussions to reach a depth of critical engagement and reality congruence that was never attained in the 2009/ 2010 EETDTP Course with over fifty learner-practitioners from diverse workplaces. I noted in my research journal that "People's engagement with ethical dilemmas in the workplace seem to be closely tied up with political dynamics. CCT is quite a politicized context it seems!" [J1, p. 11]. When one learner raised an issue (such as pollution in a local river; or inadequate municipal policy related to solid waste management), his colleagues would elaborate or challenge the story based on his own understanding and experience of the same issue. This kind of highly contextualised

discussion risked becoming self-referential at times but was carefully mediated by Patrick who had lived and worked in Cape Town all his adult life and had an in-depth understanding of local government's mandate regarding environmental management due to his environmental advocacy and lobbying work with WESSA, which positions itself as a 'watchdog' environmental organisation. In many cases, Patrick knew more about specific local government issues than the CCT-based learner-practitioners, or he was at least able to offer challenging perspectives on the points they raised for discussion.

During the first contact session, I noted on my research journal that, despite their high levels of interaction and willingness to discuss local examples, most learner-practitioners struggled to focus strategically and critically on a particular aspect of a discussion, tending instead to "roll with the details of that story even when it's drifting off topic" [J1, p. 11]. I had observed how, during a group activity to summarise the main points of pages 1 – 9 of the Module Handbook:

> It was a struggle for Patrick to get the group to move from (i) verbal task/ question to → (ii) written text and reflections on it, to → (iii) focussed verbal feedback, → (iv) in ways that complement or build on previous discussions [J1, p. 11].

The typical pattern during all the course sessions was for Patrick to make presentations or conduct practical activities or field trips to introduce a section and to equip the learner-practitioners with conceptual capital to engage with the subject matter, and then to work in groups or individually on the course assessment tasks (usually in the afternoons).

6.2.4 Overview of ethics-oriented course interactions

Perspectives on ethical dimensions of environmental concerns and environmental education permeated most course interactions, partially because those subjects are by nature ethics-based, but also because Patrick was naturally able to make such connections due to his own orientation to environmental ethics as a cross-cutting and vital dimension of environmental education practices. It is also likely that, in some course situations, Patrick and to a lesser extent the course participants, may have made the ethical dimension of some discussions slightly more explicit in response to an awareness of my presence as researcher and the focus of my research project. However, I do not feel that this was sufficiently exaggerated so as to distort the nature or content of the ethics-oriented course interactions.

Many of the Course's mediating tools, over and above the formal Module Handbooks as discussed in Section 5.5, contained explicit environmental and ethical discourses. For example, two short videos were shown during the contact sessions. 'The Story of Stuff' is a 20-minute video by Annie Leonard that challenges current global patterns of rampant industrialised production and consumption (see www.storyofstuff.org). 'Mounting Injustice' is a video produced by the World Rainforest Movement which exposes how world paper consumption is fraught with environmental and social injustices. It states, for example, that the paper manufacturing industry is one of the world's greatest contributors to habitat destruction and air and water pollution, and that 30% of global paper is used in the advertising industry and 50% for packaging. These kinds of mediating tools introduced explicit environmental discourses to the course deliberations and were used as stimuli for further open-ended group discussions and critical engagement.

Course-based interactions about environmental values and ethics were either explicitly addressed (such as when compulsory aspects of the course curriculum were presented, often in support of specific ethics-oriented assessment tasks), or more spontaneously in response to topics arising from class discussions (such as in response to the videos described above). In the section below, I focus on the most substantial course-based interaction related to environmental ethics which was conducted during the first contact session, and another less successful introduction to environmental philosophies conducted during the third contact session.

6.2.5 Module 1: Introduction to Environmental Values and Ethics

On Day Two of the Course in May 2008, Patrick asked me to conduct a session with the group on environmental ethics. Although I had previously explained that I did not want to be drawn into an educational role as a participant observer, I agreed to facilitate a session after lunch. I started the session with a short values clarification activity which I had encountered from a colleague at WESSA who had been involved with teaching an environmental education course in Sweden and found this activity to be a challenging starting point for further discussion. I told the group:

> Imagine that there is a line from there where Hari's standing, all the way to the kitchen counter. And on that end of the line, the response is 'absolutely no' and this end is 'absolutely yes'. And like most spectrums, there are gradients of intensity as you get to one end or the other. So I'm going to pose a question and you need to position yourself on the line depending on what your personal response is. … If I

> brought it to your attention that something that you do every day in your lives was environmentally destructive, would you change? Absolutely yes, or absolutely no? [CI.01-05]

Learner-practitioners positioned themselves variously along the imaginary line and we took a few minutes to discuss their various choices. Most of the group positioned themselves in the middle, noting that although they might wish to change their actions, their decisions are ultimately influenced by economic or social and religious factors. One learner-practitioner pointed out: "Change doesn't happen overnight, just like that" [CI.01-05].

Drawing on the various perspectives shared by the learner-practitioners, I reflected on how these perspectives related to our potential as agents of change:

> So from what you're saying, it sounds as though you're referring to our ability as people to bring about change. And it seems as though people on this side of neutral are more inclined to be agents of change whereas people on that side are more passive, saying, well, what can I do anyway? It's difficult to change or I'm too old to change, or it sometimes costs me money to change so I'm reluctant to. And then right through to the other extreme of 'well, we simply have to change!' Whether it is possible or not is another thing. And that's the point: do you drive cars? Do you use electricity? 'Cause if you do, then we're *all* still complicit in doing environmental damage. And for each person it's a question of how far do you personally go before you say 'hang on guys, this isn't right'. [CI.01-05]

In the ensuing 45-minute discussion, the group provided numerous examples that explored their struggles between wanting to change and being held back by other factors. One person noted that during winter he would rather sit inside his two-roomed house and endure the smoke from his paraffin heater than feel the cold; another said he wants to save more electricity but he keeps forgetting to turn the lights off when he leaves a room. The oldest member of the group (who had positioned himself on the end saying that he would not change because he is too old) recalled how, in the 1970s in Durban, there was an abundance of fish along the coast whereas nowadays fishermen catch much less. He was such a keen fisherman that he owned his own small fishing boat, but he has since sold it and now won't even take his rods and fish from the beach because of his concern for the state of the oceans.

These kinds of personalised, open-ended discussions seemed to be effective in stimulating learner-practitioners to think about ethical actions in their lives and what makes them act in the ways that they do. Across the diversity of perspectives shared, however, the activity did not extend people's knowledge base or provide any additional conceptual tools to push the dialogue beyond mere sharing of ideas and experiences.

In an effort to lead the learner-practitioners into their afternoon Tutorial Activity and make connections to the course's notes and supplementary readings, I drew on Cheney and Weston's (1999) and Hattingh's (1999) idea of environmental ethics as a toolbox to help us think through many ethical dilemmas:

> So later this afternoon, certainly if there's time, you're going to be introduced to new language; things like 'anthropocentric' which means centred around people and their needs, you know, people first. Which is different from 'eco-centric' which is centring around ecology and nature, putting that first and people are just a part of that. Then we can start to discuss our values and our ethics in terms of saying 'well, I feel that way and I'm realising that it's always a people-first response', or 'I'm feel that that's wrong and I'm noticing that it's very much an ecologist's viewpoint'. So I think that's what the course materials might add, add value to the discussions and help you to analyse, where'd these ideas come from? Why do I feel as I do about this? So I'm hoping we'll have some good thinking and talking sessions around that. [CI.01-05]

After this open-ended session, Patrick went through the PowerPoint slides provided by WESSA-SustainEd (see Appendix 13). The presentation's combination of picture stimulus, diagrams proposing how values, ethics and worldviews inter-relate, and some text-based slides with definitions of environmental concepts, stimulated a vibrant and engaging conversation that built on the previous contextualised discussion but took it further in a more theoretical and analytical direction. This intensive two-hour session introduced the course's environmental values and ethics component and provided stimulation and some basic conceptual capital for learner-practitioners to approach the related assessment tasks.

6.2.6 Introduction to Environmental Philosophy

Patrick and I expressed our concern about the way the section to introduce environmental philosophies was mediated during the third contact session in February 2009. As was the case with most sections in the curriculum, the relevant PowerPoint presentations and handouts had been prepared in a package by WESSA-SustainEd. The section on environmental philosophies was associated with Unit Standard 8367 "Understand and develop conservation ethics" which had been added by an official from the South African Qualifications Authority after the EETDP standards generating body had submitted the qualification (see 'Contradiction 1' in Section 5.4.2). Despite this being only a four-credit unit standard, the Essential Embedded Knowledge component of this unit standard (that is, over and above the actual specific outcomes and assessment criteria) included concepts such as "Man-God-Earth

relationships", "eco-feminism", "Politico-ethics (capitalistic-socialistic – green and brown issues)" and "African and western approaches to conservation".

Module Three of the EETDP Course also included a focus on different approaches to teaching (teacher-centred; learner-centred; transmissive; problem-solving approaches and so on). In preparing for this Module, Preven, the new course co-ordinator in WESSA-SustainEd, decided to 'double-up' and use the environmental philosophies section as the content matter in a session to demonstrate neo-classical approaches to education. Hence, a PowerPoint Presentation was prepared (see Appendix 14) and Patrick was directed to present the slides in an authoritative, transmissive style which could be critiqued the following day when teaching methodologies were discussed.

I noted in my research journal that:

> The group struggled to keep pace with the lecture, especially as the language was quite sophisticated and the content was new to most (social ecology, wilderness, preservationist vs conservationist, anthropomorphism etc.). It was unclear whether they should take their own notes and some just sat and listened while others tried their level best to make notes. Patrick handed out the notes he talked through after his lecture, and people seemed quite relieved (J1, p. 58).

The main reason for their sense of relief at getting the notes was because Preven had additionally decided that this section would be the focus of the only test in the course's assessment framework. I had been told previously by Jonathan that the 'knowledge test' was a South African Qualifications Authority requirement. It needed to be conducted under controlled conditions to test basic content knowledge deemed to be fundamental to the course, and learner-practitioners were required to pass with 100%.

As the 'add-on' unit standard 8367 was viewed in a very poor light by the EETDP Course developers and tutors, it had been decided not only to teach it quickly using a neo-classical style (so that the time spent doing so could at least be used as an illustrative example of that educational approach in the next day's section), but also to use the content as the basis for the knowledge test (an assessment mechanism which was also strongly critiqued by the Course developers and tutors).

Although a knowledge test was intended to be an open-book assessment of learner-practitioners' grasp of the most basic content, the knowledge test provided by WESSA-SustainEd contained highly complex and open-ended questions. I noted in my journal:

> Other than the lecture that Patrick gave this morning in which he flew through these concepts without much clarity or contextualising discussion, students have never encountered these concepts and terms in their lives. Then immediately afterwards, they get given this test and told they have to get 100%. Furthermore, many of the concepts are themselves a bit incoherent. Eg. Question 1: 'In terms of conservation, which approach do you feel is more sustainable: African or Western? Give a reason for your answer.' What exactly is meant by the dualistic naming of African conservation or Western conservation? Where would these students have learnt about this? When could they have internalised these ideas since Patrick's lecture this morning – which was actually set up by Preven to be taught using a method which is known to be ineffective! The Learnership guys are SO stressed out by this and feel completely inadequate now. There's no way they can finish this in the one and a half hours allocated, and they're being asked to share their opinions on complex philosophical concerns. E.g. Question 18: 'The prevailing relationship between humankind, Earth and God is said to have created the current environmental crisis. Do you agree? Give reasons for your answer.' [J1, p. 60 – 61]

I discussed these concerns with Patrick who explained that he was also doubtful about the appropriateness of this strategy but assumed that he was the one "with off-track ideas" [J1, p. 61] because the course 'package' gets sent to him from Preven. He suggested that I convey my concerns to WESSA national office but I explained that this places me in a difficult position as a researcher. I reflected on this ethical dilemma in my research journal:

> I have negotiated access to this Learnership based on my 'ethics-oriented deliberation' focus, and I'm working hard to minimise being seen as a monitor and evaluator (which happens easily because of my association with Rhodes and my past involvement with setting up of the Learnership [and some evaluative work during the pilot phase]). So now I don't want to get into a situation where I 'report' to Debbie when I see things in the course that worry me. But if I keep quiet about this, the problem might not be addressed and more students will be subjected to the same experience. [J1, p. 61]

Patrick's immediate response was to interrupt the knowledge test and facilitate a group discussion that would give the learner-practitioners an opportunity to clarify some points, pick up any misinterpretations of questions, or identify relevant sections in their course Handbook or Patrick's supplementary notes that could assist them.

The following morning, Patrick granted me a 30-minute session to probe the pedagogical anomalies a bit further in terms of learning. I prepared a short review task in tabulated form based on key concepts from the previous day: wilderness; Aldo Leopold's Land Ethic; differences between preservationist and conservationist thinking; social ecology; anthropomorphic; anthropocentric; eco-feminism and environmental pragmatism. I asked the

learner-practitioners to rate their understanding of these concepts according to the following options:

- I've never of heard this until yesterday;
- I've heard about it but don't understand it;
- I had a basic understanding from before; or
- I had a strong understanding from before.

I also asked learner-practitioners to briefly explain in their own words what the terms meant, and to consider how they might apply to their work within CCT.

Five of the eight terms (Leopold's Land Ethic, anthropomorphism, social ecology, eco-feminism and environmental pragmatism) were rated either as 'I've never heard of this until yesterday' or 'I've heard about it but don't understand it'. The terms that the group felt they had a basic understanding of were the concept of wilderness; differences between preservationist and conservationist thinking; and anthropocentrism.

The group's ability to consider these concepts in relation to their work in CCT was quite limited. For example, although five of nine learner-practitioners stated that they had a basic understanding of the concept of wilderness, and two described their understanding as 'strong', the following responses to the question "How could this concept be applied in my work?" indicate a limited ability to contextualise the abstract concept of 'wilderness':

i) Rainforest referred to as the lungs of the Earth.

ii) I can use it at work because most of my activities are outdoors.

iii) This can be applied in my working context and therefore it can be applied on our guided school programmes.

iv) Proclaiming land for conservation purposes.

v) The City has a social responsibility towards it citizens.

vi) Yes, it informs our communications on the Cape Floristic region.

vii) This could be done on learning programme make connection with hunter-garderers [gatherers].

viii) Will not apply because I am exposed to urban nature reserves.

ix) There is no real 'wilderness area' in the CCT because almost all areas had been impacted e.g. by pollution [Doc.1B-03].

Regarding the concept of 'environmental pragmatism' which eight of nine learner-practitioners stated they had not heard of before or did not understand, three did not respond to the question of workplace application and the others' responses indicated that the concept of 'environmental pragmatism' was not understood, let alone applied:

i) Many ways in seeing problems.

ii) Yes. In our learning programmes with children.

iii) We can start to think out of the box a bit more.

iv) Yes. Communications on housing development, energy requirements.

v) Not really.

vi) It can work in the city because it must be practical.

Overall, it seems that the pedagogy associated with introducing philosophical concepts into the course curriculum was inconsistent with the overall approach taken in the EETDP Course, namely dialogic, critical and contextualised. Use of a neo-classical approach (for practical reasons explained above) served to reinforce the perception that environmental philosophical thought is an abstracted 'body of knowledge' which most learner-practitioners claimed to find very interesting but with which they felt ill-equipped to engage.

6.2.7 Conclusion

This section has presented data from the 2008/ 2009 iteration of the EETDP Course in Cape Town, focusing in particular on how environmental values and ethics were introduced and mediated during the course interactions. The data has shown that the highly interactive, contextualised nature of course interactions, supported strongly by the tutor's own depth of experience and interest in the ethical dimensions of environmental education and training, created an enabling environment for ethical deliberations. There was also evidence, however, that learner-practitioners engaged actively during spontaneous, personal accounts of local ethical concerns, but were less able to engage critically by drawing on new or broader bodies of knowledge or within different conceptual or philosophical frames. The environmental

ethics component of the course can be well summarised with the words ‘contextualised’ and ‘discursive’.

The rest of this chapter presents data related to Paul’s and Faaiz’s case studies. The case studies work across their professional, course-based and personal contexts. Sections 6.6.9 and 6.7.9 focus specifically on Paul’s and Faaiz’s experiences within the EETDP Course process just described.

6.3 INTRODUCTION TO THE CITY OF CAPE TOWN (CCT)

Following the demise of Apartheid and the transition to a democratic government in the mid-1990s, all South African cities and towns were radically restructured under new national laws and strategic frameworks. The newly-elected ruling party, the African National Congress (ANC), prioritised putting in place local government structures that would address the massive social and economic inequalities that had characterised colonial and apartheid governance. As part of this process, Cape Town’s seven local authorities were merged to form one administratively unified metropolitan local authority (unicity), officially referred to as ‘the City of Cape Town’ (CCT), totalling 2,461 km² (CCT, 2007a) with boundaries as shown in Figure 6.2.

Figure 6.2 Municipal boundaries of the City of Cape Town (CCT, 2003a, p. 16).

Figure 6.3 Aerial photograph of the City of Cape Town and Table Mountain. (Source: http://members.virtualtourist.com/m/a86ad/)

Cape Town is the southernmost city on the African continent and the economic hub of the Western Cape Province. With a population of approximately 3.4 million people and an estimated 900 000 households, the City faces significant environmental resource management challenges. Appendix 15 presents statistics showing the nature and extent of some of these environment and development concerns, including a 16.9% unemployment rate and 38.8% of households living below the poverty line (CCT, 2007a).

6.4 ENVIRONMENTAL EDUCATION WITHIN CCT'S ENVIRONMENTAL RESOURCE MANAGEMENT DEPARTMENT

6.4.1 Organisational Structures and Mandates

The City's environmental education function is the responsibility of the Environmental Capacity Building, Sustainable Livelihoods and Communications Branch which operates within the Environmental Resource Management Department. Paul Arends (Case 1A) and Faaiz Adams (Case 1B) both work in the Environmental Capacity Building, Sustainable Livelihoods and Communications Branch, although in different units. Figure 6.4 summarises the organisational structures that provide for environmental education within CCT[21]. For relevance and simplicity, other departmental functions such as solid waste management and nature conservation are omitted.

[21] This organogram reflects the organisational arrangements during the period 2008 – 2010 when data for this case study was generated. Subsequently, new arrangements have been introduced.

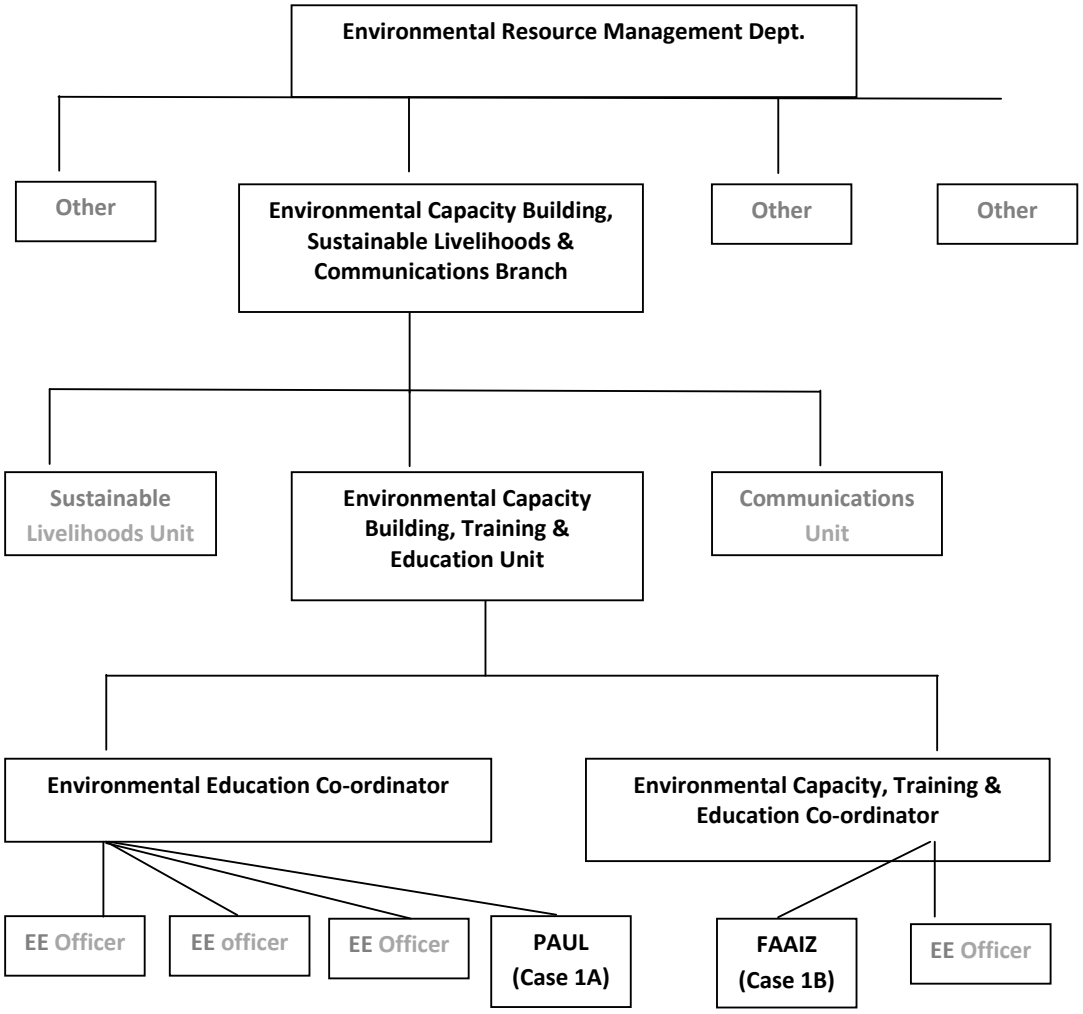


Figure 6.4 Organogram foregrounding the environmental education function within the City of Cape Town

The Environmental Resource Management Department's main mandate is to effectively implement the Integrated Metropolitan Environmental Policy (IMEP), (CCT, 2003a). IMEP was one of the first environmental policies in post-apartheid South Africa. It sets out its vision of an ecologically sustainable, equitable city by the year 2020. Beyond the obvious environmental management goals (adequate public open spaces, sustainable transport and waste management systems and so on), the IMEP also has a vision for public engagement in environmental concerns and for environmental education's role therein. These goals also reflect the general ethos of environmental education and aspirations of people-nature relationships – see my emphases in the following IMEP extract:

- There will be a *positive relationship* between local government and civil society, *collective responsibility for the environment*, and an *ethic of partnership building*.
- The City of Cape Town population will be *environmentally educated, aware* and *conscious*.
- Equitable environmental education will have *ensured that people care for and respect their environment.*
- The *cultural heritage* and the *built environment* will be *enhanced, restored and protected*, while diverse religions and cultures will enrich the social fabric of the City of Cape Town.
- *Environmental poverty will no longer exist* and all communities will live in an environment that is *not detrimental to their health or well-being*.(IMEP, 2003, p. 5).

The Environmental Capacity Building, Sustainable Livelihoods and Communications Branch plays a key role in achieving these broad educational objectives. Through its three sections, each with their specific programmes and projects, the branch undertakes environmental education, capacity building, training, environmental communications, environment-based sustainable livelihoods, cleaner production, event greening, eco-procurement and community outreach programmes. For example, the Environmental Capacity Building, Training & Education Section, headed by Lindie Buirski, runs the Youth Environmental Schools (YES) programme within which Paul does most of his educational work (see Sections 6.6.4 – 6.6.6), as well as the Environmental Management Internship programme and the Smart Living campaign with which Faaiz is involved (see Section 6.7.6).

6.4.2 Legislative and Policy Frameworks Guiding Environmental Education in CCT

The South African Constitution, Act 108 (RSA, 1996), together with the country's broad environmental legislation, establishes a mandate which – explicitly or implicitly – frames how South Africans value and engage with one another and the world around them. The Constitution, for example, guarantees all citizens the right to an environment that is not harmful to their health or well-being and commits all levels of government to pursue the goals of sustainable development, understood in the South African context as ensuring that the environment is protected for present and future generations.

As a government authority, the City of Cape Town has a rigid mandate to implement national legislation through its local structures and to align with national (environmental) priorities and other relevant legislative and policy frameworks. In turn, these frameworks provide a

platform for the City of Cape Town (and all other environmental [education] organisations) to clarify and/or develop their positions regarding people-nature relationships, interpretations of sustainable development and so on. Such positions form part of the context in which environmental educators deliberate the ethical dimensions of their work.

For this reason, the next section reviews environmental and ethical discourses evident in a selection of policy and strategic frameworks in CCT's Environmental Resource Management Department so that their influence – direct or indirect – on various environmental education activity systems and on the ethical deliberations of individual environmental educators working within them, can be better appreciated.

6.4.3 CCT's Environmental Education and Training Strategy

In 2003, the City of Cape Town published its Education and Training Strategy (CCT, 2003b) which is available to guide educational planning in the Environmental Resource Management Department. The strategy highlights the importance of lifelong learning and the need for a holistic approach to environmental education and training that incorporates social, cultural, ecological, economic and political dimensions of environmental sustainability. The strategy recommends that environmental educators focus on:

> • application - not only making people aware and providing information, but building learners' capacity to find, analyse, synthesise and use information (most communication and awareness campaigns fail to include the latter aspects)
>
> • values and understanding - developing a commitment to the environment, based on an understanding of the role of the environment in people's health, livelihoods, quality of life, socio-economic development and social justice.
>
> • action competence - developing among learners the will and ability to act on their understanding of environmental issues, and on their associated values. (CCT, 2003b, p. 8)

Methodologically, this requires interactive, dialogical approaches to education that develop problem-solving skills and critical thinking skills, whilst focussing on values and commitments (CCT, 2003b, p. 8).

The ethical dimension of the type of environmental education envisaged by the City of Cape Town is evident in the following extracts from the Environmental Education and Training Strategy's list of what good environmental education should be like:

- … link environment and heritage to health, socioeconomic development, social justice and quality of life;
- … assist learners to explore the benefits of a healthy environment and the wise management of natural and cultural resources for themselves personally, for their communities and South Africa's development;
- Produce … the commitment and capacity to act on environmental matters;
- … empower all people to participate effectively in democratic change towards a better environment for all;
- … recognise that skills development has a values component. (CCT, 2003b, p.9)

The institutional expectation is that this orientation to environmental education and training be taken up by all programmes, projects and campaigns provided by the Environmental Capacity Building, Sustainable Livelihoods and Communications Branch, and hence in the day to day work of Paul and Faaiz (see Sections 6.6.6 and 6.7.4).

These educational objectives are also consistent with the general environmental orientation and implied ethical positions evident in other influential environmental documents produced by CCT, in particular a concern for democratic processes, human well-being and social justice. The environmental discourses evident in three such texts are now reviewed in the following section.

6.5 ENVIRONMENTAL DISCOURSES IN THE ENVIRONMENTAL RESOURCE MANAGEMENT DEPARTMENT

As summarised in Table 4.9, three texts produced by the Environmental Resource Management Department were analysed to identify general dominant environmental discourses in the City of Cape Town: short extracts from i) the *Smart Living Handbook* [CDA.01-02] (see Appendix 16); ii) the Integrated Metropolitan Environmental Policy (IMEP) [CDA.01-01]; and iii) the 2006 Sustainability Report [CDA.01-03]. These broad institutional environmental discourses form the backdrop to the more 'localised' environmental discourses in the Environmental Capacity Building Training & Education Section and their specific programmes, as presented later in this chapter.

The dominant environmental discourses apparent across these three texts have been summarised below using five descriptors, the core concepts of which were introduced in Section 3.8.2:

- A sustainable development agenda;
- An holistic understanding of environment;
- A concern for the people-environment interface;
- An eco-managerial orientation; and
- A discourse of ecological limits.

These are now discussed and, where possible, the historical and cultural dimensions of these discursive elements are considered.

6.5.1 A sustainable development agenda

The first guiding principle listed in the IMEP is: "A commitment to adopting and implementing the principles and underlying approaches to *sustainable development* of the City of Cape Town" [CDA.01-01//2, my emphasis]. Later in the document, this is elaborated to include a more ecological focus: "... the recognition of ... *ecologically sustainable development* for the benefit for all" [CDA.01-01//4, my emphasis]. The opening section of the 2006 Sustainability Report claims that: "In recent years sustainability has become a key focus area of national and local governments worldwide" [CDA.01-03// 2]. The fact that a report of this nature was produced at all (departing from the more conventional 'State of Environment' reporting), reflects the dominance of sustainability and sustainable development discourses in the City of Cape Town. The extract analysed from the *Smart Living Handbook* [CDA.01-03] does not use the terms 'sustainability' or 'sustainable development' directly, although the sub-title of the handbook is: "Making sustainable development a reality in Cape Town homes" (CCT, 2008).

Dryzek (2005) notes that sustainable development does not refer to any precise, tangible set of structures or measures, but instead is purely a discourse. It is an ambitious concept which refers to "... the ensemble of life-support systems, and seeks perpetual growth in the sum of human needs that might be satisfied not through simple resource garnering, but rather through intelligent operation of natural systems and human systems in combination" (Dryzek, 2005, p. 146). He adds that sustainable development "has become the main game (though not the

only game) in environmental affairs, at least global ones" (Dryzek, 2005, p. 147) (See Section 3.8.2).

This dominance of a sustainable development discourse is closely aligned with the South African government's foregrounding of, and commitment to, a discourse of sustainable development. This is evidenced in the Constitution and in the National Environmental Management Act. Additionally, South Africa hosted the World Summit on Sustainable Development (WSSD) in Johannesburg in 2002, at the time, the world's largest ever international environmental meeting. The economic and political legacy of hosting the event, not to mention the legacy of the 'conceptual capital' it introduced to the newly democratic country, is likely to have influenced the uptake of sustainable development discourses in local government. Subsequently, and guided by the Johannesburg Plan of Implementation that emerged from the WSSD, South Africa developed its National Framework for Sustainable Development (DEAT, 2008) which carried the same theme as the WSSD: 'people, planet, prosperity'[22].

In keeping with this national trajectory, the City of Cape Town has aligned itself explicitly with a sustainable development agenda, in which people are clearly established as the moral object, and nature is valued instrumentally because of people's dependence on nature for basic survival and well-being. Clarifying its 'sustainable development' position in the context of local governance, the City (CCT, 2007b, p. 4) adheres to the definition provided by the International Council for Local Environmental Initiatives (ICLEI): "sustainable development is development that delivers basic environmental, social and economic services to all residents of a community without threatening the viability of the natural built and social systems upon which the delivery of these systems depends".

Of the three texts analysed, the 2006 Sustainability Report conveys the strongest endorsement of a sustainable development agenda, and its authors make regular use of linguistic imperatives to emphasise its importance. For example: "In implementing principles of sustainability *it is essential* that local governments achieve a balance between ecological, social, governance and economic aspects" [CDA.01-03//14, my emphasis] and "... in order

[22] Sustainable development is not without extensive critique, internationally and within South Africa. Cormac Cullinan, for example, a South African environmental lawyer, notes that the country's environmental laws (which coherently set out a sustainable development agenda) perpetuate the fundamental misunderstanding that, "we are the 'master species' whose destiny it is to run the planet for our benefit" (Cullinan, 2004, p. 262).

for sustainability to succeed *it is necessary* for the City to work within a framework of good governance, and promote transparency and accountability" [CDA.01-03//17, my emphasis].

As noted by Dryzek (2005), 'sustainable development' remains a deceptively vague concept that is open to being interpreted and shaped by different interest groups. Thus, in some ways the term now carries a 'hollow' meaning and one would need to look at other textual signifiers to construct a clearer understanding of what sustainable development in the context of the City of Cape Town's governance might entail. The following four discourses may contribute to such an elaboration.

6.5.2 An Holistic Understanding of Environment

An holistic view of environment is closely linked to a sustainable development discourse which necessitates (but does not specify the terms of) engagement with socio-cultural, economic, technological and political dimensions of contemporary society.

There are several references to holism in the 2006 Sustainability Report, for example: "Development is not simply economic – it also has social, political, environmental, ethical, spiritual and cultural dimensions" [CDA.01-03//12] and "... it is essential that local governments achieve a balance between ecological, social, governance and economic aspects" [CDA.01-03//14]. Similarly, the Integrated Environmental Management Policy (IMEP) makes explicit its "... commitment to an **holistic** approach" [CDA.01-01// 6].

This holistic view of environment is especially significant in the light of South Africa's recent history in which segregationist policies denied the inter-relationships of the country's social, cultural, ecological, political dimensions (see Section 1.2). This is alluded to in the 2006 Sustainability Report which cautions that, "conserving the environment *in an old-fashioned manner* that *fails to take into account social needs* is doomed to failure" [CDA.01-03, my emphases].

This type of environmental holism appears to differ slightly from the integrated understanding of people and nature as described by Kronlid and Öhman (2011) (see Section 3.3.1 and Table 4.8). Regarding social, economic, political and biophysical/ ecological dimensions of environment as *inter-related* is not necessarily the same as regarding humans as *integrated in* (i.e. inherently and inescapably connected to) the natural world. The department's very name: Environmental Resource Management, positions people outside of

ecological systems as ‘managers’ of ‘natural resources’, in the way one might manage a factory that produces useful goods.

6.5.3 Concern with the People-Environment Interface

All the analysed texts revealed not just an anthropocentric orientation, but an explicit prioritisation of social justice, equity and redress. In other words, within the City of Cape Town’s Environmental Resource Management Department, environment is officially conceptualised in relation to human wellbeing. Of the 17 listed general principles for the IMEP, seven included references (either explicitly or implicitly) to fairness, access to natural resources and public participation in environmental management. See, for example: “...ensuring that current generations use natural resources in such a way *so as to maximise the benefit to all*...” (CDA.01-01//3, my emphasis) and “... the protection of the *constitutional right to a healthy environment* and the recognition of the responsibilities and obligations of sustainable *service delivery* and ecologically sustainable development *for the benefit for all*” [CDA.01-01//4, my emphases]. Similarly, in the 2006 Sustainability Report: “There must be equity in service delivery and opportunities” [CDA.01-03//10] and “Public participation and consultation are essential” [CDA.01-03//13].

These priorities are reinforced by the strap of three photographs running across the top of the page on which IMEP’s general policy principle are listed. The first photograph shows and coloured man and woman embracing outside a newly built house, holding up the keys for the photographer. The second photograph shows a middle-aged black woman working at a computer, apparently in some form of training situation. The third photograph is an aerial view of a large dam, showing the dam wall and weir in the foreground and Western Cape mountains in the background. The dam is one of Cape Town’s main sources of potable water [CDA.01-01].

Although a very different text in form and function, the introduction to the *Smart Living Handbook* (CCT, 2008) shows a similar concern for equitable access to natural resources and service delivery. For example:

> Cape Town is also characterised by huge differences between people in terms of wealth. Some Capetonians use more water, electricity and petrol and generate more waste than the average American, while others live in households with a single tap, still using dangerous fuels such as paraffin for their cooking. [CDA. 01.01//14 & 15)

The overarching point of the introductory section to the handbook is to 'make a difference' for the environment: "To make sure that there are *enough resources to go around – enough for everybody now and in the future* – we need to manage our resources well, using what we have efficiently and *fairly*" [CDA. 01.01//21, my emphasis].

The socio-political impetus behind this explicit people-centred emphasis in CCT's approach to environmental management is traceable to South Africa's recent history in which, under colonial and apartheid rule, the majority of the country's population was denied access to the majority of its natural resources. This exclusion ranged from, for example, access to clean water, to access to arable land, and to nature reserves and beaches (see Section 1.2.1). The end of apartheid and the country's transition to democracy in 1994 marked the demise of such exclusionary policies, to the extent that all levels of the country's subsequent legislation, from national to local, now uphold and prioritise principles of equity and redress.

6.5.4 Eco-Managerial orientation (Administrative Rationalism)

Dryzek (2005) explains that administrative rationalism is commonly found in governments and other administrative structures with a strong interest in managing natural resources, regulating development (in particular industry) and controlling pollution. The discourse is one that upholds government structures as responsible for the effective and wise management of the natural environment, and citizens' role as merely to adhere to governmental legislation and guidelines. Administrative rationalism "puts scientific and technical expertise, organized into bureaucratic hierarchy, motivated by public interest, to use in solving environmental problems without changing the structural status quo" (Dryzek, 2005, p. 89).

Although administrative rationalism is not an explicit (or probably even conscious) discourse in the CCT's Environmental Resource Management Department, and as noted above in Section 6.5.2, its very name reflects its orientation: the natural environment consists of 'resources' which need to be 'managed' by a 'department'. Across the three analysed texts there are numerous examples of this orientation. In the 2006 Sustainability Report, sustainability is referred to as something to be 'implemented' by CCT, something which can succeed only if CCT "... work(s) within a *framework of good governance*" [CDA.01-03//17, my emphasis]; something which is realisable only when adequate administrative mechanisms are in place: "... *developing and implementing detailed sectoral strategies*, in order to *implement and enforce the general policy principles*, for all environmental issues so as to *meet the commitments described in the sectoral approaches*" [CDA.01-02//5, my emphases].

Legislative compliance and public accountability are key priorities for South African local governments and, to this end, numerous cascade structures and mechanisms have been put in place spanning national, provincial and local government. The following extract from the IMEP illustrates this hierarchical relationship of legislation and policy in the context of the City of Cape Town. Note the use of managerial and authoritative language, some examples of which have been highlighted:

> The South African Constitution (Act 108 of 1996) *guarantees the right* to an environment that is not harmful to health or well-being. Further, the Constitution *commits all levels of government* to sustainable development so as to *ensure* that the environment is protected for present and future generations.
>
> Local government's *constitutional roles and responsibilities* reinforce the commitment of local governing bodies to these principles. Local government will *implement this policy* as part of an integrated metropolitan environmental *management strategy*. This strategy will *give direction to local government's activities and programmes* and thereby promote sustainable development.
>
> *Management of the environment* of the City of Cape Town is also guided by emerging national as well as international law and legislation. *Both IMEP and its implementation must conform to these higher order statutes and directives*, such as the International Convention and Biodiversity, National Environmental Management Act (NEMA) and the Municipal Systems Act. (CCT, 2003a, p. 4)

6.5.5 A Discourse of Ecological Limits

While the IMEP guiding principles foreground a sustainable development agenda, the introduction to the *Smart Living Handbook* and the 2006 Sustainability Report in many ways reflect elements of a discourse of ecological limits. According to Dryzek (2005, p. 42), the discourse of ecological limits (also known as the survivalism discourse), "... provides the apocalyptic horizon of environmental concern". Its basic storyline is that unfettered human actions are placing excessive demands on the Earth's natural systems and carrying capacity, and drastic regulatory measures are needed to curb these demands. This discourse set the tone for the emergence of Anglo-American environmentalism in the 1960s, reflected, for example, in Garrett Hardin's (1968) essay 'The Tragedy of the Commons' in which he outlined the limits of Earth's global commons (air, oceans, fresh water) and the risks of over-exploiting them. Into the 1980s, the discourse of ecological limits extended its focus from the vulnerability of ecological systems to unchecked human advancement.

The general political direction promoted by survivalists tends to be authoritarian, in favour of ecological restoration, and dispassionate towards human social agendas. Dryzek (2005) notes,

however, that the discourse of ecological limits would endorse wealth reduction strategies in industrialised nations just as readily as it would express outrage at population explosion and ecological devastation in less industrialised nations because its priority is not to discriminate between rich and poor but to realign the path of human development to within earth's carrying capacity – by whatever means.

The introduction to the *Smart Living Handbook* reveals elements of this discourse through statements such as:

> Local development and pollution have *destroyed natural habitats*, placing many unique plants and the rare frogs and insects living amongst them *under threat*. Global warming, driven by vehicle emissions and power generation *will have a severe impact on all life in our city*. Water resources are *increasingly scarce* and landfill space is *rapidly filling up.* [CDA.01-02//11 -13, my emphases]

And later: "Natural resources – water, coal, oil, land, fresh air – will run out if we use them up at a faster rate than they can replenish themselves. There are many indications that this is already happening" [CDA.01-02//18 & 19].

Similarly, the 2006 Sustainability Report states that: "Ecological limits must be respected and resources must be used in a sustainable manner" [CDA.01-03//11] and "Promoting social or economic goals to the detriment of the natural environment will have *serious negative consequences for the future*" [CDA.01-03//15, my emphasis].

6.5.6 Some concluding thoughts on the environmental discourses of the Environmental Resource Management Department

A close reading of the three texts analysed in this section has enabled me to identify five dominant discourses: a sustainable development agenda; a concern for the people-environment interface; an holistic understanding of environment; an eco-managerial orientation; and a discourse of ecological limits. However, while at first glance the environmental discourses of the CCT's Environmental Resource Management Department appear to be consistent and mostly explicit, a closer examination has revealed some divergences and even contradictions. It is important to note that, while discourses are analytically distinguishable, in the flux of social processes they are not impervious to one another and I noted several instances of overlapping or merged discourses. This can be detected more easily from an holistic rather than atomistic reading of the extracts. See, for example, the 2006 Sustainability Report which appears to be 'couching' the slightly out-of-

favour discourse of ecological limits within more the politically expedient and dominant government discourses of sustainable development and social justice. And while the *overall* text of the IMEP reflects the dominant discourses of environmental managerialism and sustainable development (including an holistic understanding of environment and a concern for the people-environment interface), there are isolated sentences within the extract that reflect distinctly different discourses, namely: (i) respecting the *intrinsic value of nature* ("...recognition by the City of Cape Town of the inherent rights of all living creatures and a commitment to the humane treatment of all animals, both domestic and wild" [CDA.01-01//9]) and (ii) *environmental stewardship* ("... commitment to the responsible stewardship of the resources within the local government's charge" [CDA.01-01//10]). These two discourses of nature's intrinsic value and environmental stewardship are prevalent in the environmental sector, nationally (especially in the non-governmental sector) and internationally. They are not favoured discourses of the City of Cape Town, but have nevertheless made 'passing appearances' in the IMEP. This may be due to the collaborative policy formulation process with key CCT stakeholders through which the IMEP was produced, and this may account for the slight eclecticism of discourses in its section on guiding principles. They may also be influenced by external environmental consultants who are regularly contracted to produce such reports and publications, and who may align more closely with the aforementioned discourses.

The uptake and influence of these various environmental discourses on the discursive and professional practices[23] of the Capacity Building, Sustainable Livelihoods and Communications Branch are now presented in Sections 6.6 and 6.7.

6.6 CASE STUDY 1A: PAUL ARENDS

6.6.1 Overview of Case Study 1A

Paul Arends works in the Youth Environmental Schools (YES) Programme run by the Environmental Capacity Building, Training and Education Section within the Capacity

[23] In addition to this review of formal organisational documents, it would be interesting to review less formal workplace discourses such as meetings and teatime conversations. Unfortunately, the scope of this study did not extend to collecting data of that nature. However, I believe that many of the interviews conducted during the study provide glimpses of what such discourses might be. These are incorporated in the general data presentation of Chapters Six and Seven.

Building, Sustainable Livelihoods and Communications Branch of CCT's Environmental Resource Management Department. He is employed in the capacity of an environmental education officer and most of his work involves co-ordination of school-based environmental education events and programmes.

Paul's case study is developed in this chapter using CHAT as a descriptive framework to present the historical and socio-cultural context in which he deliberates the ethical dimensions of his work. However, it is only in Chapter Seven, alongside three other case studies and details of the EETDP Course, that these complex and interacting dimensions are analysed and synthesised in terms of ethics-oriented reflexive deliberation. Because such analysis is concerned with causal explanation (Danermark et al., 2002) (and hence historical and socio-cultural depth), the purpose of this present section is to present Paul's background and his current professional practices with the YES Programme in as much detail as I was able to access during the data collection period, with an emphasis on the environmental values and ethics dimensions of that work.

6.6.2 Paul's Biographical Sketch

Paul was born in 1971 and raised in the city of Cape Town, South Africa during the height of Apartheid. He completed his school-leaver's "Senior Certificate" in 1992 with an "E" aggregate, having studied Afrikaans, English, Biology, Business Economics and Woodwork. Growing up, Paul wanted to be a lawyer and, more generally, his aspiration was to have an office job: "I always said I'll sit in an office where I had a desk" [Int. 01-02]. But in 1995, Paul started work as a cleaner at the City of Cape Town's Athlone Power Station where he worked until transferring to the YES Programme in 2006.

Paul regards himself as a family man and a community-oriented person. He has been married since 1998 and has two young daughters. He is a committed and practising Christian, actively involved in the local New Apostolic Church where he is a minister and a youth leader [Doc 1A-03; Int.01-08]. By the time of my final interview with Paul in October 2011, his involvement in church leadership had grown substantially since 2008. He currently has complete oversight over the youth in the church, including "teaching them values that they would need for the future" [Int.01-08]. He is also responsible for making divine service bookings for about 23 congregations in the wider Cape Town area, a task which Paul describes as "a huge responsibility" over and above his more general administrative responsibilities in the church. Paul acknowledges that he is constantly tired as his church

commitments amount almost to the equivalent of a second job. He described how his average day starts at 5am to be able to see to his children and travel to work by 8am, then after work he drives home, showers, and by 7pm he is at the church for various activities (meetings, youth groups, special services and so on), returning home around 10pm for supper. But as Paul acknowledges, in spite of gaining weight and constantly feeling tired, "it's part of the drill, it's part of me… I love it" [Int.01-08].

6.6.3 Paul's Previous Work Experience

Paul's only other formal employment before joining the YES Programme was in the City of Cape Town's Athlone Power Station. This power station had been in operation since the early 1960s when the then Cape Town City Council opted to build its own coal-fired power station rather than rely on Eskom, the national electricity provider. At the time, Eskom was struggling to meet the power demands of the expanding city alongside other development areas such as the South African Railways service which was transitioning to an electrified train system. The plant was shut down for economic reasons from 1985 to 1995 when it was maintained on partial standby, only run in emergencies or by special arrangement with Eskom (CCT, 2011b). However, it was fully re-commissioned in 1995, which was when Paul was appointed to his first paid job after completing school two years previously.

Paul worked at the Athlone Power Station for 11 years, from 1995 to 2006. He recalls:

> ... when I walked in there, I also walked in there with certain expectations of having finished school and matric, and having done a couple of courses after school, and I walked in there and they gave me a broom, they gave me a mop, a couple of rags, newspapers to clean toilets, to scrub showers and to go and clean after other people. And my whole gut sunk down into my boots that day. The 6th of June 1995, 9 o'clock in the morning, to be exact. But I decided then and there I'm not going to stay. I'm going to strive to improve myself... [CI.01-01].

After a few years as general labourer at the Athlone Power Station, Paul worked his way to being an operator in the boiler room, and was later promoted to charge hand operator which involved running the plant with assistance of the chief operator, keeping the boilers burning, and generating electricity. Through the power station, Paul started a learnership in 2004, at NQF Level 4, in Fitting and Turning but he did not complete the qualification because he was re-deployed to the YES Programme in early 2006. In an interview about this period of his employment, Paul describes his typical work as follows:

> It was very dirty work because it's a coal-powered fire station. You had two sides of the plant: you had a boiler operating side and then you had the turbine operating side. And I should probably throw in a third: then you had the coal plant when the coal comes basically from the coal plant into the bunkers. ... You normally had eight boilers on the plant, you normally had one guy working in the basement, and the basement is just to check your compressors. And you check your coal that's falling from the top, from the grid, that's burnt already.... Ja, and every hour you must take a reading and you make random checks on your fires itselves in the peepholes, to see that your fire's burnt clean. ... Your grate must be a certain speed, the coal bed must be a certain thickness, and your fuel to air mixture must be right. [Int. 01-02]

Related responsibilities at this level were issuing job cards to report machinery in need of repair or maintenance, and writing reports on the eight hour shifts. Paul reflects that there wasn't much scope for creativity in this job: "... you were normally just told what to do and how to do it. There wasn't really a leeway" [Int. 01-02].

Figure 6.5 Athlone Power Station, photographed in 2006, showing the 100 metre chimneys (left) and the 86 metre cooling towers (right).
(Photo: DanieVDM, Flickr creative commons license. www.flickr.com)

Work in the power station was accompanied by moderate to high levels of risk, for example, working in close proximity to boilers operating at 600 degrees Celsius under pressure of over 600 pounds per square inch (psi). Labourers were also at risk of contracting asbestosis, an incurable respiratory disease caused by inhalation of asbestos fibres. Paul is one of the many labourers who has contracted asbestosis as a result of his work at the Athlone Power Station.

Asbestos fibres in the lungs cause scar tissue which, during respiration, has limited ability to expand and contract and which cannot perform gaseous exchange. The severity of the disease depends on the extent of the person's exposure to asbestos fibres and symptoms include chest pains, shortness of breath (especially after physical exertion) and a persistent cough. Symptoms can occur 20 years or more after exposure and the condition dramatically

increases people's risk of lung cancer. There is no cure for asbestosis but symptomatic treatment is available (PubMed Health, 2009).

When asked in an interview how he contracted asbestosis in a coal-fired power station, Paul explained that asbestos is used for insulation of the boilers "... and sometimes when there's a pipe burst, a certain section you would isolate and I'd go inside ... and then I get exposed to this". He added that in the past:

> ... it was mostly coloured and black people who dealt with the removal of [the asbestos] and it was just thrown at the back, they used it with their hands, there was no safety procedures, nothing. ... By the time I came to Athlone, it was 1995, so there was certain safety measures put in place already. But the [asbestos] dust will always be in the dust, and because of the boilers burning, the dust becomes very light and it goes out by the collectors, sometimes you crawl inside the boilers and things [Int. 01-02].

Paul explains that his level of asbestosis infection is moderate and now that he is out of the high risk environment of the power station, there is little chance of the condition spreading to damage more lung tissue. He is, however, currently processing a workman's compensation insurance claim, and two of his colleagues who also transferred from the power station to the City's Environmental Resource Management Department have already been compensated, although they have not divulged the amount they received. Paul describes asbestosis as "a disease that's killing me at the moment"; "it's like slow poison". He states that although the Athlone Power Station was the place that introduced him to the world of work, "... it's a place I don't want to set my foot in ever again. To be honest, never again. Even if people paid me for it, I won't be going back" [Int. 01-02]. Paul qualified this later, stating: "I enjoyed what I did, but always looking for something new, always, always tried to apply for other positions within the City" [Int. 01-02].

In 2003, Athlone's power generation was stopped due to the age of the facility, and the power station was officially decommissioned in 2006 (City of Cape Town, 2011b) and demolished in 2010. (Athlone Power Station was Cape Town's last remaining coal-fired power station, the other two having been demolished in the 1980s and 1990s). In compliance with strict labour laws in post-apartheid South Africa, the City of Cape Town was required to give all employees at the power station the option to be re-skilled and redeployed within the City of Cape Town. The YES Programme manager, Lindie Buirski, recalls that "... the power station closed down four years ago and they were kind of working getting paid for not working for about three years. Close on three years at a closed down power station!" [Int.01-05]. Towards

the end of this period, other departments within CCT were invited to "... give a presentation and invite some of these staff to join or be redeployed in other departments. So we went there, there was a massive amount of staff there ...". From the various options for redeployment within CCT, Paul elected to pursue a career change to environmental education. He explained:

> They said, if you come over, we'll re-skill you. Re-train you and you sort of make up your mind where you want to be. You find your niche. And ja [yes], with Lindie's guidance and Kobie's guidance, I thought, ag, head for EE![Int. 01-02].

Paul felt that a career in environmental education would be a natural progression from the Sunday School teaching and church leadership experience that he had already gained beyond his formal work experience at the power station:

> I saw the link there and from there I just sort of made my decision. But it's also mainly to, do you know what, I was prepared to venture into the unknown. I said, OK, I'll give it a try and to my amazement it's a whole new world that's opened up for me.[Int. 01-02]

6.6.4 The Activity System of the Youth Environmental Schools (YES) Programme

'YES' stands for Youth Environmental School, a programme that was initiated by the City of Cape Town in 1999 with an attendance of 2 000 learners and ten participating schools. YES is currently one of South Africa's largest environmental education programmes, having grown to over 65 000 learners and 730 participating schools by 2009/10 [Doc.1A-07]. For the first seven years the YES Programme was site-based and run over a few days corresponding with World Environment Week in June. However, since 2005 the programme has been offered as a more dispersed, year-long programme of diverse educational opportunities in which schools can participate in varied ways. In this new format, the programme also focuses on other environmental commemorative days or weeks throughout the year such as Wetlands Week, Biodiversity Week, Marine & Coastal Week, Arbor Week, Heritage Week, Tourism Week and AIDS Day [CCT, 2011c; Doc.1A-06].

Other annual projects or initiatives that are substantial in their own right fall under the banner of the YES Programme. These include, amongst others: EduNet (a network supporting environmental education for local school teachers); the annual Youth Conference on Sustainable Development; the Environmental Drama Festival and the environmental

education component of Cape Town's six Blue Flag[24] beaches; and the Baboon education and awareness campaign [Doc.1A-05; Doc.1A-08]

Figure 6.6 YES Programme logo

Figure 6.7 represents the YES Programme as an activity system. At an organisational level, the object of the activity system of the YES programme is reflected in the goals of the programme:

- To show the City of Cape Town's commitment to the environmental education of its youth;
- To provide a platform for organisations to present their environmental programmes to school learners;
- To provide a platform for City line function departments to work together for a better environment;
- To expose the potential of the City's 23 nature reserves
- To expose as many school learners as possible to environmental issues;
- To provide a diverse and varied programme of activities representing Cape Town's environments;
- To promote EduNet;
- To guarantee a quality programme through a formal evaluation process;
- To build sustainable partnerships to secure the future of the YES programme;
- To promote Eco-Schools;
- To support the Western Cape Education Department's new revised curriculum statements;

[24] Blue Flag is an exclusive international environmental status programme, awarded to over 3,200 beaches and marinas in over 40 countries. The Blue Flag Programme is owned and run by the Foundation for Environmental Education (FEE), an independent non-profit organisation and is implemented in South Africa through WESSA in partnership with the Department of Environmental Affairs.

- To support the City's Integrated Development Plan (IDP), Integrated Metropolitan Environmental Policy (IMEP) vision and Environmental Education and Training (EE & T) Strategy. (CCT, 2011c)

The desired outcome (vision) of this activity system is expressed on the CCT website: "Through Environmental Education we will form partnerships towards conserving, protecting, nurturing and caring for our environment and will invoke in the youth community a sense of environmental pride and responsibility that promotes environmentally sustainable lifestyles, behaviour and actions" (CCT, 2011c).

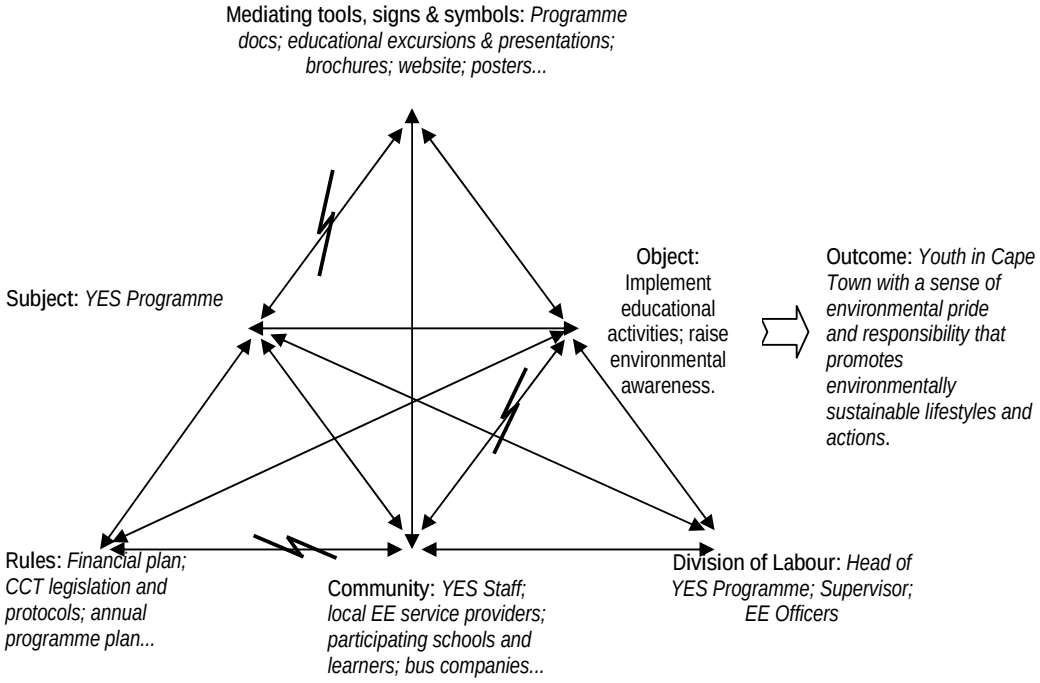


Figure 6.7 The YES Programme within the City of Cape Town, represented as an activity system

Lindie Buirski, the YES Programme manager (who also established the programme in 1999), explained in an interview that initially the intention was to have an environmental education unit within the Environmental Resource Management Department:

> It was part of the thinking of the department as from day one, but not with a lot of educators, more a strategic, not really to go out there and do a lot of education but rather a strategic role…to come up with a strategy for the city around environmental education. [Int.01-05, p. 1]

She reflects, however, that this created some tension between environmental education and the line functions of other departments and branches within CCT because: "... we were telling

people how to run their education and it didn't go down that well. So we had to start changing our way of thinking" [Int. 01-05, p. 1]. Furthermore:

> ... there was a desperate need for us to go out there and do stuff 'cause nobody was actually doing stuff from the city side, doing environmental education out there. There's a lot of outside organisations doing environmental education but not the City itself…and people were feeling as taxpayers, what are we giving back to the city or to the citizens of Cape Town. [Int.01-05, p.1]

It was with this background that the current YES Programme emerged and new environmental educator posts were created in 2006 into which Paul and others were appointed.

Figure 6.8 The open-plan YES Programme office on the fourth floor of the City of Cape Town's Wale Street offices where six education officers, one intern and their supervisor are located

Yet despite its years of success, the future of the YES Programme remains uncertain. Lindie Buirski, as programme manager, explains that running an environmental education programme is costly for CCT whose core function is municipal service delivery (such as water provision and waste management). Where service delivery is seen as a core function of *local* government, functions such as education and nature conservation are associated with the mandate of *provincial* government[25].

[25] The issue of municipal service delivery is very politically laden in Cape Town and in South Africa generally. During a course discussion in 2009, learner-practitioners discussed how political agendas between provincial government (run by the African National Congress [ANC], the national ruling party) and local government (run by the Democratic Alliance, the country's main opposition party) frequently undermine the implementation of environmental – and other – initiatives. It is in this complex 'provincial versus local' political climate that strategic planning and funding allocations are made and so the future of a relatively expensive environmental

> ... we had to be very careful pushing our luck 'cause we get constantly reminded that it's not a core function, it's not a local function, it's a provincial function. I'm getting away with the education because I'm saying we're doing education in support of service delivery. We need to educate people about water waste etc., and then we're building in the biodiversity bits [Int.01- 05, p. 2].

The community of the YES Programme activity system is broad. At the core is the YES Programme staff, consisting of five environmental education officers (of which Paul is one), their section supervisor, Esmé, and the programme is headed overall by Lindie. Occasionally interns are appointed for a year to gain professional experience within the programme, and collaborations with other departments or branches within the CCT are encouraged, but not commonplace.

Integral to the performance of the YES Programme is a range of environmental education service providers in Cape Town to whom the majority of educational activities are outsourced. These service providers range from other government partners (such as South African National Parks, the provincial Department of Education, Cape Nature, the provincial conservation agency and the South African National Biodiversity Institute) and agencies and non-governmental organisations (such as the Save Our Seas Foundation, the Primary Science Project, the Plastics Federation and the Jungle Theatre Company) [Doc.1A-05]. The learners and their teachers who benefit from the activities of the YES Programme range from primary school to secondary school, and come from a cross-section of the city's socio-economic sectors. Other members of the YES Programme activity system include external private companies that provide logistical services and resources such as train and bus companies to transport learners to events, caterers, manufacturers of branded clothing, printers and so on.

The YES Programme aligns its functions with various organisational policies, strategies and financial plans. These, as well as workplace protocols (explicit and implicit) constitute the 'rules' of the activity system. The Environmental Education and Training Strategy (CCT, 2003b, p. 3) acknowledges the influence of Chapter 23 of Agenda 21, adopted by the United Nations Environment Programme (UNEP) in 1992 and the United Nations Decade on Education for Sustainable Development (UNDESD). Closer to home, it aligns with the country's Reconstruction and Development Programme (RDP) which promotes the development and implementation of environmental education at all levels; the Bill of Rights

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education programme within local government in relation to massive service delivery backlogs in a growing city can only be uncertain, and at best contested.

in the National Constitution which grants all citizens the right to an environment that is not harmful to their health or well-being; the National Environmental Management Act (NEMA) of 1998 which recognises the key role of environmental education in enabling effective public participation in environment and sustainability concerns; the National Heritage Resources Act of 1999; the King Commission Report which emphasises the need for environment-oriented education and training to enable compliance with corporate triple bottom line (social responsibility) reporting; and the 1995 White Paper on Education and Training which advocates environmental education and training at all levels of the national education system. While this range of international and national legislation and policy underpins the formulation of the City's Environmental Education and Training Strategy, staff of the YES Programme refer more directly to the strategy itself.

The YES programme operates within a comparatively small budget for a medium-size government programme. Based on figures for 2008, the YES programme had an annual budget of approximately R3.5million, translating to approximately R50 per learner [Doc.1A-09]. This budget was substantially cut in 2010 (due to reallocation of funding linked to the hosting of the FIFA World Cup) and again in 2011 due to reprioritisation of finances within the directorate.

The YES Programme and the overall Environmental Resource Management Department are rich in mediating tools – see Figures 6.9 and 6.10. Due to the diversity and scope of the YES Programme's activities, these are not itemised here but specific examples are discussed in Section 6.6.8.2 in relation to the dominant environmental discourses in the YES Programme. The YES Programme's mediating tools and artefacts predominantly take the form of printed media for the purpose of raising environmental awareness (such as posters, brochures, worksheets for school children and small booklets) and in educational frameworks or similar conceptual tools (such as lesson plans, strategies and the teaching methodologies employed during excursions and presentations). The programme's other mediating tools are less quantifiable but also significant, taking the form of talks, dramas, and other verbal interactions with school children and their teachers.

Figure 6.9 Cupboards and filing cabinets at the back of the YES Programme office where educational resources (worksheets, posters, brochures, books etc.) are stored. These are regularly used by YES Programme staff when planning or resourcing educational programmes.

Figure 6.10 Boxes of environmental education resources piled in the front of the YES Programme office (opposite Paul's desk). Most of these resources are published by other departments within CCT or by outside partners and released to the YES Programme for distribution in schools and other educational networks.

6.6.5 General professional practices in the YES Programme workplace

The YES Programme office is characterised by seven individuals working on a succession of small actions that collectively align with the object of the YES Programme activity system. The workplace has high levels of interaction with numerous interruptions which are mostly of a social nature or in response to technical or logistical concerns. Although the YES Programme staff are employed as environmental education officers [Doc.01-04], their typical daily practices centre around the logistical aspects that *enable* educational events to occur, rather than conceptualising or implementing such educational events directly. During my 12½ days of workplace observations, I did not observe any conversations or other professional interactions that addressed in any substantial way the educational, environmental

or ethico-moral dimensions of their work. As will be presented later in this chapter, this is not to say that such dimensions are entirely absent from the workplace interactions; rather, they are embedded in fragments of naturalised 'office talk' and in the routine actions of the YES Programme, and are neither recognised nor consciously mediated.

The following extracts and summaries from my observation notes [J1, p. 25 – 49] illustrate the nature of typical office-based professional practices in the YES Programme during my first five-day workplace observation session in August 2008.

Using a 'snapshot' method in my observational note-taking (see Section 4.6.1.2), I captured what each environmental educator in the open-plan office was doing at regular intervals throughout the day. Table 6.1 summarises these snapshots from Days 1 – 4.

Table 6.1 Summary of environmental educators' office-based actions taken at random intervals over four days

	Educator 1	**Educator 2**	**Educator 3**	**Educator 4**	**Educator 5**	**Educator 6**	**Educator 7**
MONDAY							
10h00	Finding numbers in telephone directory	Unknown	Sending a fax (adjacent office)	Computer, emailing	Unknown	Computer, task unknown	Helping carry furniture between offices
11h00	Collecting resources from storeroom	At desk	Computer, logistical planning for educational excursion	Paperwork at desk	Computer, viewing photos from recent work event	Work-related phone call and emails	Computer, emailing
12h00	Computer, playing Free Cell card game	Unknown	Computer, task unknown	Out doing personal banking	Computer, emailing	Computer, task unknown	Computer, emailing
15h00	Computer, playing Free Cell card game	Work-related phone call	Computer, task unknown	Just walked back into office	Computer, emailing	Computer, emailing	Computer, working on EETDP Course assignment
TUESDAY							
08h15	Computer, emailing	Unknown	Work-related phone call	Computer, preparing PowerPoint for internship presentation	Unknown	Just arrived at desk	Computer, working on EETDP Course assignment
WEDNESDAY							
09H30	Computer, emailing	Informal meeting	Talking to colleague	Preparing to leave to	Walking around,	Partially involved in	Absent: Attending

		with manager discussing upcoming activities and this afternoon's meeting	from adjacent office	attend out-of –office presentation	chatting	standing meeting with Educator 2 and manager	meeting at his child's school
THURSDAY							
09h50	Computer	Phone call confirming logistical details for a school activity	Computer, working on EETDP Course assignment	Computer, task unknown	Computer, emailing and on work-related phone call	Phone call, unknown purpose	Computer, working on EETDP Course assignment

While a summary such as that in Table 6.1 can usefully show the general *type* of tasks being worked on by the educators in the YES programme, it is a crude indicator only and does not show the *focus* of, nor the dynamics associated with, those tasks. Such details are more clearly evident in the following extracts from my observation notes:

Extract 1, Monday 18 August, 2008:

> At 10h10, [Educator 7] gets back from moving furniture and goes to get a hard-earned cup of coffee. [Educator 3] calls for [Educator 4] to help him unjam the fax machine.
>
> By 10h20, [Educator 3] has made approx. 10 calls re schools' involvement in the Lion's Head excursion. [A colleague] stands in the doorway, stirring with Paul and anyone else willing to get involved about the Bokke and All Blacks [rugby] match. Lively analysis re who should've played what position etc. [Educator 3] tells them to take the rugby talk outside, "Some of us are trying to work!". He's ignored and the conversation continues for a few minutes.
>
> After confirming dates, numbers and physical addresses with numerous schools, [Educator 3] calls the bus company to confirm the number of buses they need [for the excursion to Lion's Head on Table Mountain]. He speaks to [a woman] who he seems to have worked with before and she tells him that there's now no buses available! [Educator 3] is stressed as all the other arrangements have been made based on this arrangement with the bus co. How can they let him down now that the programme has gone so far? [Educator 3] urges her to make a plan, explaining that this project is close to Councillor JP Smit's heart and how can they tell him now that it's not happening! [J1, p. 28].

Extract 2, Tuesday 19 August, 2008:

10h15 – 10h25: [Educator 6] handles two phone calls, both related to logistics. First is about sweatshirt orders and the type of collars etc. Second call is about equipment, cabling, tables, banners etc. for Saturday's event. Then a computer techie arrives at [Educator 6]'s desk with some hardware (external DVD writer) to connect. ...

11h45: Only [Educator 3] and [Educator 6] at their desks, both on the computer. [Educator 4] is in the intern's presentations. [Educator 1] is out, I think on a school visit. [Educator 7] is helping move furniture again for [senior colleague]. There seems to be some tension around this, what [Educator 6] calls 'office politics'. Perhaps that is why [Educator 6] won't move furniture.

11h50: [Educator 6] calls across to [Educator 3] to ask about invoicing Mark for the Lion's Head programme. [Educator 3] gives the email of the lady at SAN Parks who [Educator 6] should contact. [Educator 3] says [Educator 6] must ask her if she doesn't want to make more money by offering refreshments. [Educator 6] says Hey no! That's corruption, and proceeds immediately with the email re invoicing.

12h20: [Educator 1] arrives back; some interactions between him, [Educator 6] and [Educator 3] about arrangements for Saturday's event, the need to email Sally at Kirstenbosch Gardens for something or other. [Educator 1] hands the digital camera to [Educator 6] with pics that he took this morning. Also discussion re some technical detail re the camera. [Educator 6] advises that the memory card is full and [Educator 1] must take it to [a senior colleague] [J1, p. 35 – 37].

Extract 3, Thursday, 21 August, 2008:

08h20: [Educator 6] approaches [Educator 3] to ask if he recalls the words from the Shark Song from last year. [Educator 3] launches into a huge story about how he knows nothing about computers, he never saw a computer until he started working here, [Educator 6] is the computer *fundi* [expert], so why's he now playing these silly games by asking for him for stuff blah... blah... Then he gets to the same issue he raised yesterday: that [Educator 6]'s tone is too demanding. He says that when we want something from [Educator 6], he says *los my uit* [leave me alone], but when he wants something from us we must stop what we're doing and listen to him. [Educator 6] laughs about all this and [Educator 1] tells [Educator 3] that he mustn't worry himself about [Educator 6] because he'll die early.

08h30: [Educator 5] is at [Educator 2]'s desk discussing his preparations for one of his programme's. [Educator 5] seems unhappy that some directive came from [the manager] about the programme but he doesn't know where these ideas come from. [Educator 2] emphasises that this is his programme and *he* must be the one to drive it, take the initiative etc.

08h35: [Senior colleague] comes in with two guys in overalls, one with a drill. She asks where's [Educator 7] (who's just down the passage) because they've come to install the board he requested for his cubicle wall. The [Educator 3] asks her what's happened about getting locks installed on their cupboards because that was supposed to happen a long time ago; it seems like the request has gone to File 13! [Senior colleague] says [Educator 3] must send her an email.

> 08h40: [Educator 7] phones somebody to leave a message that the fax he received was blank and can he not rather email him or phone him back. [Educators 2 and 6] are talking across their desks about somebody in City Parks Dept. and needing to get hold of her to get some information. [Educator 6] says there's a better person to get hold of, and then it seems that [Educators 1 and 5] tune into the conversation and get his contact details, and those of his colleague. Seems that City Parks needs a list of all the YES participating schools so that they don't duplicate their interactions in schools such as planting trees on Arbour Day etc. [Educator 5] queries why this is all necessary and so [Educator 6] gets up, stands at [Educator 5]'s desk and explains the bigger story about the activities through the Mayoral Office, ensuring there's an educational follow-up through YES. [Educator 3] then interrupts [Educator 6] and tells him to take his hands out his pocket when he talks and to stand properly [J1, p. 44 – 45].

This pattern of working on a succession of logistical tasks, interspersed with personal tasks and social banter between 'the guys' is evident beyond just the week when I conducted office-based observations in August 2008. Thirteen months later, when my observations again allowed me to spend time in the YES office rather than 'in the field' with one of the educators, I noted the following in my journal:

> 14h00: [Educator 3] is at his computer reading emails, [Educator 6] is at his desk. [Educator 7] also doing emails and receiving a phone call, sounds like a private call about a car but I can't be certain as the conversation is in isiXhosa. [Educator 2] calls across the office to [Educator 3] to ask what they're going to do at next week's Arbour Day event – what banners to take, what YES displays. [Educator 3] is under the impression that [the manager] said the YES team isn't to be very involved this year.
>
> I called over to [Educator 3]'s desk to ask him what was happening for Arbour Week this year, as I'd heard him leave a phone message for someone re confirming an Arbour Day activity. He said it is much scaled down from 2008 when they'd planted 600 trees etc. From YES's side, they have supported 9 Eco-Schools via the Eco-Schools Node Co-ordinator but most other stuff was picked up by City Parks Dept. He said [Educator 5] had been involved with setting up a nice event in Langa where ten local schools received trees from DWAF [Dept. Water Affairs & Forestry]. There were lots of other items but [Educator 5] had been quite involved, setting up the hall and other logistics [J1, p. 85].

Overall, it became apparent that, although the team of YES Programme environmental educators are employed in the capacity of educators, the vast majority of their work involves logistical planning (such as booking transport, co-ordinating school visits to sites of environmental interest, preparing venues for public events, arranging for trees to be planted) and administrative tasks (such as invoicing and reporting on educational events). Aspects of these educational events requiring higher levels of conceptual planning and direct educational interaction with learners were, in most cases, outsourced to local environmental education

service providers such as NGOs and other government agencies. It appeared that the core function of the YES programme was serving as a co-ordinating hub and creating an enabling environment for environmental education activities to be implemented across the City of Cape Town, mostly through the provision of resources and logistical co-ordination. This insight was confirmed by the YES Programme Manager, Lindie, in an interview with me in May 2009:

> ... we didn't have the staff to go and do the programmes out there. I think a core thing that people keep on missing is we're not a competing programme, *we're an enabling programme that's providing the platform for internal and external organisations to showcase what they do and continue what they do* [my emphasis]. [Int. 01-05, p. 2]

However, despite the organisational strategy to enable rather than directly implement environmental education activities, I was able to observe Paul on an educational event in October 2008 when he conducted the Marine Week programme with a group of Grade 7 learners visiting Kalk Bay. This educational event is presented later in Section 6.6.8 as a small activity system nested within the wider YES Programme's activity system.

6.6.6 Paul's work in the YES Programme

Paul started working for the Youth Environmental Schools (YES) Programme in March 2006 in the post of Assistant Professional Officer: Environmental Education Officer [Doc.1A-04]. When asked in an interview to provide a 'snapshot' of his typical work, Paul said that his main tasks are to "co-ordinate programmes, prepare lesson plans and also presentations at schools" to support environment-oriented learning in classrooms [Int.01-01, p. 2; CI.01-01]. These educational interventions are usually theme-based, focussing for example on biodiversity, sustainability, waste management, water or energy use.

In an interview in August 2008, I asked Paul to describe the purpose of the Environmental Education, Capacity Building, Training, Sustainable Livelihoods and Communications Branch in which he works. He responded:

> I think the first thing is to put the environment out there. And to bring it to grassroots level so that you have a sustainable future for development so to speak. Because when children know, that will sort of enhance in them what a real future is supposed to look like [Int. 01-01 p. 1].

Paul's job description [Doc.1A-04] defines the scope and nature of his work as follows:

> To assist with the facilitation, coordination and implementation of an effective City's Youth Environmental School (YES) programme and related initiatives across multiple areas within the environmental management discipline to ensure effective and efficient service delivery… [requiring Paul to:]
>
> - Organise and run environmental YES calendar Weeks;
> - Assist with the Youth Conference on Sustainable Development;
> - Support and co-manage the teachers network EduNet;
> - Assist with the YES Environmental Drama Festival;
> - Assist with promoting the accessibility of YES to both educators and learners across the City of Cape Town;
> - Disseminate environmental education resource materials to appropriate audiences in support of EE and YES;
> - Research and develop lessons on environmental themes;
> - Present and facilitate appropriate environmental lessons to learners and communities.

In order to:

> - Ensure accessibility to the City's YES programmes to all schools, educational institutions and communities in the City;
> - Ensure an optimal level of environmental knowledge, understanding and skills among the City's educators and learners;
> - Ensure an integrated, curriculum-aligned and quality assured delivery of environmental education programmes in the City. [Doc.1A-04]

In 2006 and 2007, soon after his appointment to the YES Programme, Paul completed various short professional development courses in presentation skills, conflict resolution, minute-taking and computer literacy. When applying to study the National Diploma (EETDP) through WESSA in 2007, Paul wrote in his motivation letter:

> When I did courses in the past I did it for the sake of doing it and not because I really wanted to... I feel that this course will equip [me] to do the job that I am doing even better because I will have all the right tools to do the job. [Doc.1A-03]

When he introduced himself to the class on Day One of the EETDP Learnership on 12 May 2008, one of the first things Paul stated was that he is passionate about his work [CI.01-01]. In his application for the same course he noted: "At first I was a bit hesitant [in my new job] but as time went on my new found joy grew on me. I know I am capable of much more and even greater things" [Doc.1A-03]. In an interview in September 2009, he stated: "I don't know what I've let myself into, but I can tell you I love every minute of it" [Int.01-02].

Paul reflects a positive, responsible attitude to this educational work, conscious of his accountability within the larger agenda of the City of Cape Town and beyond:

> ... when we're thrown in the deep end ... we have to develop ourselves, that in the end we are successful in the outcome that we wanted or that the department wanted, and the educational part of the learning of what the City wants outside came to the fore. [CI.01-01];

and: "... whenever I can help I will help, even if I'm not actually part of co-ordinating the programme" [Int. 01-01].

6.6.7 Paul's Environmental Ethics-oriented Concerns and Actions

6.6.7.1 Family and community relations

During the first contact session of the EETDP Course, Paul commented during a group reportback activity that Nelson Mandela's suffering and struggle to liberate people has given us the freedom we now enjoy, and thus, in environmental education and in our general work, we need to strive to actualise this freedom (J1, p. 24). A commitment to working together to make all things better for all people is reflected in most of Paul's professional conduct and narratives.

A large part of his enjoyment of being an environmental educator is the way it enriches his immediate social relations beyond his professional obligations to the City of Cape Town. He explains: "I am very much self-motivated and have a drive to succeed so that I can not only make a difference in my own life but also in the lives of those around me" [Doc.1A-03]. He later describes the various ways in which his developing competence as an environmental educator is bringing benefits to his daughter, his church and wider community:

> ... today with environment as part of the curriculum, my ten-year old daughter, whenever she does projects and stuff, there's always environmental links and stuff and I can help with that. Not just sort of physically help, but also I can understand, OK, the teacher's thinking like this, so I need to implement that. ... And of course, I have all the resource material around me. And even if I don't have much, I just pick up the phone and say, look here, my daughter needs this and this. ...
>
> And not just for her. If I look at a managerial point of view, the church that I belong to, the New Apostolic Church, we sort of, for the past couple of years, having – if I can put it that way – environmental themes. The first one we ever had was about all things bright and beautiful, all creatures great and small. Speaking about the trees and the birds and whatever. And then after that, was it last year, we linked it up with Arbor Day and gave each child a seedling to care for, for the whole year. And then

> after that everyone planted into a community, either at a school, or at the crèche or whatever the case may be. I think we, it's in the Guinness Book of Records at the moment for the most trees planted by any organisation. ...
>
> There's that. And then this year we did a recycle for life, where we recycle to link it up with the trees that we planted, saying, look, you mustn't cut down the trees now, we're gonna recycle the paper. All papers that came in, we gathered from the members, we recycled the papers and from that point of view I could also be a forerunner and say look here, I've got this knowledge, I can come do a presentation. [Int. 01-02]

It appears that Paul is developing a sense of self-worth and pride as his developing capacity as an environmental educator enriches aspects of his personal life, most notably in his family and in his church. He noted in an interview, for example, that:

> … if I was at Athlone [power station], I never, ever would have the skills that I have today. And that is probably the one plus for me that I always see. Look here, this is what I always wanted, how I can link my natural work with my spiritual work [Int.01-08].

Paul's sense of care and responsibility in his community manifests in small and diverse ways. For example, he told me in an interview that he recently acquired a puppy (over and above the two Rottweilers they already have at home), and he is taking it to puppy classes. He described how the dog trainer was experiencing problems with securing a regular venue for the training classes and Paul helped him by suggesting alternative venues and people to contact about booking them. His motivation for this was because:

> … at the end of the day it [dog training] is an income for him and it's also sort of community upliftment for the kids because a lot of them are walking around with these Pitbulls and this is part of managing the dog, taking the dog for walks, the responsibility that comes with that. (Int.01-08)

Paul and I also had a few conversations about cars, which is one of his long-term interests. The following extract reveals some of the ethics-oriented thinking behind his recent decision to sell his powerful Golf GTI and drive a more economical, but less powerful, car. Also note Paul's reference to something his EETDP course tutor, Patrick, said about ethical action-taking:

> Yes, for myself, I would look at what I want to drive. Yes, I went for a 1400 engine because of that change in mindshift. So I steadily came down from a 3-litre, to a 2-litre, to a 1600, to a 1400. After this I said, there's a limit – and probably that is also what stuck in my mind, what Patrick said – there's a limit to everything that you *can* do. Some people go three, four days without washing or without taking a bath,

> whereas I say, look here, there's a limit. I decided ok, I'll do my bit, I'll save water to a certain extent, and that is it. … But I said, listen here man, it's *me*! I'm also human. I also like things. I want that! And I want a double-cab 4x4. I want it, and I'm going to buy it one day. I want a Mercedes Benz or a BMW, so why not drive it. But I just need to take cognisance of the fact, listen here, just look at the bigger picture. Like for instance now, I don't come to work with my vehicle. I leave my car at home, although I *can*, I *do* have parking here [the Wale Street office]. I travel by train, and I take the 10, 15 minutes' walk up from the station to here. [Int.01-08]

About 18 months prior to this discussion, Paul had referred in one of his course assessment tasks to his ethical quandary over what car to drive: "I sold my big car and bought a smaller 1600cc car because it produces less pollution but I need a bit of power to keep me and my family safe" [PoE-1A, Module 1, p. 18]. His comment shows vacillation between two priorities: having a powerful and safe family car versus driving a more environmentally responsible, fuel-efficient car. Subsequently, as reported in the previous interview extract, by 2011 Paul had again down-scaled his car to a 1400cc engine. There was an amalgam of reasons behind this decision: firstly, Paul acknowledged during the interview that he felt "too old" for the powerful car anyway; he also noted that his wife had returned to full-time study and so it was necessary to reduce family expenses and he had volunteered his powerful car in favour of the more economical family car; and also that it was an environmentally responsible choice [Int.01-08]. In an ironic echo of Paul's comment in his 2009 course assignment about desiring a more powerful car "to keep me and my family safe", he told me that he and his family had narrowly escaped an attempted car hijacking in 2010 and, although it was ultimately his aggressive driving skills and experience that enabled him to escape the situation, he would have out-paced the would-be hijackers much more easily had he still had the more powerful car.

6.6.7.2 Paul's Workplace-based ethical concerns and actions

I asked Paul on numerous occasions to identify any ethical dilemmas that he experiences in the workplace but he consistently concluded that there was nothing major[26].

However, from my workplace and course-based observations, numerous conversations reviews of Paul's course assignments, I have been able to compile the following vignettes of Paul's workplace concerns that have an environmental ethics dimension.

[26] From my observations, the majority of ethical tensions in Paul's professional context are of an inter-personal nature, related to conflicting styles of communication, resistance to certain forms of management and general 'office politics'. As these depart somewhat from the study's *environmental* ethics focus, I have opted not to include such data.

Vignette A: Wise Use of Resources in the Workplace

In a course assessment task focusing on environmentally responsible practices in the workplace, Paul noted that:

- we do not print minutes of meetings
- when we print, we print double-sided
- all have white paper recycling bins
- single printed papers are sent to crèches in the areas and communities. [PoE 1A, Mod. 2b]

Elsewhere in his course portfolio, Paul was more explicit and critical about the ethical tensions and contradictions around resource use in the office:

> Although we say reduce, re-use, recycle and repair, we don't do it often enough because every year big budgets are spent to buy computers and other stuff so that the budget for the following year is not less than what we have now. Because there is no recycling policy in place, all our paper goes to landfill. Some staff leave their computers on because it takes too long to start up and yet this is the same people that give out energy saving light bulbs. [PoE, Module 1, p. 19]

Similar commitments were reflected during a staff meeting that I observed in August 2008. This was the first meeting in which minutes of the previous meeting were projected onto a screen from a laptop following a decision not to print a copy of the minutes for each staff member. An electronic version was emailed instead. During this meeting, the manager reminded all staff not to print unnecessarily for ethical and environmental reasons [J1, p 47].

Paul is committed to this kind of practice and found the transition easy because he works confidently with electronic media, able to save rather than print documents or, when he must print, he can easily navigate the 'print on both sides' command options on the computer. Many of his colleagues, however, are older or have had less exposure to technology, leading them to print much more than Paul does. Paul explained his frustrations in an interview:

> For me, it's an ongoing thing in the office – about the printing. I would go and say 'listen here'. I maybe send you an email, or Lindie sends us an email, somebody, and it's just to read through. And now I come to the printer and somebody's printed it! It's normally one of three people, [he names them], and I say '*why* do you do this?' I'd understand if it's something very, very important.
>
> It probably came down to it when we were busy with the learnership and [a colleague] would have piles and piles of paper of maybe one assignment. And he had documents and documents and documents. Piles and piles of probably ten or

> fifteen different drafts of stuff. Or he inserted a picture somewhere so now he must see what it looks like. So now he prints it.

When this same matter was discussed during one of the EETDP course sessions, another colleague explained: "No, I print it so if I need it in a meeting, it's there and I can prove what happened" and another colleague added: "What happens if you only save it electronically and when you need it, it's during two hours of load-shedding[27]?" [J1, p.10]. Patrick, the tutor, proposed a practical compromise:

> You can have a folder for certain kinds of stuff and if other things are *critically* important, then you print them out. So there we're arriving at a compromise – which doesn't necessarily serve the environment particularly well but, somebody made the point on the flip chart, that we've got to look at the social side as well. So the socio-economic, socio-legal side is also pretty important.[CI.01-04].

These different responses to the paper wastage issue indicate that, in the workplace, professional needs (such as having a document close at hand during a meeting or being able to access a document even without access to a computer) took precedence over the less immediate environmental concern for moderate use of natural resources. For Paul, however, judicious printing became a matter of principle and it was soon part of his habituated practice at home and at work, and so he struggled to understand why others did not do the same.

Vignette B: Use of CCT Pool Cars

Parameters and protocols for using the CCT staff pool cars was a regular source of tension for Paul. I first became aware of the issue when it was discussed during a course session in May 2008 when Joanne, one of the line managers attending the morning's session, raised her concern about CCT's policy regarding car use:

> If you get to a certain rank and you get a car allowance, with your car allowance you're not allowed to use City of Cape Town vehicles, which encourages you then to bring your own car to work every day. Instead of discouraging you, letting you use public transport and giving you access to the City's vehicles. So that's the kind of situation lots of people find themselves in. (CI.01-03)

Joanne's concern with this policy was that it actually prevented CCT staff from reducing their carbon emissions through car-pooling or using public transport. The policy affected staff like

[27] Load-shedding is the term used by Eskom, the national electricity provider, for its scheduled power outages to reduce demand for electricity. During 2008, Eskom experienced regular electricity shortages and so load shedding of two hours at a time was timetabled for all regions on a rotational basis to alleviate the crisis.

herself in middle or senior management, whereas the environmental educators like Paul and Faaiz were required to use the pool car. The apparent ethical loophole in the policy, however, was that, should a CCT car not be available, staff were required to use their personal cars and submit a petrol claim. And for more staff not permitted to use the pool cars due to their own car allowance, extending trips unnecessarily or making multiple trips when one trip could have sufficed, are ways in which "claiming petrol can become an extension of your pay cheque" [Int.01-08].

Sensitivities to abuse of this system were prevalent. In August 2008, for example, a manager expressed her frustration to me that the environmental education team were making what she believed to be unjustifiable petrol claims. During a two-week professional development course held in Stellenbosch (approximately 40km from the CCT offices), each person (including Paul) travelled directly from home to the venue in their own cars instead of all meeting at the office each day and travelling together in the pool car. Thereafter, they each submitted petrol claims at a rate of just over R3 per kilometre, which took a substantial and unanticipated portion of her operating budget. The manager was concerned about the ethical dimensions of this incident, both institutionally and environmentally [J1, p. 39].

However, when this issue was raised during a staff meeting, Paul explained that during the first week of the training, the pool car was booked out to another staff member who kept it for three consecutive nights despite a regulation that pool cars may not 'sleep out'. During the second week it was booked out for a day by another staff member who, in Paul and others' opinion, could not justify use of a CCT car for that particular event. Paul explained that the unavailability of the pool car thus required them to use their five private cars and claim separately for petrol.

Similar tensions were still evident in October 2011 when I interviewed Paul for the last time. This time, however, the frustration was directed from the environmental educators towards a line manager who Paul believed was claiming petrol compensation up to R3 000 or R4 000 per month for what he regards as unnecessary driving along circuitous routes.

But some efforts do seem to be made. Paul cited an example where recently he and his senior manager, Lindie, needed to go to the same meeting, but she wasn't permitted to drive the pool car. Rather than drive in two separate vehicles, Lindie gave Paul a lift in her car, an

action which he describes as an example of saving fuel costs and reducing carbon emissions [Int.01-08].

It appears, from these dispersed discussions over three years, that generally the financial incentive for claiming petrol for use of private cars outweighs the ethical concern for reducing carbon emissions through car-pooling or minimising travel wherever possible. Similarly, the social justice element is also more prominent than the environmental concern. Paul's frustration, for example, seemed linked to his resentment that some staff could make regular and excessive petrol claims whereas others were not given equivalent access to (opportunities in) the system. He noted to me that there had been occasions when a manager had invited him to use his own car and claim petrol compensation (usually a privilege for more senior staff) but that he tried hard to avoid getting "pulled into" such activities because he is "very, very, very careful not to step on the guys' toes" [Int.01-08]. From these examples, it seems that the environmental ethical dimension of car-pooling in CCT is raised only when the matter is being challenged or reflected upon (such as by senior managers or during course discussions), whereas the more authentic and pressing interests are linked to money and perceived social inequities in the working environment.

6.6.8 Paul's Marine Week Lesson with Grade 7 Learners

6.6.8.1 Overview of the educational programme

Marine Week is celebrated in South Africa annually in the third week of October and it is a regular focus for the YES Programme. On 13 October 2008, Paul conducted a morning programme entitled 'Sharks in Deep Trouble' with a class of Grade Seven learners from a Cape Town primary school (see Figure 6.11 for a sequence of photographs taken during my observation of Paul's Marine Week programme on 13 October 2008). The programme was run in partnership with MetroRail, the city's railway service, and the Save our Seas (SOS) Foundation based at Kalk Bay. MetroRail provides an educational service in the form of the EduTrain, a train coach reserved for learners to be transported free of charge from the train station closest to their school to the station closest to the educational venue.

In his course assignment to conduct a needs analysis to inform the development of the shark awareness programme, Paul explained that talks between CCT and the Save our Seas Foundation began about six years previously and: "This brought about a lot of planning,

discussion and negotiations between many role players in the field of marine conservation" [PoE 1A, Mod 2, Assign 1, p. 2].

For Paul, the connection between developing such a programme and his work with CCT through the YES Programme is clear: "We in Cape Town love our beaches and the beaches being part of the recreational facilities provided and cared for by the Local Government (City) thus making the shark incidence part of the city's responsibility" [PoE 1A, Mod 2, Assign 1, p. 2].

Figure 6.11 Photo collage of Paul's Marine Week lesson: (1) Paul meets the learners and guides them onto the correct EduTrain coach at Cape Town central station; **(2)** Paul holds up and discusses a poster about marine ecology with learners on the moving train; **(3)** Learners are asked to stick laminated pictures onto the marine food pyramid; **(4)** The class listens to Paul teaching about sharks and marine ecology en route to Kalk Bay; (5) Learners clap and sing Paul's Sharky Song; **(6)** Paul remains in contact with the office regarding logistical changes while ushering the learners from the train station in Kalk Bay to the SOSF offices; (**7)** SOSF staff lead a hands-on fieldtrip onto the rocky shores opposite their offices; **(8)** The head of education at SOSF gives a talk about shark conservation, supported by numerous resources.

As part of the YES Programme's Marine and Coastal Week activities, a class of Grade Seven learners was to learn about marine ecology, in particular the significance of sharks. The programme was structured in three parts:

- on the EduTrain coach with Paul during the commute from Cape Town Central Station to Kalk Bay Station when they would learn about marine ecology and sharks;
- a visit to the rocky shore led by staff of the SOS Foundation;
- at the SOS Foundation offices in Kalk Bay where they would have a talk and puppet show about the importance of sharks in marine ecosystems.

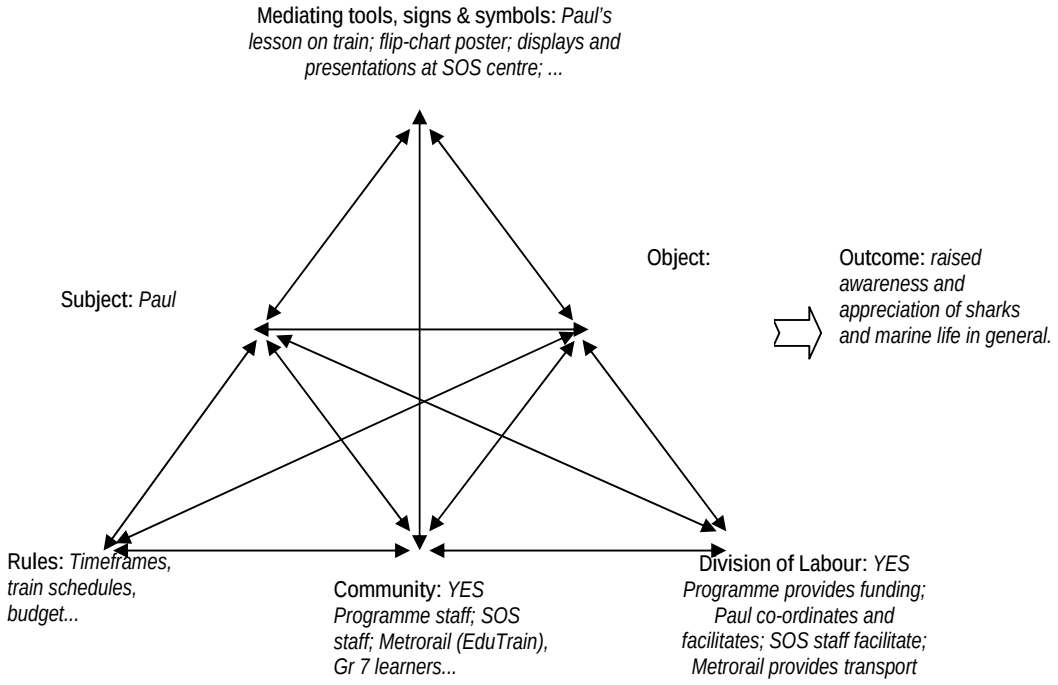

Figure 6.12 The marine week activity system, nested within the YES Programme's activity system

The Marine Week activity system is presented here in Figure 6.12 as a nested activity system of the YES Programme because it originates in, and is made possible only because of the wider activity system of the YES Programme. However, the object, rules, community, mediating tools and division of labour of the Marine Week excursion are sufficiently distinct to warrant analysing it as an activity system in its own right. While Paul is identified as the subject of this activity system, it is important to recognise that, as it is a nested activity

system of the YES Programme, Paul's status here as subject is inextricably bound to that of the originating activity system.

6.6.8.2 Environmental and ethical discourses of the Marine Week Lesson

One of the mediating tools in the activity system of the Marine Week Lesson is the page called 'Shark Safety Tips' on the CCT's Environmental Resource Management Department website (CCT, 2011e). This text reflects CCT's official position regarding sharks, their risk to humans along the Cape Town coast, and their conservation. Thus, in the activity system, it is influential in modelling an ethical response to sharks and proposing a particular kind of relationship between people and sharks. Figure 6.13is an image of the webpage, showing the interplay of words and text about shark safety.

Shark safety tips

Despite the odds being low that you will encounter a white shark while surfing, diving or swimming, any marine recreation activity along South Africa's coastline carries the risk of an unplanned encounter with *Carcharadon carcharias*, the Great White Shark. A list of basic principles has been provided that, if followed, will not only decrease your chances of encountering a great white shark, but increase the odds of a safe ending for both the shark and humans, should you ever meet the world's largest predatory fish.

General principles

- If you are not fully aware of all of the risks of bathing in the ocean and are not prepared to take these risks, do not go into the ocean.
- White sharks, like all predators, are more likely to identify a solitary individual as potential prey, so try to remain in a group.
- White sharks are primarily visual hunters, which would normally allow them to correctly distinguish you from their preferred prey species. Therefore, avoid entering the ocean when it is murky, during darkness or twilight hours when sharks rely on their other senses to locate potential prey rather than their vision.
- When encountering a white shark remain as calm as you can. Assess the situation. Do not panic! Panicked, erratic movements are likely to increase the shark's curiosity, draw it closer to you and possibly send signals similar to an injured or distressed prey. Use any equipment (camera, surfboard, etc.) you may be carrying to create a barrier between yourself and the shark.
- If you see a shark, calmly alert other ocean users around you. Remain in or create a group, and leave the water in a calm and swift, but smooth, manner. Alert the lifeguards or shark spotters.

As will be shown later in this section, many of the perspectives Paul expressed during his 30-minute narrative to the Grade 7 learners on the EduTrain correspond with the position of this official text. Key characteristics of the text are that:

- Sharks are demystified, given a scientific name (*Carcharadon carcharias*) and represented as instinctive, curious predators. An understanding of sharks' natural, species-specific behaviour is likely to help people reduce risk: "Panicked, erratic movements are likely to increase the shark's curiosity, draw it closer to you and possibly send signals similar to an injured or distressed prey". Sharks are not anthropomorphised and presented as terrifying monsters of the deep, intent on hunting for human victims. Instead they are presented as "the world's largest predatory fish" with whom we might have an encounter if we venture into the sea. Shark attacks are presented as "an unplanned encounter with *Carcharadon carcharias*".

- People are represented as 'visitors' to the ocean which is the sharks' natural ecosystem i.e. people enter the sea on the sharks' terms. The text's recommendation that: "If you are not fully aware of all the risks of bathing in the ocean and are not prepared to take these risks, do not go into the ocean" implies a call for humility (in relation to the natural ecosystem of marine life) and restraint on the part of people.

- Human well-being *and* shark well-being are constituted as moral objects in this text. "… increase the odds of a safe ending for both the sharks and humans".

Paul expressed a very similar values-based rationale for developing a shark awareness-raising programme with the SOSF in his course assignment:

With all the myths flying around about sharks we need to start caring for them now before it is too late for some or all the species of sharks.

Sharks is the top King of the ocean and the lion is king on the land but we humans is the top predator on land and in the sea and thus it is our responsibility to care for all living creatures big and small to the best of our ability so that it can bring about change.[PoE 1A, Mod 2, Assign 1, p. 2]

Based on this text, it appears that Paul recognises the intrinsic value of sharks ("before it is too late for some or all the species of sharks"), and he endorses a stewardship approach ("it is our responsibility to care for all living creatures big and small to the best of our ability"). This echoes Paul's Christian orientation to environmental education, noted for example in an interview in which Paul explained:

> ... the church that I belong to, the New Apostolic Church, we sort of, for the past couple of years, having – if I can put it that way – environmental themes. The first

> one we ever had was about all things bright and beautiful, *all creatures great and small*[28]. Speaking about the trees and the birds and whatever. And then after that, was it last year, we linked it up with Arbour Day and gave each child a seedling to care for, for the whole year. (Int. 01-02, p. 13, my emphasis)

However, Paul's statement later in the same assignment suggests a more anthropocentric and utilitarian position regarding the importance of shark conservation: "To keep sharks around *is in our best interest* because they balance our food chain *so that there is always food for all* and most of all because the ocean is the *biggest natural food source* on the planet" [PoE 1A, Mod 2, Assign 1, p. 3, my emphases].

I used the O'Regan (2011) / Kronlid and Öhman (in press) Analytical Tool to analyse Paul's 30-minute narrative during his 'Sharks in Deep Trouble' lesson delivered on the EduTrain coach [CDA.01-06] (see Appendix 17). Paul focussed his lesson mostly on sharks but used them as a starting point also to teach more general concepts relevant to ecology and marine conservation.

The preferred reading of Paul's narrative can be summarised as follows: marine creatures live in balance with one another, as is evident in the food pyramid, but this is easily disrupted by humans who can (and do) destroy certain populations such as sharks which function as top predators and keep other populations in balance. Sharks are majestic creatures that are commonly feared because they attack humans, but we need to understand that the sea is *their* habitat and it's not surprising that they bite humans who encroach into their space. They are not the man-eaters we make them out to be. We should respect sharks but some cultures have traditions that are cruel and harmful to sharks, such as cutting off their dorsal fins to make shark fin soup, throwing the maimed animal back into the sea to drown [CDA.01-06, p. 1].

I described Paul's style as "didactic, and sometimes persuasive" in teaching the Grade 7 learners about the importance of sharks in the marine ecosystem, and some ways in which human activities are threatening their very existence. He used a combination of scientific words for ecological concepts (e.g. food pyramid, top predator, producers, consumers) and attempted throughout the lesson to make the content relevant and accessible to a young audience through using colloquial expressions, age-appropriate vocabulary and occasional code-switching between English and Afrikaans (e.g. "Your mommy put you on solids, and then Mommy put a little bit of meat with and a little bit of fish with, and so you go on, and so

[28] See Genesis 1:31 (Holy Bible).

you grow" [line 115]). To clarify certain concepts, Paul occasionally used contextualised analogies based on a (probably accurate) assumption that the learners come from Cape Town-based, working class families (see, for example, his reference to people's enjoyment of eating the popular take-away, KFC).

Sharks and the carefully balanced marine ecosystems of which they are part are constituted as the moral object of Paul's narrative, and four ethical responses that he proposes are related to that:

- **We have a collective responsibility to stop the killing of sharks:** "*...what's going to happen if you take the shark away out of the whole equation, if we keep on killing our sharks, if we keep on taking away...*" [CDA.01-06]. Note Paul's use of the collective pronoun "we", a linguistic strategy he uses in the narrative quite often (I believe unconsciously) to establish a sense of collective responsibility with the learners (for causing *and* solving the problem of shark deaths). E.g. "... *we* are killing 100 million sharks a year" (p. 1); "*We* are the biggest enemy of – not just sharks – but of the planet in the whole" (p. 3) and "...in the last 100 years *we've* caused more damage then all our ancestors before that" (p. 3).

- ***We have a responsibility to future generations to ensure that sharks (and other species) survive:*** *"You get about 350 different species of shark. ... And it is our responsibility to see that it's there for future generations"*.[CDA.01-06]

- **Human behaviour that harms the planet's ecological integrity is regretful and needs to change:** *"... we are the biggest enemy of – not just sharks – but of the planet in the whole. Right. Of every animal, every living species, in the last 100 years we've caused more damage than all our ancestors before that*".[CDA.01-06]

- **We should take from Earth only what we need; we should not be greedy or unjust:** *"So there's enough for everybody to eat, but there isn't enough for everybody's greed" [A variation of Ghandi's quotation: "There's enough for everyone's need, but not for everyone's greed"]*.[CDA.01-06]

These environmental ethics perspectives appear to originate in Paul's general and wide socio-cultural context rather than in his professional environment. For example, Paul refers to the

need to care for all living creatures, big and small, an expression which resonates not only the with the biblical reference (Genesis 1:31) but also echoes the first four lines of a popular Christian chorus: "All things bright and beautiful/ All creatures great and small/ All things wise and wonderful/ The Lord God made them all". Additionally, Paul's claim to the learners that "... there's enough for everybody to eat, but there isn't enough for everybody's greed" is a variation of a well-known quotation by Mahatma Ghandi: "There's enough in the world for everyone's need, but not enough for everyone's greed". Paul used these two expressions both in his narrative with the learners in the train and in his more carefully constructed assignment texts, suggesting some level of consistency in his commitment to these perspectives – neither of which is traceable to the mediating tools of the YES programme or the EETDP Course.

Focusing on this Marine Week lesson in a subsequent EETDP Course assignment, Paul wrote:

> We in the City of Cape Town have a coastline that spans over more than 300 kilometres which we can arguably say it is one of the most beautiful we will find on the planet with its big variety of plant and animal life in and out of the sea. With this beauty also comes a huge amount of responsibility to care for it so that it can be sustained and protected for future generations. ...
>
> ... In recent years, we in Cape Town also had some shark incidents that did not go unnoticed by the public as well with the authorities that are responsible for the safety on our beaches and the people that use these beaches as a recreational facility. Also understanding the unique value that the coast offers, and considering the current pressures on our resources the city is required to that take urgent action to reverse the current trends and secure our coastal assets. ...
>
> ... And yes sharks are out there and part of our coast line and our Marine diversity that needs to be protected and not just killed. [PoE 1A, Mod 2, Assign 2, p.2]

Analysis of this short assignment extract using the Kronlid & Öhman analytical tool (see Section 4.7.3.4 and Appendix 18) suggests that Paul's valuing of marine biodiversity and Cape Town's "most beautiful" coastline is predominantly instrumental, in terms of nature meeting human needs: "that *use* these beaches as a *recreational facility*"; and "our coastal *assets*" [CDA.01-08, my emphases]. Where there are suggestions of Paul potentially placing intrinsic value marine and coastal life, these are not sufficiently developed to make such a claim and appear to be ultimately superseded by a more instrumentalist view. See, for example, "the unique value that the coast offers" and "a coast line … which we can arguably say is one of the most beautiful we will find on the planet with its big variety of plant and animal life in and out of the sea".

According to Paul's text, desirable responses to threatened marine ecosystems are eco-managerial ones. This is in keeping with the eco-managerialist/ administrative rationalist orientation evident in most CCT ERM Department texts (see Section 6.5). Paul notes, for example, that "authorities that are responsible for the safety on our beaches" and that "the city is required to that take urgent action to reverse the current trends and secure our Marine diversity that needs to be protected and not just killed". Ethical responsibility for the natural world thus seems to lie with governing authorities (in this case, the City of Cape Town's ERM Department) and so Paul, as their employee, seems to regard that responsibility as extending to himself, through his work as an environmental educator.

6.6.9 Paul's engagement with environmental values and ethics through the EETDP Course

6.6.9.1 General Overview of Paul's engagement with the ethical component of the Course

Paul attended all contact sessions of the EETDP Course between May 2008 and February 2009 and his portfolio of evidence (PoE) was successfully assessed by WESSA. Paul was awarded the National Certificate in EETDP by WESSA in March 2010. From my observations, he participated attentively and constructively during the course teaching sessions but made very few verbal contributions. Hence, in this section, I draw mostly on my observation notes and Paul's written assignments and to a lesser extent on transcriptions of peer-tutor or peer-peer class interactions. (Paul's engagement with the ethics of shark conservation and marine ecosystems through the EETDP Course has been presented already in Section 6.6.8.)

For Paul, ethical environmental practice involves the combination of practical personal commitment to taking environmental action as well as ensuring social justice and empowerment of people. When introducing himself, his work and his expectations on the first day of the EETDP course, Paul stated: "… what I really want [is] to be empowered, to be enriched and to make a difference not only to myself but to other people in Cape Town and in the World" [CI.01-01].

Paul appears aware of the potential for hypocrisy and rhetoric in environmental education practice although he does not use these particular words to articulate his concern. In an EETDP assessment task [PoE-1A, Module 2b], Paul stated that he aims to refrain from:

> ... making any promises to them [teachers] because this will lead me to creating an expectation. The expectation will be big if I am unable to deliver on my promises, bearing in mind that these promises will be conveyed to the learners that they teach giving them false hope. [PoE 1A, Mod. 2b]

In the same assignment he adds that he strives to 'Reduce-Re-use-Recycle' material goods so that "I could speak from the heart and not about things that I read in a book" [PoE 1A, Mod.2b]. Later he concludes:

> Practice what you preach. Do not do unto others that you do not want to be done to yourself (yourself also includes the environment that we live in both natural and built). It will not be ethical of me as an environmental educator to tell others for example to save water or not litter or to recycle but I do not apply this in my own life. [PoE 1A, Mod. 2b]

6.6.9.2 Thinking about Wetlands: Contact Tutorial Activity 1

During Module One, learner-practitioners focused on wetlands (their social-ecological importance, threats to wetlands and so on) and then worked in small groups to consider the links between wetlands and individual lifestyle choices and the workplace or wider community. Thereafter, individuals had to write their reflections in their Portfolio of Evidence (PoE) Workbook.

Analysis of Paul's written response to the task [PoE-1A, Module 1, p. 5 – 8] suggests that his knowledge and experience of wetlands is based both on personal, concrete experience ("…growing up as a child my father instilled in me not to take it for granted. He would always take me fishing and on hikes") and on more abstract, learned knowledge ("[In society, wetlands are vulnerable to] dumping that lead to criminal activity, alien species and extinction of species" and "People have economical benefit of it because they can sell the fish"). Paul adds that he does not dump waste in wetlands (a common problem in Cape Town) and that he teaches the youth in his area to do the same and endeavours to give his family the same opportunities (fishing, walking in natural areas) to instil a love of the outdoors as he experienced with his father as a child.

Paul's holistic approach to environmental management and his instrumental valuing of wetlands for their ability to meet human needs is consistent with his valuing of sharks, marine ecosystems and other 'natural resources' (as previously discussed in Section 6.6.8.2). Paul writes:

> If we can value things for what they can do and what they can give us and see that if we work hand in hand with nature, the surrounding environment, we will come to the realisation that we are part of this wonderful and remarkable cycle of life where the one is dependent on the other and not to be exploited by the other just for our benefit. [PoE-1A, p. 7]

In reflecting on this course activity, Paul wrote: "It was useful to because I could place myself in a situation and try and identify what in my life needs adjusting or improving even if it made me feel uncomfortable at times. It made me understand that all things in life are in some way or other interlinked. You are taken into many directions when you are thinking" [PoE-1A, p.8].

6.6.9.3 Reflecting on Personal Values and Ethics: Contact Tutorial Activity 4

Contact Tutorial Activity 4 was the primary tool to assess learner-practitioners' performance in terms of Unit Standard 13649 'Apply fundamental knowledge of environmental ethics to a field of work or study'. Paul explained that for him, environmental ethics means: "… to really appreciate and value the environment in a way that you gain by it but not undermining it so that it at all times becomes a win, win situation". He went on to list his lifestyle choices that reflect an environmental ethic:

> When I buy things I look if it can be recycled. As an environmental education officer that teachers other people's children at school, I teach my family to do the same like switching off the light when you leave the room and to use water and other resources wisely. I remove all my non-indigenous and replace them with indigenous trees and plants. I sold my big car and bought a smaller 1 600cc car because it produces less pollution but I do need a bit of power to keep me and my family safe. I love to braai and did this once a month but change this to once every three months and thus burn less wood and is also less pollution. [PoE, Module 1, p. 18]

Rather interestingly in the light of all the data presented so far about Paul's ethical engagement with his work and personal life, in response to an assessment task question about what he is struggling to understand in this section on ethics, Paul stated: "I am not sure how to link environment to ethics" (PoE, Module 1, p. 18). He also noted: "At times it [this section on environmental ethics] made me feel uncomfortable because I had to dig deep to really see and understand how I really feel and where I fit into the whole picture" [PoE, Module 1, p. 20].

6.6.10 Paul's Case Study: A synthesis so far

This section has scoped the diverse and interacting dimensions of Paul's professional life as a novice environmental educator. As will be discussed in Chapter Eight, these interactions are embedded in sociocultural-historical context and are highly influential in Paul's ethics-oriented reflexive deliberations.

Examining the YES Programme as an activity system in interaction with the EETDP Course activity system has enabled me to identify structural tensions, contradictions and resonances between their various subjects, objects, rules, community, and mediating tools, and to consider how these might influence Paul's ethics-oriented reflexive deliberations. For example, the EETDP Course seemed generally to align with the CCT and YES Programme's sustainable development orientation, supported by Paul's tutor who had many years of experience lobbying and supporting local government to adhere to its sustainable development mandate. There were generally also high levels of resonance between the official organisational environmental discourse (sustainable development, environmental management and social justice) and Paul's personal narratives. There was evidence that CCT's mediating tools were highly influential in informing and orientating Paul to the range of environmental issues he needs to consider in his work as an environmental educator. But where the organisational environmental and ethical discourses were (mostly) consistent, Paul's discourse seemed more eclectic, revealing elements of intrinsic *and* anthropocentric valuing of nature, within sustainable development, environmental stewardship and managerial orientations. His considerations of sustainable development and environmental management seem to merge fluidly with his own Christian perspectives and commitments to social justice and equity. His ethical concerns also seemed to be strongly situated in relation to his familial commitments and domestic context.

There are indications that Paul's reflexivity enables him to identify (and to a certain extent also respond to) tensions between the YES Programme's 'rules' around pro-environmental behaviour and the way the activity system's 'community' actualised them. For example, Paul understands and is strongly committed to the office policy of saving paper and electricity and of seeking ways to reduce their collective carbon footprint, and he openly criticises those colleagues who did not conform to such practices.

The rest of this chapter focuses on similar interactions influencing Faaiz's ethics-oriented reflexive deliberations. Chapter Seven will do the same for Nkanyiso who lives and works in the KwaZulu-Natal midlands. Thereafter, in Chapter Eight, I look *across* all three cases towards responding to this study's interest in how ethics-oriented reflexive deliberations occur in the interacting activity systems of course-supported EETDP workplaces.

6.7 CASE STUDY 1B: FAAIZ

6.7.1 Overview of Case Study 1B

Faaiz Adam also works in the City of Cape Town's Environmental Capacity Building, Sustainable Livelihoods and Communications Branch based in the Wale Street office in central Cape Town. His professional focus is internal staff development as it relates to environmental resource management. As such, Faaiz does not go out to schools or communities but works very closely with structures within CCT that provide for staff professional development.

This section follows a similar structure to Paul's Case Study, reviewing Faaiz's workplace in terms of environmental and ethical discourses and practices, examining one of Faaiz's educational presentations in more detail, and then examining the ways in which Faaiz engaged with the environmental ethics component of the EETDP Course.

6.7.2 Faaiz's Biography

Faaiz was born in 1959, the fifth youngest of 21 children. He was raised in Woodstock, a suburb about five kilometres out of Cape Town. He recalls that his nickname as a child was 'Finding' because he would regularly find and collect insects in jars and bring them home to study. He was fascinated by other life forms such as chameleons, birds, snails, insects, but most especially marine life. As a boy in the 1960s, Faaiz would spend day after day on the beach at Woodstock (where a shipping container terminal has since been built) observing the fish and crustaceans. However:

> As I grew older and looking for a career, the indoctrination was, the big thing was everybody wanted to go into engineering… The money was there and all those kinds of things, but there was never an opportunity for us to study in the environmental field; never an opportunity. [Int.01-09]

Although Faaiz's father and several older brothers were plumbers, Faaiz "wanted to be different" [Doc.1B-02] and dreamed of becoming a mechanical engineer, a dream which was never realised, principally due to the early death of his father which required Faaiz to find a job to support the family as soon as he finished school [Doc.1B-02]. At 25 years old, and after qualifying as an artisan, Faaiz married his childhood sweetheart and they have three children. Faaiz reflects:

> I still wanted to pursue my dreams of becoming an engineer but it became more and more difficult with the responsibility of a family of my own to care for. My focus changed from realising my dream to fulfilling the needs of my family…
>
> A crucial turn in my life was when I turned my attention to becoming a more devout Muslim and become a role model to my growing children to prepare myself to assist them with their lives and careers for their future. [Doc.1B-02]

Faaiz adds that although life did not work out as he had envisaged, he has no regrets. However, "… if I should be given a second chance to live my life again it would not be much different except that I would want to study to be an ENVIRONMENTALIST and not an engineer" [Doc.1B-02; Faaiz's capitalisation].

6.7.3 Faaiz's Previous Work Experience

When Faaiz matriculated from high school in the mid-1970s, his focus was on finding a job no matter what the field. Faaiz recalls that when he finished his schooling: "My mother take me by my hand and she walked me to a job, there was a place called Endurance Engineering and they used to make stainless steel tanks for the garages that goes underground where they store their fuel. It was just up the road. My mother wanted me to work there; I went there and applied. [Int.01-07, p. 7]". Faaiz had walked past Endurance Engineering every day to school and back, and he recalls that he was fascinated by the process of manipulating steel, and the way the tanks were rolled and domed. By the mid-1970s, the engineering field was beginning to accept coloured matriculants into apprenticeships. That, and Endurance Engineering's proximity to the family home, was the reason why Faaiz's mother took him there to find work at the age of eighteen.

Faaiz later did a three-year apprenticeship with Globe Engineering, achieving his National Technical Certificate Level 4 (equivalent to the current NQF 5 in South Africa). At Globe Engineering, Faaiz was mostly involved with industrial manufacturing and ship repair [Doc.1B-02]. Considering the toxicity of the paint they sprayed onto ships, the sludge they

pumped out, and the contents of the ships' ballast water that was pumped into the Cape Town docks, thereby transplanting alien marine species into the South African marine ecosystem, Faaiz reflects: "I came from a hell of it. I can't believe I was such a polluter of our natural waters, our sea waters. I took it for granted" [Int. 01-07, p. 20].

In October 1997, after 23 years at Globe Engineering, Faaiz started work at the Athlone Power Station (see Figure 6.5) as a specialist in the repair of steel piping, in particular the piping in high pressure steam generators that turned the power plant's turbines at approximately 20 000 revolutions per minute. His regular work involved welding, preparation of steel pipes, and maintaining and repairing ducts and flues in the power plant. He describes this previous work as "…completely different to what we have come to in this new job [in environmental education] [Int.01-07, p. 2]".

The work was moderately dangerous to Faaiz's personal safety (he explained that the steam was of such a high pressure that it was invisible and able to sever a limb or decapitate a person if they did not listen for the tell-tale hissing sound); it also carried high levels of institutional responsibility because the safety of many labourers in the power plant were at stake should he fail to maintain the steel pipes to the necessary high standard. Faaiz reflects that the risk became normalised after a while; that he would complete his eight hour shift in a way similar to how one crosses the city streets without dwelling on the prospect of being hit by a car travelling at sixty kilometres per hour [Int.01-07, p2]. He adds that the work became "sort of robotic" in maintaining the required standards of welding, and that he was regularly acknowledged by the superintendent for the high quality of his work [Int.01-07, p2].

Security at the power station was very tight, especially during the Apartheid years when such facilities were targets for anti-apartheid sabotage. To Faaiz, entering the workplace each day resembled entering a jail, with three sets of security checks to pass through and camera surveillance everywhere. Faaiz reflects that, although the Athlone Power Station was directly next to Langa township (a designated black township during the apartheid years), most professional jobs were held by whites and most of the labourers were coloureds: "There were a lot of labourers … mostly coloured. Hey, they didn't even trust the black labourers. … and only in later years did they start introducing black labour" [Int.01-07, p. 3].

With hindsight, now being in a substantially different workplace, and being more environmentally informed, Faaiz reflects on his previous job with some concern: "… I've

really honestly become sort of uncomfortable with what I was doing before, considering where I am now. Planting trees – so nice! … If I could turn the clock back, I would dream not going to that field [Int.01-07, p. 6-7]"; and later he states: "It's something that I enjoyed, within that sector of course, not knowing that I was part and parcel of air pollution" [Int.01-07, p. 8]. Faaiz recalls being aware, while working at the power station, of the high levels of particulate matter in the power station's smoke stacks, how the residents of Pinelands (an adjacent predominantly white suburb) complained of soot fallout on their roofs and verandas[29]. Faaiz states: "But it's something that was worrying me, although I didn't know all the knowledge about air pollution" [Int.01-07 p. 9].

In early 2006 when managers from the CCT Environmental Resource Management Department came to give an orientating presentation to staff at the power station with a view to their redeployment, Faaiz recalls being impressed and inspired by the prospects in environmental education:

> We thought, wow, is this really happening in the City of Cape Town? Is there really such a department? And what their vision was for us as educators, environmental educators. Is this really what we have to teach children about plants and animals and the sea and the atmosphere? That is nice! They are really getting some knowledge on that. [Int. 01-07, p. 21]

In an earlier interview, Faaiz explained that he "... made a career switch based on that [name] because there was a passion in me for the natural environment" [Int.01-03].

Faaiz reflects that, although he did not "know the full story about what our actual role would be" [Int. 01-07, p. 21], he was eager to continue training people, building capacity, in the way he had in his later years in the power station. While at Athlone Power Station, Faaiz had initiated a skills training programme, in which Paul had been one of the trainees, learning basic welding from Faaiz, and fitting and turning in another section. According to Faaiz, it was that kind of opportunity to be trained which enabled Paul to be appointed to the post of Operator when such posts became available to coloured employees for the first time in the 1990s. Seeing a career opportunity to continue training people, Faaiz felt that the move to the Environmental Resource Management Department would be expedient, adding: "I think I'm

[29] Between the ages of six and nine years, I lived and went to school in Pinelands within two kilometres of the Athlone Power Station, a few years before Faaiz worked there. I recall my mother complaining of soot from the smoke stacks, the "Pinelands Potties", as they were called by local residents, and her bringing washing in from the line on days when the fallout was heavy.

in the right unit, right now. Right now I'm in the capacity building training unit" [Int. 01-07 p. 21]. In a later interview he reiterated: "If you should ask me will I do it again, I will do it again; I will step into this field immediately" [Int.01-09].

6.7.4 Faaiz's work in CCT's Environmental Capacity Building & Training Section

6.7.4.1 Faaiz's formal job description

Since March 2006, Faaiz has held the post of Assistant Professional Officer: Environmental Capacity Building and Training Officer within the City of Cape Town's Environmental Capacity Building, Sustainable Livelihoods and Communications Branch, which falls under the Environmental Resource Management Department[Doc1B-01]. The main focus of Faaiz's post is the development of staff capacity within the City of Cape Town, in particular the Environmental Resource Management Department. This is reflected in his job description [Doc.1B-01]which sets out his responsibilities as follows:

- Facilitate developments and management of appropriate internal environmental training and capacity building programmes, projects and interventions in the City, through:
- Coordinate and run the Department's Internship programme and Volunteers and Staff Exchange programmes;
- Support the development, coordination and delivery of sector-specific environmental training and awareness programmes for City staff;
- Support with the coordination of the Department's Work Place Skills Plan and Internal Staff Environmental Training and capacity building programme;
- Respond and manage ad-hoc request e.g. Street renaming process etc.

In order to:

- Ensure an optimal level of environmental awareness and, capacity and skills among City staff as required;
- Ensure the promotion and development of environmental specialist skills and capacity among entry-level employees, students and own Branch staff;
- Promote staff exchange and enrichment programmes with external partners;
- Promote a culture of and opportunities for environmental volunteer work among civil society. [Doc.1B-01]

Associated with these main functions are several administrative and communication functions such as coordination of meetings and workshops, minute-taking, record-keeping and report-writing.

Figure 6.14 Faaiz at his desk in an office he shares with two colleagues

6.7.4.2 Faaiz's Typical Environmental Education Practices

My workplace observations correlate with Faaiz's explanation that a substantial part of his work is purely administrative. Although he is employed as an 'environmental educator', administrative functions predominate in the absence of an administrative department, and Faaiz's day-to-day practices are neither explicitly environmental nor explicitly educational. As he explains:

> If I'm organising an event, I mean I do all the planning for the workshops and stuff like that. I do all the planning and down to catering, down to busses, seeing that all the resources that is needed for the workshops is available. So I am also sort of the centre pole where everything streams through and from there it's disseminated. So that takes a lot of my time, the administrative part of it. [Int. 01-07, p. 26]

For these reasons, I had few opportunities to observe Faaiz in more typical educational practice. On 18 August 2008, I noted Faaiz's main task for the day was preparing for the department's newest intern, orientating her to the organisation, ensuring that her workspace and administrative requirements were in order. The following morning, I attended 75 minutes of a session in the boardroom where the department's interns were making PowerPoint presentations on their specific projects. In his capacity as the co-ordinator of the internship programme, Faaiz was busy before and during the session arranging for enough chairs in the venue, setting up the data projector, reminding section managers of the relevant time to pop in to hear their intern's presentations and so on. Hence, his role in this session was entirely supportive whilst the actual facilitation of the session and mentoring of each intern after his/her presentation (critiquing their use of voice, visual appeal of PowerPoint slides, body

language, time management and so on) was done by an external consultant who was contracted by CCT to provide this level of mentoring to the interns [J1, p. 36].

Other work-related tasks I observed Faaiz doing included making an internal phone call asking someone to submit their time sheets, re-fax certain documents and agreeing to change the person's paypoint number on the CCT system [J1, p. 37]; writing a proposal for his senior manager regarding Work Integrated Learning (WIL) placements, maintaining emails, and discussing a beach litter clean-up schedule with his line manager [J1, p. 92]. On two or three occasions, Faaiz apologised to me for being unable to provide opportunities of direct educational work, explaining that most of his work involves administrative co-ordination. I explained to him that such activities are a valid aspect of educational practice and he should not feel the need to apologise for that. However, I did ask to be alerted when Faaiz was due to implement any more conventional education or training activity, and was finally able to visit Cape Town in October 2011 and attend his 30-minute training session on the *Smart Living Handbook* for new CCT staff. Later in this chapter (see Section 6.7.7) I provide an in-depth analysis of extracts from the *Smart Living Handbook* and Faaiz's Smart Living presentation to new CCT employees.

6.7.5 Faaiz's Ethics-oriented Concerns and Actions

Of his new career in environmental education, Faaiz says: "But at least I can do something positive now". For Faaiz, going to work each day to do something meaningful, or enabling others to do the same, has always been important. For example, he explains that although his previous work at the Athlone Power Station was primarily driven by the need to be employed, he also valued being part of something that benefitted others:

> I think that it was important for me being able to actually do some meaningful work, knowing that people are dependent on electricity. That was quite sort of enhancing for me to know that I can do something to assist people out there, supplying electricity that's being used on a daily basis. [Int.01-7, p. 9].

Faaiz also reflects that when he started the first skills training for black labourers in Athlone Power Station in the 1990s, he was inspired to give a colleague an opportunity to "find some meaningful reason why he must come to work" [Int. 01-07, p. 4]. He criticises bureaucracies for thinking that they are islands on their own, adding that:

> … they don't think of people as people with aspiration … that want to aspire to something or just add value, they want to be important. Everybody wants to be

> important or wants to know that he is valuable; that you can put something of value back. [Int. 01-07, p. 5].

However, of that same period in his career, Faaiz lamented – apparently referring to himself – that "… the ultimate driving factor [was not about] you as an individual wanting to change the situation as it is there", but rather about earning a living and putting food on the table [Int.01-07, p. 4]. As will be described later in this section, Faaiz often feels this same criticism applies to some of his present environmental education colleagues in the City of Cape Town.

Faaiz is a committed and practising Muslim and his religious orientation has a strong influence on his environmental views and practices. He is now an Islamic teacher and runs home-based classes each Monday where he teaches people "the rights and the wrongs, the dos and the don'ts of the Islamic religion" [Int.01-09]. According to the Islamic faith, Faaiz is not entitled to instruct others on something which he himself has not implemented. This carries over into his work as an environmental educator as Faaiz feels very strongly that he must lead the life of an environmentalist, not just teach others about it. The strong part, the ethical part [of my work in environmental education] is actually stimulated by my religion" [Int.01-09].

Faaiz explains that his religious view: "is that everything that grows is life and every living thing has a right and should be given an opportunity and a right" [Int.01-03]. The combination of this religious orientation, a relatively new job (and career), and the content of the EETDP course appear to have stimulated Faaiz's deliberations around the rationale and the effectiveness of his environmental actions, as suggested in the following extracts from an interview:

> Why am I not making that change, that leap? And in the last couple of days, working on my assignment, it dawned onto me, am I fearing to be different to what others are? And that is what's been on my mind. Am I fearing that I would look silly to my immediate family, or my family would find me abnormal?
>
> And I'm monitoring myself in a sense how well am I portraying my inner feelings towards my closest family, my wife, my daughter, my sons, in making them recognise that I'm not just saving this water because I'm saving money, because at the end of the day I can say "Ah, I've got R300 in my pocket". It's having a far, a futuristic vision of, not the appreciation, but the value I want to add to a natural resource like water. That 'Is it going to be there forever?' Because I must come back to my religion, but I know you don't want to discuss too much of religion, but …because we are taught from the very root of our religion not to waste, and yet we

> are wasting. And that, we should be able, I don't know if you're familiar with our religion, but we take ablution 5 times a day. And sometimes I keep my ablution for the whole day, it's something that's renewable! It's a spiritual washing of certain parts of your body, to be in a state of purity to go and pray. Now, I can do that ablution in this amount of water [indicates about 100ml in his water bottle] and even less. But currently I'm using five to ten litres of water per ablution. Now that is what is worrying me. And this is what we're taught in our religion to practise. To conserve! I mean, our religion started in Saudi Arabia. A water-scarce region. So that was the first. Although oil came later, water was the most precious commodity in the region, because water is…[life]. [Int.01-03]

Faaiz explained that the deeper he reads into the Qur'an, the clearer he becomes about developing a holistic, responsible approach to his environmental actions:

> The Qur'an says we are vice-gerents on this earth and should be saving the earth … leading in the preservation of Man, or of the planet, for the preservation of Man. Life is something that comes strongly in our religion – life in general. [Int.01-09]

It is with some frustration, then, that Faaiz reflects on the neutral or unmotivated attitude of many employees within the City of Cape Town towards environmental concerns:

> Frankly, we're all doing the job! … It's got to do with at the end of the day we'll be paid. There could be some people that's more inclined towards…. but there's not a 100% commit, in the sense that we're doing it for the sake of we want to make a difference for the future preservation of the environment. [Int.01-03]

He also spoke of what he perceived to be an "*oppervlagtig*" [superficial] way of working and expressed his anxiety that, although they are working "in the right direction", it is probably not fast enough to "facilitate that change, that transition", especially in the context of climate change which does not provide the luxury of 50 years to work slowly. Faaiz seemed aware, however, of the educational tensions (methodologically and epistemologically) that accompany this social-ecological tension. He noted that:

> If we get more radical, there could also be a sort of opposition from people, why do you want to enforce it? Because many life scientists, many people are saying that 'Ag the environment will heal itself' … and that could be a realistic view from certain people, but is it realistic in real life? Can we actually say it's going to happen, or can we wait for it to happen? [Int.01-03]

In his EETDP Course assignments, Faaiz frankly expresses his frustrations over performative contradictions in his workplace. He describes the bicycle initiative as "just hot air" and laments that "… in fact the meetings are even taken further away to create an out-of-office atmosphere for, as they say, 'refreshed thinking sessions'" [PoE.1B, Assign.2, p.24].

One of Faaiz's more general concerns about the City's approach to resource management is that they made commitments in the past which they know they cannot honour. "You can't tell the people, you give us money, we'll give you water. What if there is *no* water? [Int.01-09]. He feels it is more important to teach people to realise the importance of appreciating and conserving water, rather than just promising to deliver it.

Commencing employment in CCT's Environmental Resource Management Department seems to have been the turning point for Faaiz as an environmentalist, and this is mostly linked to the almost unlimited access he had to environmental information. He reports how a new staff member approached him after his most recent Smart Living presentation and said how inspirational he found the talk. Faaiz says this is similar to his own experience: "This is the kind of thing I learned when I came into this department. It wasn't known to me. So suddenly you are given a jolt of lightning – this is reality, what are you going to do now?" [Int.01-09].

When I asked Faaiz what helps him to learn about and make choices about environmental concerns, he reiterated that information is very important to him. He gains much information on environmental concerns directly from his workplace in CCT:

> We are constantly bombarded with our resources; it comes to us electronically from the publication department … Because we're in this department probably, our names for some reason are in cyberspace. I'm being bombarded with information, but it's good information. I've just read that it's actually Vegetarian Day today … and those kinds of information encourage you to be a vegetarian. And it's always those kinds of articles that interest me. [Int.01-09]

Faaiz also explained that his involvement in the Environmental Resource Management Department's internship programme is very informative for him because the interns are all graduates working on environmental resource management projects in Cape Town. The Department also offers an 'enrichment programme' when managers and environmental specialists give a talk on Friday afternoons to interested staff. This is in line with the director's objective that all staff be well informed of current environmental affairs. Reading the newspaper and browsing the Internet for additional information are also ways in which Faaiz engages with environmental concerns.

In the light of his new environmental understanding, Faaiz appears to have made many changes in his personal life. He described how he now recycles cardboard, glass and plastic,

he stops his wife from spraying household insects with pesticide and has installed a water efficient shower head in the bathroom. He has built a compost heap in his backyard and jokes that when his wife complains that he's breeding flies, he tells her they are part of the ecosystem. He believes his family is beginning to understand his perspectives and, as a family, they are also "trying to eat more sustainable now" [Int.01-09].

Faaiz sums up his ethical engagement as follows: "That is what is driving me: it's my religious perspective as well as what it teaches me about my natural environment, my life, the life of my people that surround me, and how you should act towards that" [Int.01-09].

6.7.6 The Activity System of CCT's 'Smart Living' Programme

'Smart Living' is a cluster of projects and campaigns within the City of Cape Town's Environmental Resource Management Department aimed at providing information and practical action optionsfor more sustainable use of natural resources in the city (see Figure 6.15).

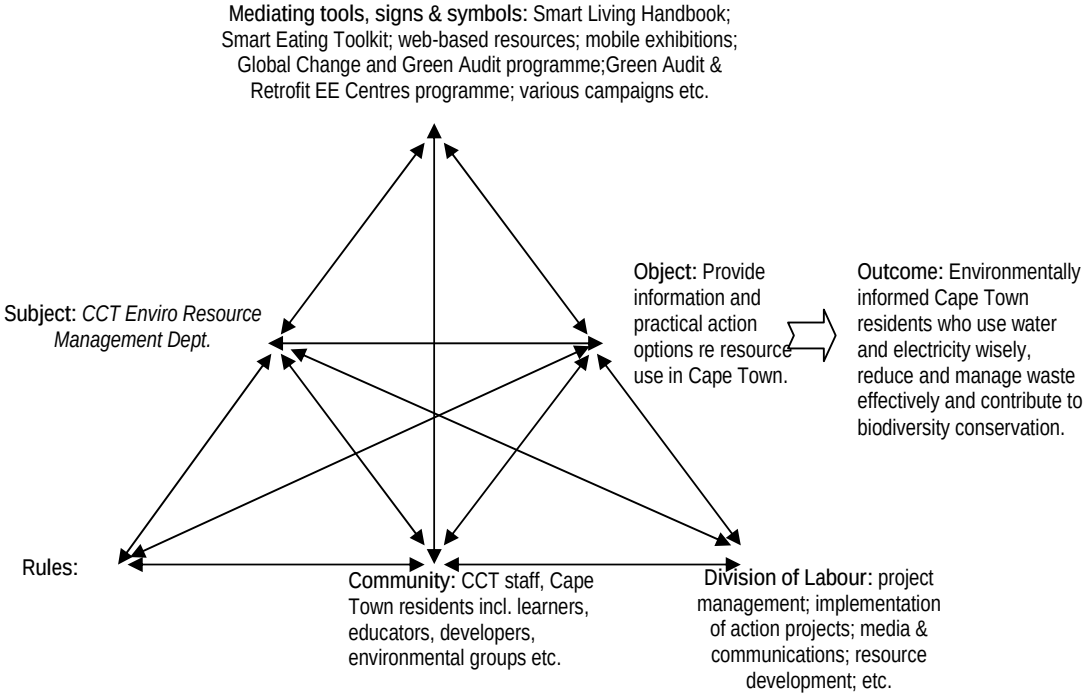

Figure 6.15 CCT's 'Smart Living' Programme represented as an activity system.

6.7.7 Primary Mediating Tool: The *Smart Living Handbook*

6.7.7.1 Overview of the Smart Living Handbook

In 2007, the City of Cape Town, in cooperation with the provincial Department of Environmental Affairs and Development Planning and the national Department of Water Affairs and Forestry, commissioned the development of an educational resource to support Cape Town residents to live in more environmentally sustainable ways. The product was an A4-sized book named the *Smart Living Handbook*, based on the *Home Environmental Management Guide Book* developed by AMATHEMBA Environmental Management Consulting and *The Energy Book* written by Sarah Ward. In 2010, the 4th edition of the *Smart Living Handbook* (see Figure 6.16) was compiled by Steadfast Greening and Icologie who also developed two complementary handbooks: *Smart Events* and *Smart Office* (CCT, 2011d).

The handbook is structured according to four environmental themes: waste, energy, water and biodiversity, and each section contains information and practical actions for Cape Town residents to implement in order to "protect the environment, save money, and make your home a safer place to live in" (CCT, 2011, p. ii). Figure 6.17 illustrates a typical page spread in the *Smart Living Handbook*.

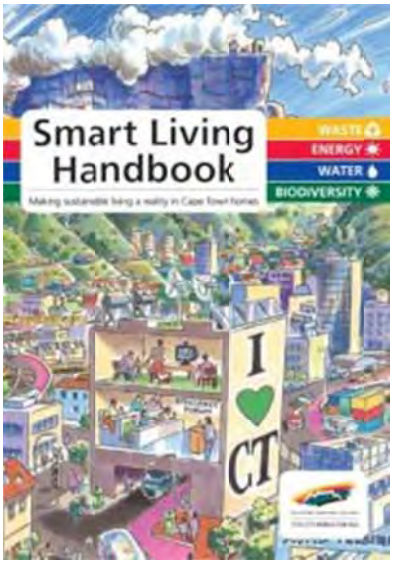

Figure 6.16 Cover of the Smart Living Handbook (4th edition) used by Faaiz as the basis for his Smart Living orientation session for new employees in CCT

Figure 6.17 Sample of two pages from the Smart Living Handbook (4th edition) showing the combination of information-sharing and practical action guidelines that are characteristic of the book

Using the discourse-oriented environmental ethics analytical tool I adapted from O'Regan (2006) and Kronlid and Öhman (2011), I analysed the introductory section of the *Smart Living Handbook* (2nd edition) to identify environmental values and ethics positions in the text [CDA.01- 02] (see Appendix 16). I selected the Introduction to analyse because it is a concise text that summarises and reflects the purpose and ethos of the overall book. The book is also a good, general indicator of the Environmental Resource Management Department's environmental position as it is one of their flagship publications. Thus, my intention was not to review the detailed environmental content of the book per se, but to seek to indicators of the environmental values and ethics underpinning it. The description below is based on that analysis.

6.7.7.2 General textual analysis

The text's intended readers are Cape Town residents. The text resides within a social framework in which people are constituted as responsible, caring agents. The assumption is that people will agree with the text and be motivated to take action. The meaning they are intended to make from reading the Introduction could be summarised as follows: Cape Town is a beautiful city, rich in natural and cultural heritage which also faces many challenges regarding natural resource conservation and allocation. Every citizen of Cape Town can make a difference by making small changes in the way they live; these involve using water and energy more carefully, and reducing waste. The CCT calls this 'Smart Living'. Not only is this environmentally beneficial but it saves us money too, so it's a win-win situation. This handbook explains how to achieve these smart living goals.

The Introduction is written in an informative, friendly, accessible and practical style. The text achieves an overall helpful, even persuasive, tone even though typical persuasive words such as 'must', 'ought', and 'could' do not appear. A sense of currency, even urgency, is created through the predominant use of the present continuous tense throughout the Introduction e.g. "Water resources *are increasingly scarce* and landfill space *is rapidly filling up*" [CDA.01-02, sentence 13] and "Every time *you switch on a light, drive your car, run water* or *put out your rubbish you're making a decision that affects* the environment" [CDA.01-02, sentence 17].

Positive words/ phrases/ metaphors dominate the first section [sentences 1 – 9], invoking a sense of splendour, uniqueness or pride e.g. 'Mother city', 'oldest city', 'legislative capital', 'important centre of trade and tourism', 'natural beauty', 'unique plant life', 'renowned for its beauty and biodiversity'. This shifts to more negative or problem-based vocabulary as environmental challenges are introduced, for example: 'many grave environmental resource challenges' [sentence 10], 'under threat' [sentence 11], 'severe impact' [sentence 12], 'scarce' [sentence 13], and 'rapidly filling up' [sentence 13]. Such vocabulary is typical of a discourse of ecological limits (Dryzek, 2005) – see Section 6.5.5.

Inequities and other social-ecological tensions are also alluded to: 'Some Capetonians use more water, electricity and petrol and generate more waste than the average American, while others live in households with a single tap, still using dangerous fuels such as paraffin for their cooking' [CDA.01-02, sentence 15] and 'Natural resources – water, coal, oil, land, fresh

air – will run out if we use them up at a faster rate than they can replenish themselves' [CDA.01-02, sentence 18].

It is noteworthy that the plural personal pronoun 'we' is used when a case is made for conserving water and energy for the sake of environment and future generations (e.g. "we can make a difference"), whereas the case for saving money [sentences 28 – 35] refers consistently to 'you'. Environmental care is thereby represented as a collective concern whereas money-saving is an individual concern, and it is interesting to note that the Introduction to the *Smart Living Handbook* endeavours to advance both concerns.

6.7.7.3 Environmental values and ethics evident in the text

The Introduction to the *Smart Living Handbook* suggests that the dominant moral object (i.e. that which is regarded as worthy of Cape Town residents' moral consideration) is primarily human well-being and that the value of local (especially endemic) ecosystems and species is part of that concern. In the case of the latter, it is unclear from the text whether ecosystems and species are valued for their intrinsic worth or their instrumental benefit to people, as evidence of both perspectives is found.

Weak indicators of nature being valued for its intrinsic worth are implied but not explicit in the text. For example, the fynbos floral kingdom is lauded for its rarity, beauty and endemism:

- "Cape Town is renowned for its beauty and biodiversity." [CDA.01-02, sentence 5]

- "Fynbos, or 'fine bush' is a shrubby, evergreen vegetation well known for its characteristic proteas. It occurs nowhere else but along the Cape coastal belt, its adjacent mountains and some isolated inland mountain tops." [CDA.01-02, sentences 6 & 7].

However, it is unclear here whether fynbos is valued 'for its own sake' or because it – for example – attracts tourists, holds pharmaceutical value or provides recreational spaces, all of which would indicate a more instrumental valuing of the fynbos.

Elsewhere in the text, instrumental valuing (i.e. of nature being valued because it meets people's needs) was more explicit:

- "Water resources are increasingly scarce." [CDA.01-02, sentence 13];

- "Natural resources – water, coal, oil, land, fresh air – will run out if we use them up at a faster rate than they can replenish themselves." [CDA.01-02, sentence 18];

- "To make sure that there are enough resources to go around – enough for everybody now and in the future – we need to manage our resources well, using what we have efficiently and fairly." [CDA.01-02, sentence 21].

In these examples, the implication is that nature in the Cape Town area requires people's care because, without it, natural systems (which residents and CCT reconceptualise as 'resources') will become depleted or damaged, thereby compromising people's well-being.

Table 6.2 summarises the morally considerable elements as evidenced in the selected text.

Table 6.2 Textual indicators of who/ what are constituted as moral objects in the *Smart Living Handbook*

Moral Object	Textual Evidence	Citation
Planet Earth	"Saving the earth"	CDA.01-01, sentence 28
Present local human generations	"… make our homes safer places to live in" "The wonderful thing about saving water and electricity and reducing waste is that it will save you and the City of Cape Town much needed money"	CDA.01-01, sentence 23 CDA.01-01, sentence 29
Present and future human generations	"… enough for everybody now and in the future"	CDA.01-01, sentence 21
Ecosystems and species	"… 3 000 indigenous plant species [of which] 190 are found nowhere else in the world" "destroyed natural habitats, placing many unique plants and the rare frogs and insects living amongst them under threat" "… protect the environment"	CDA.01-01, sentences 8 & 9 CDA.01-01, sentence 11 CDA.01-01, sentence 23
Geographical space	"[Cape Town], South Africa's Mother City" "… legislative capital of South Africa and an important centre of trade and tourism" … But Cape Town is probably best known for its natural beauty – Table Mountain, the Cape of Good Hope and the Cape Flats…"	CDA.01-01, sentence 2 CDA.01-01, sentence 3 CDA.01-01, sentence 5

Analysis of the Introductory text in terms of how the ontological relations between humans and nature are constituted illuminated an internal tension. On the one hand, the text reflects an integrated view of human-nature relations. "Cape Town - eKapa - Kaapstad - is South

Africa's Mother City" [sentence 2] reflects a shared historical and political space while "But Cape Town is probably best known for its natural beauty – Table Mountain, the Cape of Good Hope and the Cape Flats, where a unique plant life exists" [sentence 5] reflects a shared geographical and biological space. Together, these extracts reflect the transformative socio-political commitments of the City of Cape Town, emphasising the shared heritage of all Capetonians.

However, this integrated or holistic view is contradicted in several instances where natural resources are discussed. Nature is consistently represented as something external which people either manage and distribute ('To make sure that there are enough resources to go around – enough for everybody now and in the future – we need to manage our resources well, using what we have efficiently and fairly" [sentence 21]) or choose to protect ("protect the environment" [sentence 23] and "save the earth" [sentence 28]). The very term 'natural resources' reflects the view that nature is something outside of lived human experience to be collected, harnessed, harvested or otherwise utilised for human benefit.

Collectively, these diverse (and sometimes subtly contradictory) perspectives produce an array of relational spaces through the text. At times, people are invited to participate in a situated, practical space (e.g. "Every time you switch on a light, drive your car, run water or put out your rubbish you're making a decision that affects the environment" [sentence 17] and "… we can make a difference" [sentence 24]). At other times the text produces a political space (e.g. "Some Capetonians use more water, electricity and petrol and generate more waste than the average American, while others live in households with a single tap, still using dangerous fuels such as paraffin for their cooking" [sentence 15]) or historico-political space ("Nelson Mandela made his first public speech from the balcony of the Cape Town City Hall – heralding the beginning of a new era for South Africa [sentence 4]). There were also numerous instances of the text creating an economic space as a relational starting point (e.g. "Cape Town is also characterised by huge differences between people in terms of wealth" [sentence 14] and "Saving the earth and getting paid to do it" [sentence 28]).

A criticism of the *Smart Living Handbook* raised by Faaiz is that, while it encourages people to reduce, re-use, recycle, conserve, it does not open people's thinking to alternative ways of living (such as generating their own off-grid electricity) that operate outside of the City's service delivery mandate.

6.7.8 Faaiz's *Smart Living* Orientation Session for New CCT Employees

6.7.8.1 Background and overview of Faaiz's Smart Living Presentation

As noted above, a recent part of Faaiz's work within the Capacity Building, Sustainable Livelihoods and Communications branch is to make a 30-minute presentation to new employees in the City of Cape Town to orientate them to the City's overall 'smart living' approach, and more specifically to the *Smart Living Handbook* which all new employees receive. The City (which has over 25 000 employees) runs a three-day orientation programme for all new employees, regardless of their position or experience, in the first week of every month. The 'smart living' presentation is one of many timetabled presentations which range from guidelines for occupational health and safety to an overview of the City's employment equity policy. A 30-minute slot is allocated on Day Two for 'Environmental Resource Management' and it is in this session that the CCT's publication *Smart Living Handbook* is introduced. Faaiz explained that the main aim of the presentation is "to stir that initial awareness but hopefully that they will start also implementing little Smart Living initiatives in their homes" [Int.01-09].

6.7.8.2 Faaiz's Narrative on Smart Living

Faaiz's narrative during the training session was very consistent with the discourse of the *Smart Living Handbook* as described above in Section 6.6.7. His session took the form of a lecture, presented in a semi-formal style using a prepared sequence of PowerPoint slides based on images and words produced or endorsed by the City of Cape Town. His tone was enthusiastic, motivating and appealing, almost evangelical at times, for example:

> *We* can actually make a difference! We own houses, we all pay electricity bills and we all pay water bills. We intend to make change or do things differently after the {indistinct word}. That resource that you have in your hand doesn't become something that you shove on the shelf. I mean to encourage you, when I walk out of here, you need to be encouraged to read, read that thing! [WI.02-01; lines 56- 60]

He drew frequently on contextual, practical or otherwise relevant examples ("Who of us woke up this morning and took a shower?") and he made frequent use of humour when introducing information about the environment:

> Eugene always tells me the best way to save water is to drink beer {laughter from audience}. But it takes up to six litres of water to make one litre, one pint of beer. And he says the other thing is: shower with your neighbour {laughter} [lines 155 – 157].

Figure 6.18 Faaiz speaks from the podium at Belleville Civic Centre to introduce the *Smart Living Handbook* to an audience of approximately 60 new CCT employees

Figure 6.19 New CCT employees pack their *Smart Living Handbooks* at the end of Faaiz's presentation

Faaiz's use of vocabulary also serves as general indicator of his priorities and intentions as an environmental educator. Table 6.3 summarises the dominant trends in vocabulary-use identified in Faaiz's narrative, revealing a predominance of action-oriented, change-oriented speech and a concern for the environment which is portrayed as vulnerable and on the brink of social-ecological collapse.

Table 6.3 Textual indicators of Faaiz's social-ecological priorities and intentions during his Smart Living presentation

Type of vocabulary	Textual Evidence	Citation
change-oriented/ action-oriented	"We need to make something, to think different from today onwards to help it" "We should be doing something now" "… if we're not gonna do something about it, who's gonna do something about it?"	WI.02-01; Line 92 Line 130 Line 205
negative or dramatic environmental scenarios	"In eight years' time or even less we'll all have beachfront properties along the Western Cape because 1.1 meter rise in the sea level or 3 metres is gonna flood the whole Cape Flats" "…there's a lot of challenges facing the city" "If we don't look after our biodiversity, ecology is gonna spiral out of control, we won't have biodiversity. It is already dying off at extreme cost"	Lines 38 – 41 Line 52 Lines 203 - 204
Inclusivity/ Collective responsibility/ action	"… our natural environment" "whatever we do, we have an impact on the natural environment" "Who is responsible for it? Ultimately, we are" "… we all have something to do with the natural environment"	Lines 9 and 21 Lines 31 – 32 Lines 41 – 42 Line 210
Money-saving through environmental action-taking	"Why smart living? It saves you money. It saves you resources. And it saves your environment" "Every drop of water that plop-plop-plop out of your tap is money plop-plopping out of your pocket" "That thing [solar geyser] pays itself off in three to five years and then you're in the pound seat. It uses 40 – 50% less of your electricity; it costs you 40- 50% of your electricity bill. That's just money back in your pocket"	Lines 145 – 146 Lines 175 - 176 Lines 193 - 195

The predominant relational or social framework evident in Faaiz's presentation is geographical, that of being the audience all being Capetonians and to a lesser extent, South Africans. For example, Faaiz says: "Don't be uninformed in the City of Cape Town" [line 73]; "… that picture makes you proud to be a Capetonian" (lines 89 – 90) and "Remember how you're driving around Cape Point" [line 99]. However, within this rallying call to Capetonians is a general assumption that all participants are a heterogenous group with access to resources, for example:

- "Who of us woke up this morning and took a shower? … one, two, three, four, five… Oooe, now I know why there's a terrible smell in the room!" [lines 22 – 24]

- "Remember how you're driving around Cape Point. What do you take along: bananas, and food and biscuits" [lines 99 – 100]

- "We own houses, we all pay electricity bills and we all pay water bills" [lines 56 -57]

It is highly probable that some people in the audience live in low-income areas without these common, taken-for-granted experiences such as showers, electricity and scenic drives around Cape Town. Faaiz similarly seems to assume that people are familiar with the local natural environment and know the basic science behind many of the environmental issues under discussion. There is also an assumption that people's ways of knowing and engaging are heterogeneous.

Similar to the introductory text in the *Smart Living Handbook*, Faaiz's presentation reflected some plurality in what is constituted as morally considerable. A concern for local, present generations predominates, as evidenced in the following extracts:

- "15, 16 years into democracy and people have to walk kilometres to collect water, to collect firewood to cook food" [line 135 – 136].

- "Why smart living? It saves you money. It saves you resources. And it saves your environment {my underlining to highlight the concern for the person when his/her money, resources or environment are saved}" [lines 145 -146].

Again in line with the *Smart Living Handbook*, nature is valued by Faaiz in an instrumentalist way, that is, based on the extent to which nature meets human needs. This is evident in the following statements made by Faaiz:

- "We must realise that these are our cross-pollinators and our environmental indicators, indicators. … Remember, they serve a purpose in our ecosystems. If you take them away or you go 'Pshhhhh' [gestures spraying an aerosol can], a bee comes into the house 'Pshhhhh!". It's the only animal, or, or insect that can make honey, and you're killing it" [lines 105 – 109].

- "And if that frog disappears, then we have a problem because it indicates whether the environment is still healthy" [lines 115 – 116].

- "Don't we agree that the environment is giving us wide sustainable services? If those don't work we haven't got oxygen, we haven't got {indistinct word}" [lines 146 – 148].

Faaiz's narrative contains evidence of people-nature relations being constituted both as shared *and* as separate. One the one hand, he presents nature as so intertwined with people's daily lives as to make ontological separation impossible:

- "So this morning when you woke up, we just breathed. We didn't need anything. Did we ask our children did you go buy oxygen for us, to sustain us for the week? Did we do that? No" [lines 11 - 12].

- "… that we have a partnership with the natural environment" [line 22].

On the other hand, some statements reflect a more separate view of people and nature. These are based on discursively constructed:

- ***geographical separation*** ("I bought this… showing the borders of Cape Town from Atlantis right down to Gordon's Bay" [lines 47 - 48] and "A national park in the city: Table Mountain National Park. Thirty local nature reserves" [lines 67 - 68].

- ***social-ecological separation*** ("… what is our cause and effects on the natural environment, what can we do to actually support the natural environment?" [lines 5 – 6]; "But in every environment out there, besides the big white sharks that can eat you, is everything fine?" [lines 90 - 91] and: "this city's space is so caught up with issues [e.g. unemployment, gangsterism, HIV/AIDS] that we find it difficult to go out there and speak to people about the natural environment when those list of things is still evident).

6.7.9 Faaiz's engagement with environmental values and ethics through the EETDP Course

Like Paul, Faaiz was a highly engaged but not very vocal course participant. As such, most descriptions in this section are based on his written assessment tasks. There is evidence in Faaiz's response to tasks in Module 1 ('Investigating Environment, Education and Ethics in your Work or Community Context') that the course's assessment tasks, combined with tutor guidance and his own diligence, assisted him to deepen his articulation of environmental ethics concerns. Question One, for example, required learner-practitioners to identify links between their personal lifestyles and the issue of wetland degradation. In the first draft of this assignment, Faaiz merely listed key phrases: "carbon emissions; waste generation; water

consumption; lack of support to wetlands; lack of knowledge of wetlands; loss of biodiversity; and criminal activity due to lack of security" [PoE.1B, Module 1, draft 1]. His tutor, Patrick, noted on the page: "Fine, but how are they linked to you personally? This could be a big burden of guilt". This triggered Faaiz to reconsider and elaborate his answer in terms of the linkages to his personal life and, in the final draft, he answered thus:

- Carbon dioxide emissions from my car cause global warming and climate change.
- Air pollution through burning of fossil fuels cause lung disease.
- Waste generation by buying food products with lots of packaging and goes to landfill sites or land up in the wetlands.
- Water consumption is excessive and abrasive chemicals are used for cleaning purposes which are harmful to the natural habitat of the wetlands microscopic ecosystems.
- Because of my lack of knowledge of wetlands, I do not do my civic duty in protecting it both physically or environmentally.
- Because or air and land pollution the natural habitat are adversely affected and causes loss of fauna and flora endemic to the area.
- Through criminal activity and lack of security, communities lose interest in the wetlands as a recreational area.
- Dumping of my waste irresponsibly will clog drainage and natural waterways. [PoE.1B, Module 1, final draft]

In a related activity, Faaiz describes his understanding of environmental ethics as: "The ethical responsibility of human beings towards the natural environment, with due consideration of its [the human beings'] other responsibility such as culture, aesthetics, religion, science, economy and politics holistically" [PoE.1B, Module 1, p.17]. This is consistent with Faaiz's struggle (alluded to during interviews) to balance social, religious and environmental responsibilities. For Faaiz, to achieve this balance would mean living an ethical life.

A related pattern emerges across Faaiz's responses to the ethics-oriented questions in Module 1. Although he does not actually use the term 'intrinsic value', he seems to be struggling to reconcile human activities which are (necessarily) exploitative of natural resources, with the feelings of respect and reverence for all forms of life that should be left unaffected by humans. On the one hand, Faaiz acknowledges that people must make use of natural systems in order to survive and flourish; on the other hand, he acknowledges that people should be humble and restrained in their interactions with nature and should strive to leave it unharmed

by human presence. Reconciling this tension is an on-going ethical struggle for Faaiz. In the following transcription of Faaiz's answers to Questions Two and Three, I indicate these perspectives using italics:

Question Two-**My own lifestyle and life-choices reflect the following environmental values/ ethics:** My *respect for all forms of life and the value of their existence on earth without me determining that value* by culling of animals or eradication of alien species where their existence are not really a threat. To enjoy life *in harmony with my surroundings* and by this you *generate an aura that is felt and conforms to nature*. Through this you will *attain quality of life by loving and caring unconditionally*, spending time with the family and *strive for benefits in the world.*

Question Three. **I am struggling to understand the following aspects of environmental ethics:** I am struggling to understand with environmental ethics where *it is expected from man not to kill for survival and to say that man should not think of himself as the dominant species*. Although this played out naturally in the animal kingdom, for example that the lion is right on the top of the food chain and is therefore feared naturally by other species but [the lion] only uses what is needed and nothing goes to waste. [PoE.1B, Module 1, p. 17].

The origins of this ethical struggle seem to lie in the tension between the very explicit instrumental valuing of natural resources in the Environmental Resource Management Department where Faaiz works, and the holistic, life-respecting teachings of his Islamic faith which call for self-restraint and humility.

In considering the ethical implications of global warming and climate change, Faaiz states: "Having acknowledged responsibility, ethically speaking we should do something about it" [PoE.1B, Module 1, p. 9]. In all my conversations with him, and in his written course assignments, there is evidence that Faaiz is making a consistent, practical effort to practice what he preaches. This was recognised by his external moderator who, after reviewing his PoE commented: "Well done for decreasing font size, using both sides of page, meaning all workbooks are neat, concise and do not waste paper" [PoE.1B, Module 1, p.1].

Despite evidence that Faaiz actively, often passionately, deliberates the ethical dimensions of his professional and personal life, he appears to have struggled to reflect the extent of his perspectives through formal course assessment tasks. For example, one assignment required

learner-practitioners to write a report profiling a selected environmental issue around which they (in a later assignment) would develop an educational intervention. Faaiz chose develop and pilot an Office Greening Action Project and so he reviewed current environmental management practices in the ERM Department (waste removal, water efficiency, energy use, sustainable procurement criteria etc.). Commenting on the first draft of this assignment, Faaiz's tutor wrote: "A very thoughtful and well-executed assignment. However, you still need to discuss ethics, legislation and educational orientations somewhere in the text". A close reading of the assignment reveals Faaiz's view on the ethical dimension of environmental practices in the ERM workplace, albeit indirectly. He states, for example: "No thought is spared when procuring goods other than the function of each individual having to perform his daily job" [PoE.1B, Assign.1, p. 1] and he emphasises the need to: "reduce the consumption of resources, avoid damage to the local and global environment, protect biodiversity and human health, and take ecological, social and economic aspects into account for future office practices" (p. 2).

However, the assignment had specifically asked:

> Draw on literature and present, discuss and analyse the topic … In this section you should also briefly discuss possible *implications and recommendations for environmental education and ethics related to the issue*. This section should make up the bulk of the report [Doc.1-01, Assignment 1, p.28, my emphasis].

In the final version of his assignment, Faaiz attached an additional page (entitled 'Corrections on Workplace Assignment 1') and added the following paragraph:

> Ethical Orientation: The ethical orientation of the learning programme would be based on an ecocentrism approach thus promoting communalism (i.e. ways of living which are centred upon the community), participatory decision-making and responsibility and care for the natural environment upon which we depend. [PoE.1B, Assign. 1].

This text is heavily dependent on terminology from the course notes (ecocentrism; communalism; participatory decision-making) and reflects a lack of detailed understanding and contextualised application of these concepts. For example, 'ecocentrism' is not an appropriate descriptor for a project aimed at improving resource use to bring "cost savings for the city" and "contribut[ing] to the development of local recyclers and thereby stimulating local economies" [PoE.1B, Assign. 1, p.2]. In this example, Faaiz appears to have under-

represented his own strongly felt environmental concerns and motivations in favour of using more abstracted language and concepts endorsed by the course.

6.7.10 Faaiz's Case Study: A synthesis so far

The data presented in this section suggests very strongly that Faaiz's recent induction into the field of environmental education, primarily through the mediating tools of his CCT workplace, but also supported by the EETDP Course, have triggered unprecedented environmental ethical deliberations in his personal-professional life. Like Paul, Faaiz acknowledges the role of the EETDP Course in opening his eyes to the ethical dimensions of his work, but there was little explicit evidence of this in my interviews with him or in his professional narratives. Rather, Faaiz's commitments to the Islamic faith and his personal life history as a coloured male raised in apartheid South Africa provide a more powerful 'backdrop' to his current ethics-oriented reflexive deliberations as a novice environmental educator. Again like Paul, Faaiz's deliberations seem so dispersed across the multiple dimensions of his life that it is difficult to synthesise them fully in terms of interactions between the activity systems of the EETDP Course and the CCT workplace alone.

I will return to Paul's and Faaiz's cases in Chapter Eight when I discuss the data presented in Chapters Five to Seven more explicitly in terms of ethics-oriented reflexive deliberation. Before then, the following Chapter Seven presents the data of Nkanyiso's case. His case differs from Paul's and Faaiz's in several ways: Nkanyiso is a young black male with far fewer family, domestic and religious commitments than Paul and Faaiz, and he works part-time for two different environmental NGOs in a peri-urban setting.

CHAPTER SEVEN:
CASE STUDY 2 – NKANYISO IN THE KWAZULU-NATAL MIDLANDS

7.1 OVERVIEW OF CHAPTER SEVEN

Chapter Six described the ethics-oriented reflexive deliberations of two novice environmental educators working in the highly structured professional environment of the City of Cape Town's Environmental Resource Management Department, with fairly high levels of consistency regarding environmental values and ethics. Chapter Seven now presents the case of a young environmental education intern, Nkanyiso, working part-time for two environmental non-governmental organisations: the Mondi Wetlands Programme (MWP) and the Midlands Meander Association Education Project (MMAEP).

The case is interesting for its account of a single learner-practitioner, with limited prior educational or environmental experience, developing his identity, skills and values as an environmental educator as he works part-time in two different workplaces, influenced by their diverse environmental and ethical discourses.

As with Chapter Six, I use activity theory as an organising framework to explore the dimensions of the interacting activity systems across which Nkanyiso works, including the EETDP Course which he studied from August 2009 to August 2010. I focus in particular on the ethical and environmental discourses of the course and workplaces as these are key mediating tools in the activity systems within which Nkanyiso participates.

I begin with an overview of the EEDTP Course in its 2009/2010 iteration, focusing almost exclusively on the environmental ethics and values component of the course.

7.2 NATIONAL CERTIFICATE: EETDP 2009/2010

7.2.1 Overview of the course

The general curriculum and management of the National Certificate in EETDP was presented in Chapter Five and this section now focuses on aspects unique to the 2009/2010

implementation, especially as they relate to the teaching of the values and ethics component. The Course ran from 18 August 2009 to June 2010, with a certification ceremony for successful learners held in early 2011. Fifty-four learners, mostly between the ages of 19 and 25, registered for the course and were supported by six tutors (Preven, Scott, Presha, Solly, Patrick, and Jonathan, who withdrew after the first few months) and five assessors. Most learners lived in Gauteng province and were placed in a range of organisations such as the South African National Biodiversity Institute (SANBI), Johannesburg's City Parks Department and the Ekurhuleni Municipality. Nkanyiso was one of four learners from the province of KwaZulu-Natal who had to travel approximately 500 kilometres to each of the five contact sessions which, for logistical reasons, were all held in or around Johannesburg, Gauteng.

The large group size (see Figure 7.1) necessitated a decision to conduct many on-course activities in five sub-groups of approximately 12 learners with one tutor. As described in Section 4.3.2, I had to decide on the first day of the Course which group to follow so that I could document a consistent record of their interactions rather than move from group to group. Nkanyiso was in the group I selected and Jonathan was their allocated tutor. Major presentations, screening of videos, orientation to excursions, introduction to assignments and so on were done in plenary (see Figure 7.1).

Figure 7.1 The large group of 54 learners work on an assessment task with input from tutors in the auditorium of Pilanesburg Game Reserve conference centre (October 2009)

The course was structured according to five contact sessions. The first was held in the environmental education centre of Walter Sisulu National Botanical Gardens, the second at Pilanesburg Game Reserve, and the third, fourth and fifth at the Delta Environmental Centre.

All five EETDP Course tutors were highly experienced environmental educators and many were currently or previously employed by WESSA. The course's co-ordinator and lead facilitator was Preven, who co-ordinated WESSA's SustainEd Programme in Howick, KwaZulu-Natal.

7.2.2 Module One's introduction to the Environmental Values and Ethics Component of the Course

Preven introduced the environmental values and ethics component on day three of the first contact session with an interactive session that required learners to consider or reconsider their values. He described the activity as "quick and light" with the primary intention of helping learners to understand the concept of a value [J2a, p. 3]. After a brief discussion to clarify that values are things that are important to us, things that make our lives worthwhile, learners were asked to write their four top values on slips of paper. Common examples were 'dignity', 'respect' and 'honesty'. The game involved Preven presenting a scenario of everyone going on a journey and at different stages they had to surrender one value in order to overcome an obstacle. 'Dignity' was one of the first commonly held values to be surrendered and the most dominant and enduring value was 'my life'. Preven reflected that he was not sure what learners made of the activity; some appeared to enjoy it while others found it 'painful' or confusing [J2a, p. 3]. (This activity was done in sub-groups and Jonathan as tutor conducted the activity with Nkanyiso's group – see Section 7.8.1).

The game was played for approximately 15 minutes after which Preven showed a short documentary video called *Mounting Injustice* in which he hoped that learners would make the connection between their values game and environmental values and ethics. *Mounting Injustice* (as described in Section 6.2.4) exposes the environmental and social injustices associated with global paper production.

Preven noticed that the class was not making the connection to environmental values and ethics in the video and so opted to redirect the rest of the short plenary discussion to the Problem Tree concept, that is, reviewing an environmental problem in terms of its 'root' causes and 'consequences' (branches). The values and ethics dimension was thus not pursued

or clarified. After the morning break, Preven gave a 30-minute plenary PowerPoint presentation entitled “Introduction to Environmental Values and Ethics”. There was not enough time to complete the presentation and discussion from the learners was limited. However, Preven reflected to me that the class was nonetheless attentive and the session was not intended to go into much depth but rather to gauge the group’s grasp of basic concepts that they would need to build upon later, especially in Module Two which has a much stronger focus on ethics. Other tutors’ reflections on the PowerPoint slides were varied: one said it was kept at a suitable introductory level for the learners, one felt it confused the group, and a third noted that it reinforced the earlier values clarification game [J2a, p. 4].

The learners’ overnight task was to start some of the course readings on ethics and to complete the previous day’s Portfolio of Evidence (PoE) task on investigating and auditing an environmental issue.

The following morning’s session was full, beginning with a recap of the previous day’s learning, followed by a short overview of effective presentation skills, and then tutorial group meetings to reflect in the last PoE task. I joined Nkanyiso’s group which was led by Jonathan. By 09h30 the group had commenced PoE Task 5 entitled “Ethics in my Workplace”. The questions framing the task are listed below:

> 1. How do you see ethics in your life? Use the space provided to provide as detailed an answer as possible.
>
> 2. Think about general practices and behaviour in your workplace and describe what environmental ethics are behind such practices and behaviour.
>
> 3. In documentation sent to you before you attended contact tutorial 1, you were requested to bring a copy of your organisation’s environmental policy, education materials or programmes or a similar document. The following activity focuses on an analysis of these documents. Choose a relevant section e.g. one paragraph of one of these documents and analyse it in terms of the implied environmental values and ethics – photocopy the relevant section and paste it in here (or handwrite it neatly)..
>
> 4. Write up your analysis of this text in terms of implied environmental ethics/values here.

Jonathan talked through each question with his tutorial group, clarifying the requirements of each. For Question 1, for example, he emphasised the importance of taking the time to think carefully before writing, drawing attention to the open-endedness and personal dimension to the answer, and noted that, although the course would prefer a strong focus on environmental

values and ethics, “in all of your values – no matter what they are – even if we don’t see the link between us and nature – there will be some bearing on nature” [CI.02-01]. To support learners’ engagement with Questions 2 and 3, Jonathan suggested that they imagine their organisation as a real person, and if this was so, what values and ethics would that person stand for?

That activity ended at morning break and the rest of the morning was spent discussing goals and principles of environmental education, with the afternoon allocated to PoE Task 7, where learners had to work in groups to make a poster about the dimensions of a selected environmental issue. In reflecting on the environmental values and ethics introduction in Session One, I noted in my research journal that my overall impression is that:

> … learners are quite unclear about it [values and ethics], but recognise that it’s something important. Preven, Jonathan and Presha have variously commented or acknowledged that it’s very much ‘early days’ for the learners and the point of this first tutorial is just to open things up/flag them [J2a, p. 13].

7.2.3 Module 2: Education and Environmental Injustice

Mid-morning on day two of the Module Two contact session, Patrick introduced the section on environmental justice with a short presentation on the Denel Incinerator, a proposed incinerator in Cape Town for the disposal of chemical waste. The case study was used to illustrate how development, environmental issues and human rights are often intertwined. Although the presentation was clear, the majority of students appeared not to grasp the concept of ‘environmental justice’ [J2a, p25].

After lunch, Preven screened a 20-minute video called *Through Farmers’ Eyes* which highlights the plight of small subsistence farmers who are driven out of business by corporate-controlled, commercial farms. The intention was to provide another example of environmental injustice but it was only after substantial mediation by the tutors that the group appeared to make progress with understanding the term. Most were unable to answer Preven’s question: “What are the environmental justice issues in this video?”

Patrick then intervened with a working definition of environmental justice which he had typed during the discussions. He projected this onto the screen with key words omitted to stimulate the learners to fill in the blanks, for example: “Environmental justice considers how ---[*environmentally*]--- related actions and ---[*decisions*]--- should be ---[*evaluated*]--- against

several social criteria" [J2a, p. 26]. However, the potential usefulness of this note appears to have been limited by the language barrier, learners' limited vocabulary and the ambiguity of such cloze procedure activities. (Patrick did, however, take 15 minutes the following day to return to this activity in an effort to consolidate learners' understanding of the term 'environmental justice').

Preven then announced that the session on environmental ethics scheduled for after the coffee break was postponed until later in the week to allow people time to work on their PoE task related to the previous session.

That evening over dinner, the tutors collectively expressed concern for the learners' limited vocabulary and it was decided to task a young 'stutor' (a student and tutor who worked with Preven in WESSA-SustainEd) with leading a half-hour session the next morning on vocabulary development. The challenge of limited English vocabulary was indeed appearing to hinder people's engagement with discussions on environmental values and ethics. From my observations, most learners did not know the meaning of words such as 'aspect', 'perspectives' and 'implications' and were hence unable to follow most activity instructions, let alone engage conceptually with each task. Out of necessity, most tutor interactions became focused on clarification of task instructions rather than the intended deepening discussions.

The focus of the following morning's vocabulary activity was unfortunately on more content-based words based on the previous day's session on the history of people-environment relationships, and the 'stutor' (who had not been supported by a more experienced tutor to plan her session) merely redefined terms such as 'hunter-gather', 'Neolithic revolution' and 'industrial revolution'. Concepts such as 'sustainability' and 'environmental justice' were not discussed.

The main focus of the day was timetabled to be an excursion to investigate a local example of environmental injustice but as the excursion had not been adequately organised in advance, the tutors proposed that the excursion be cancelled and that the time be spent consolidating the class's reflections on the video *Mounting Injustice* which tutors felt the learners were still unable to review in terms of environmental justice. The video was rescreened and learners broke again into tutorial groups to work through the related PoE task.

The rest of the day was spent on a different topic, with the tutor, Presha, introducing outcomes-based education and the South African National Curriculum Statement for schools. Learners refocused their attention on that section's related PoE task.

The following morning (Day Four) commenced with a 30-minute discussion of learners' progress with the environmental justice PoE task. After listening to the discussions, I noted in my research journal that: "Time was up but I really don't get the impression that they're confident about this activity or the main ideas in it" [J2a, p. 34].

No further discussion or activities related to environmental justice, values or ethics occurred during the week. Due to the already overloaded programme, Preven's postponed session on environmental values and ethics was never conducted. By Friday morning (Day Five), the programme was again modified because, in Preven's words: "We're still two tutorials behind". The pressure to support learner's to complete these tutorials was significant because each tutorial led into a PoE task which was a compulsory assessment requirement of the course. I reflected in my journal:

> During this week, we had a slow, thorough start to people-environment relationships, with substantial sessions on hunter-gatherers, industrial revolution etc. But the actual focus of Module Two is 'Education and Environmental Justice' and the links weren't clearly developed between the historical periods of people-environment relationships and environmental justice. To me, it has felt as if the concept of environmental justice has floated around all week but never really found a solid home. [J2a, p. 38]

A tutor commented similarly to me that learners are motivated by what tasks they need to complete for their PoEs and so do not pursue things if they are not explicitly raised during course interactions or assessment tasks. He noted with some concern that the more straightforward, content-based aspects of the week had been comprehensively dealt with, while the more complex aspects such as outcomes-based education, active learning and environmental justice had been rushed and unconsolidated. He felt it was unfortunate that the session on environmental values and ethics had not materialised as this might have helped learners make the connections across the otherwise disparate dimensions of the week [J2a, p. 39].

7.2.4 Module Three: Eco-philosophical Fragments

The primary focus of Module Three in January 2010 was active learning and the use of learning support materials. The portfolio task (PoE), however, included a section on ethical orientations, supported by an appended reading in the Module Three Handbook about the same (see Appendix 12). The five-day contact session included sessions on: selecting, adapting and using learning support materials; responding to learners with special needs; educational orientations and methods (fieldwork, lectures, investigations, demonstrations, creative play etc.); educational theories (behaviourism, constructivism; social constructionism); designing interpretive display boards; and a walking excursion to one of Johannesburg's rivers to consider its social, political, economic, justice and sustainability dimensions. In this section, however, I concentrate only on teaching and learning interactions related to ethical orientations and Western versus African approaches to conservation.

7.2.4.1 Session on Eco-philosophies and Approaches to Conservation

After lunch on Day Two, Preven led a session based loosely on a PowerPoint presentation (see Doc.02-19 and Appendix 14) to introduce eco-philosophies and approaches to conservation. His introduction to the session may have devalued the content for learners as he pointed out that the session contained interesting ideas that they would probably not need in their jobs, but the course requires them to cover it:

> We're also going to go into some really interesting ideas during this half hour session that we have, and then JJ [Jonathan] is gonna take over and take you through another interesting set of ideas. Okay, so now you're gonna encounter things like ecofeminism, wilderness preservation, anthropomorphism. And some of these concepts you might not use again, okay, but for the purposes of your qualification and for purposes of understanding ethics and also for answering your tests we're gonna go through these concepts. They're really nice to know as well. [CI.02-02]

The concept of philosophy was introduced through a slide with the question: "Using the knowledge you have obtained during the last year, please provide proof that the chair you are sitting on does not exist" (Doc.02-19). Learners laughed and a few suggested some answers, before Preven shared the answer: "What chair?" He commented: "Does it seem like a silly question? Ja? But these are exactly the sort of questions that philosophers think about" [CI.02-02].

He then moved to clarifying the difference between the words 'preservation' and 'conservation' and introduced Aldo Leopold, widely recognised as the North American

'father' of environmental philosophy. Leopold had initially endorsed the killing of mountain lions in the national park because they were killing the deer population. Preven pointed out that the rationale to preserve one species over another was:

> …because of money, because shooting deers was a sport, hunters would pay to go into a reserve to shoot deer. Okay, so if there's no mountain lions and no wolves it means there's more deers for the hunters to shoot. And more money for the nature reserve. Isn't that a perfect solution? [CI.02-02]

The learners' confusion became apparent, however, when Preven asked them if it was a *good* idea on the part of the national park managers to kill the mountain lions and they replied 'yes'; then he asked them if it was a *bad* idea and the class replied 'yes'. It seems that they did not follow the wildlife management scenario that Preven had sketched briefly, and were unable to detect his irony or sarcasm in statements such as 'Isn't it a perfect solution?', and so they agreed with whatever statement he said.

Realising the problem, Preven got the class to split in half, getting one side to argue in favour of killing the mountain lion and the other half to oppose it. Those in favour of killing argued that fewer lion would mean a larger deer population to attract paying hunters, thereby bringing revenue to the national park – a point which Preven had raised earlier. The group also added that: "… once we've killed those lions we can send them [the body parts] to traditional doctors to heal all those diseases, using the lion's skin", that the money they make could develop the nature reserve, such as to build facilities for people in wheelchairs (that morning they had a session with Presha on catering for people with special needs), and that they could use the money raised to conduct research in the nature reserve [CI.02-02].

The group tasked with arguing against the hunting of lions in the national park noted that lions are attractive and attract foreign tourists and so should not be killed. They also described the hunting as an "animal justice" issue and that they were saying no to animal cruelty. Their final point was that: "we have to sustain our nature… and prevent the imbalance in the ecosystem" [CI.02-02].

The extra time spent getting the two groups to debate the mountain lion issue appears to have helped learners distinguish between basic ethical positions regarding wildlife management, but they did not have the language or conceptual capital to discuss this systematically or in depth. In the limited time available, Preven directed the learners to the appendix on ethical orientations in their Module Three Handbook (Appendix 12) which explained concepts such

as ‘social ecology’, anthropomorphism’, ‘environmental pragmatism’ and ‘wilderness’ (see a commentary on this note in Section 5.5.2).

As this useful debate had used much of the session’s time, Preven concluded the presentation rapidly by flashing through the remaining slides on the abovementioned terms, before handing over to Jonathan for a related session on Western and African approaches to conservation.

As there were only ten minutes left before the afternoon break, Jonathan started by noting that people are probably confused by now and that “it would be a clownshow” if he tried to go through his slide presentation on top of Preven’s session. So Jonathan handed out a three-page note entitled “A 30-Minute trip through African and Western Approaches to God, Gods, Earth, Emotion, Science, Politics, Ethics, Sufficiency and Eco-feminism!” and encouraged learners to read it in their own time. The notes and 22 PowerPoint slides he had prepared focussed on the philosophical and social origins of western approaches to nature conservation, problematizing the tendency in contemporary South Africa to classify things as ‘western’ or ‘African’; and then outlined the threats of globalisation and green imperialism for environmental justice and ecological integrity [Appendix 20 contains the three-page handout].

At the end of this session, I noted in my research journal that the other tutors seemed frustrated by the way this session had been conducted and that Preven “seemed quite thrown by how difficult it was to teach this section” [J2a, p. 76]. I noted how one of the tutor’s facial expressions at the back of the venue suggested his disapproval of the way it had been taught, and two other tutors left the venue half way through the session.

I interviewed Preven directly after the session and he reflected that he had planned to “go steamrolling ahead and go through all the concepts” but after ten minutes he realised that learners were not following and so he took a more interactive approach which he felt “they handled quite well, and from then the entire session became a bit more light hearted” [Int.02-17]. Preven felt that his strategy to use humour was helpful in “getting them to not view it as this horrible body of knowledge” but added that “it could have been used more effectively, I think” [Int.02-17]. He lamented that in preparing for this session, “as usual time sped up and I was stuck with a session to run”, that he would love to allocate a full day to this session but cannot because “the assessment on this course is so intense”. But Preven was generally

positive, noting that his recent modifications to the Module Three Handbook have helped to clarify some of the concepts, and that over the years, "ethics has come a big way in this module" [Int.02-17].

Jonathan was less positive, stating that:

> … it's not a very effective session, it's covering way too many different, diverse and quite complex ideas. It's very fragmented, all of them heavy issues on their own and yet they're dealt with in the, I know I used the word 'clown show' which is maybe a bit strong, but it's almost [presented in] a very light-hearted way, when they're not really light-hearted issues. It sort of undermines the issues and topics that are being dealt with [Int.02-18].

He also felt that learners were confused by "the deeper stuff" and that this was traceable to "… the way it's presented; it's sort of a very illogical flow of ideas. For me it was like jumping from one idea to the next … I don't see it as good education" [Int.02-18].

7.2.4.2 Ethical Orientations and the Titanium Mining activity

The following morning, Preven led an activity to expose learners to diverse ethical orientations regarding environment. He began by clarifying the meaning of the word 'orientation' ("the different values and different approaches that we have") and then added the word 'ethical' in front. He then introduced a scenario of proposed titanium mining along the Wild Coast, the remote stretch of the east coast of South Africa between the town of Port St Johns and the city of East London. Only one learner knew what titanium mining was, and nobody knew the location of the Wild Coast[30]. A range of seven ethics-oriented responses to the proposed titanium mine were typed onto small posters and displayed around the room, and Preven instructed learners to walk around and read each one before deciding which position they would choose. The seven options were:

> 1. We don't mind if the mining goes ahead as long as the environmental legislation are obeyed and the mining companies provide good and safe conditions for workers, and also that skills transfers for BEE (black economic empowerment) requirements are met.

[30] It is possible that learners may have known about the Wild Coast as a region but called it by another name, such the Transkei coast, as the Transkei was one of the independent black homelands under the apartheid government. Also, the majority of learners came from Gauteng province and were unlikely to have travelled widely in South Africa.

2. Titanium mining on the Wild Coast must go ahead. Society benefits from the products made from titanium and there is a need for employment in the area.

3. The mine helps contribute to ASGISA (Accelerated and Shared Growth Initiative for South Africa) target of 6% economic growth. We must make use of ALL our natural resources to grow our economy.

4. There is no way the mining should take place. The area should become a national park and fenced, and the local community should be moved to other areas. This area is a national heritage and must be conserved by all South Africans.

5. We already have titanium mines in South Africa and the Wild Coast is a special place that must be kept as natural as possible because of ecosystems services to the local community and the tourism potential.

6. We must not mine the Wild Coast because the area is pristine. Nature has as much right as people to exist and we do not have the right to destroy nature.

7. We need economic development so the mining must go ahead. Too bad there will be some negative environmental and social impacts, but that is how life is. We should try reduce the impacts of mining in whatever ways are possible.

Groups were given five minutes to brainstorm a defence of their position – see Figure 7.2. The activity gave rise to a very vibrant debate which was well-fuelled by various tutors who role-played contentious positions. Each group had to prepare and then present a case in defence of their chosen position, and the interactive session lasted for 80 minutes. It is worth noting that Preven and the four tutors engaged critically with all the perspectives and avoided favouring any particular position.

Figure 7.2 Nkanyiso (wearing scarf) participates in a group discussion to defend his group's ethical stance regarding proposed titanium mining on the Wild Coast

As the session was being concluded, I proposed that a secret ballot be held for each learner to vote on whether the mining should go ahead. This was conducted as the group was leaving for tea. The voting outcome was 17 learners opposed to the titanium mining and 29 in favour. Over tea, one of the tutors, Solly, accounted for this outcome, telling me that due to their historical context, black people in South Africa did not feel involved with environmental concerns whereas their lives were more directly affected by economic opportunities provided by the country's mines [J2a, p. 80].

Later in this chapter (Section 7.8.3), I return to this activity with a focus on Nkanyiso's involvement and the choices he made in joining one of the groups and later in casting his vote.

In summary, it appears that the environmental values and ethics component of the 2009/2010 version of the EETDP course was allocated time in the programme and was assessed but that the limited time available to go into depth with the teaching resulted in learners having limited understandings. The large group size (approximately 50 learners) combined with their generally low levels of English proficiency, and limited prior environmental knowledge and experience made it very difficult for learners to grasp and apply new concepts quickly. Much of the necessary conceptual capital lay in course readings and hastily delivered PowerPoint presentations which learners struggled to engage with (or even attempt), often due to the language barrier.

Tutors' reflections and my own observations indicate that many of the ethics-oriented sessions were taught in a fragmented, superficial or hurried manner and there were not enough opportunities to make synthesising connections across these disparate interactions. One of the course tutors, Solly, commented that ethics is "a grey area" for the learners who have not come into the course with any prior knowledge of philosophical concepts or environmental discourses, but are now expected to join in a conversation with tutors who have been grappling with these topics for many years [Int.02-16].

Solly also drew attention to the fact that these learners are very young and most have never been employed before, at least not in the environmental sector. This drastically reduces their capacity to engage meaningfully with the course portfolio tasks:

> You're trying to build into a vacuum because they have not yet developed, there are no bricks there, and you're trying to build something. … You can't just put the

> bricks when you haven't done a foundation … It needs to be done somewhere. The point is that it's not something… it's experience. You need to build on experience. But if somebody doesn't have that experience, it's difficult, and that person [is expected] to do the obvious but it's not obvious for him because he does not have the experience. [Int.02-16]

It also appears that the numerous assessment tasks were very dominant and in many cases became the 'drivers' of each contact session's timetable. The course interactions were designed around supporting the 28 assessment tasks and eight workplace assignments, leaving little time to respond to conceptual, philosophical or contextual matters.

Despite these limitations, the EETDP Course's role in opening up a window on environmental values and ethics for young people (mostly from economically and educationally disadvantaged backgrounds) embarking on careers in environmental education should not be overlooked. It should also be noted that the EETDP course was designed as a learnership, that is, 70% of the learning was expected to occur in the workplace, with course contact sessions intended to provide orientation and basic conceptual capital. This means that there were substantial expectations regarding the ability of workplaces to mentor the learner-practitioners and to mediate their ethics-oriented learning processes (amongst others).

The rest of this chapter now focuses on one learner from this group, Nkanyiso, and his journey of ethical deliberations at the interface of the EETDP Course, his part-time job with the Mondi Wetlands Programme and a second part-time job with the Midlands Meander Association Education Project.

7.3 NKANYISO'S BIOGRAPHY

Nkanyiso grew up in Impendle, a rural area in KwaZulu-Natal (see Figure 7.3), with an extended family: his grandmother, mother, four aunts, two uncles and some cousins. As a boy, he herded cattle in the hills but recalls that he did not appreciate that environment:

> As I was young, I didn't know about the bush and so I was afraid of wild animals and snakes. My older cousins were living in Howick; they made it sound appealing and I saw Impendle as a boring place, with not many shops. (Journal / Interview notes, p. 62)

However, some time later, after he had left Impendle and started living in Howick, Nkanyiso admits: "… then I started missing my Impendle… walking in the bush, in the mountains, big stones" and the winter snow. He now visits Impendle quite regularly during holidays as his

mother and other relatives still live there, but the family no longer owns cattle and he takes only short walks in the hills [Int.02-17].

Figure 7.3 Typical scene in rural Impendle where Nkanyiso grew up with his extended family, mostly herding cattle on the hills surrounding the family homestead (photo source: http://suphsouthafrica.blogspot.com/2010_09_01_archive.html)

During his primary school years, Nkanyiso's grandmother died and her daughters (his mother and aunties) dispersed. In search of a better secondary education, he subsequently lived with one of his aunts in Balgowan (about 20 kilometres from Howick) to start at Asitutuke High School which had a good reputation relative to the other high schools available to him. Nkanyiso reflects that he was taught "nothing, seriously nothing, about environment" although he acknowledges he had a good and inspiring Geography teacher who "… was the only one who was bringing this idea in our minds of the environment. Although we didn't learn much, he brought this understanding of environment as a Geography teacher" [Int.02-17]. But it was only after finishing school and starting to spend time at the WESSA offices at the Umgeni Valley Nature Reserve in Howick that Nkanyiso states that his environmental learning started to happen.

7.4 NKANYISO'S PREVIOUS WORK AND PROFESSIONAL DEVELOPMENT EXPERIENCES

Within about three years of finishing school, Nkanyiso had accumulated a range of professional experiences, all of which were based at, or enabled due to his involvement with, WESSA and the Umgeni Valley Nature Reserve. As a young person enthusiastic to learn and get involved in environmental education, and placed in a network of some of the region's most active environmental education projects, Nkanyiso was quickly identified and nurtured

as a potential future employee in a sector conscious of needing to build capacity of young black South Africans.

His first position, however, was as a casual labourer. In 2007, immediately after completing Grade 12, Nkanyiso got a part-time job through a friend to work for Share-Net, a project of the WESSA National Office in Howick that produces low-cost environmental education materials. Share-Net employs casual labourers on an ad hoc basis to assist with stapling, punching and folding of educational materials, filling envelopes, packing boxes and so on. Nkanyiso recalls that when he left school, he knew little to nothing about the environment but he gained a lot of new environmental knowledge by reading the booklets and fact sheets that he was helping to collate and pack: "…even if it's tea time, just sitting there, just looking at these books, and I got interested" [Int.02-17]. Sometimes he asked Clare Peddie (the Share-Net project co-ordinator) or Jim Taylor (the WESSA Director of Education) questions about the environmental topics he was reading about.

With Jim's help, Nkanyiso was linked with a visiting British climate change researcher who needed a field assistant for eight months to help collect data about how local crafters were utilising wetland plants for their craft products [Int.02-08; Int.02-17]. Thereafter, he was contracted on a part-time basis for a year to assist with the preparation of a CD-ROM linked to the 'Windows on Wetlands' educational resource pack, produced through the Wetlands Action Training and Research (WATER) Project, also based in the WESSA offices at Umgeni Valley. Nkanyiso's involvement was of a technical rather than educational nature, with his primary task being to burn and label CDs using computer software he was taught to use.

Towards the end of that contract, Nkanyiso got involved on a part-time basis for the Mpophomeni Tourism Experience, an initiative in the nearby Mpophomeni Township aiming to stimulate economic and social development activities through the provision of local tourism experiences. The Mpophomeni Tourism Experience had contacted WESSA's Howick office asking them to recommend a volunteer for a new environmental education project they were starting in the township. Nkanyiso's name was put forward and he was subsequently employed as a volunteer, earning a basic stipend from that non-profit organisation. Working with eight township schools and some community members, Nkanyiso's work was mostly to roll out awareness-raising campaigns about the wise use of water, especially wetlands and other freshwater systems. They also did litter clean-ups in the

numerous wetlands around Mpophomeni Township and had an extensive urban greening initiative. They secured several hundred indigenous trees donated by two local nurseries to plant in schools, and Nkanyiso also visited houses door-to-door to teach about the importance of trees. In a context in which high unemployment and poverty resulted in neglected and vandalised homes and community infrastructure, the project's strategy was to encourage people to clean their yards first in order to receive a tree – a strategy which Nkanyiso reports was very successful [Int.02-17].

It was during a teacher workshop linked to this urban greening project that Nkanyiso met Nikki Brighton and others from the Midlands Meander Association Education Project (MMAEP) and he expressed his interest in working for them. Nikki recalls how she immediately liked Nkanyiso and he seemed a good candidate to support the work that they do in schools [Int.02-09]. Also influential was the imperative to develop capacity and to employ black people in the environmental sector, as noted by Nikki: "And we didn't have a black person. We've got Leila, who's coloured, and the black person we'd had before had left. And, you know, we're just so white!" [Int.02-09]. In the absence of extra funding, Nikki invited Nkanyiso to start as a volunteer for MMAEP but she recalls that they started paying him a daily honorarium almost immediately because he showed great potential. The project subsequently offered him a part-time job and he started working for MMAEP on a contract basis in mid-2009, about two months before he commenced the EETDP Course.

Around the same time and on the prompting of Jim Taylor, Nkanyiso was interviewed by David Lindley, the manager of the Mondi Wetlands Programme and subsequently offered a one-year internship linked to registering for the EETDP Course. Damian, one of the programme's wetland ecologists, recalls: "one of the recommendations [of the 2008/9 evaluation report] was to bring, in some way, more previously disadvantaged persons into wetlands work. And look at ways of building that expertise base" [Int.02-08]. Vaughn added that their previous wetland ecologist, a black male, had left after eight years for a better-paying job, and his replacement only stayed for a year. This was "quite a big blow to the project because we needed a black person on our team" [Int.02-08]. Jim Taylor, WESSA's Director of Education, explained in an interview that "… we [WESSA] are trying to make a strong effort to broaden participation in the work that we do. If it remains a predominately white business, it's just not good for the nation" [Int.02-04].

Nkanyiso recalls that both he and Mdu (who was also one of my potential research subjects, discussed in Section 4.3.2) were offered the internships on the grounds of their already extensive environmental education experience and so their appointment was more professional than just a work placement for the purposes of the completing the EETDP Course. However, over the year that followed, WESSA's expectations of Nkanyiso and his own expectations of his employer to provide suitable environmental education projects in which he could get involved, were not met, some reasons for which are discussed in Section 7.7.

At the time of Nkanyiso's participation in the EETDP course and in this research project, he was employed jointly by the Mondi Wetlands Programme (for 10 days per month) and the Midlands Meander Association Education Project (MMAEP) (for an average of 6 days per month) [Doc.02-11]. The following sections now review these two workplaces, their environmental and ethical discourses, and the opportunities or barriers they created for Nkanyiso to engage with the ethical dimensions of his educational work with them.

7.5 NKANYISO'S WORK IN THE MONDI WETLANDS PROGRAMME

7.5.1 The Mondi Wetlands Programme as an Activity System

Nkanyiso worked as an intern in the Mondi Wetlands Programme on a year's contract which commenced in August 2009. Organisationally, the Mondi Wetlands Programme is situated within WESSA and focuses specifically on wetland conservation in South Africa.

The subject of the Mondi Wetlands Programme consists of the four full-time employees: the Programme Manager, David and the Programme Administrator (who are both based in Pretoria, Gauteng province); Wetland Ecologists, Damian and Vaughn (who are both based in and around Howick, KwaZulu-Natal); and two part-time interns, Nkanyiso and Mdu, (who are based at WESSA's national office at the Umgeni Valley Nature Reserve in Howick).

The object of their activity is "… bringing about social change that encourages wetland users and owners to manage their wetland resources in a more environmentally relevant manner" [Doc.02-06].

The Mondi Wetlands Programme was established in 1991, born out of a concern that, unless immediate action is taken, South Africa will not have enough freshwater supplies to meet the

demands of the country's growing population and associated growing industrialisation, urbanisation and development by 2025. The previous government, ignorant of the crucial role played by wetlands in water purification, control of flood waters, recharging of underground aquifers and so on, had actively promoted the draining of wetlands, mostly for agricultural and urban expansion. By the mid-1990s it was estimated that 50% of the country's wetlands had been destroyed through poor land management [Doc.02-07].

So when the Mondi Wetlands Programme was established in 1991, its strategic focus areas were lobbying, policy development and the institutionalisation of wetland management through collaborative work with a wide range of partners. These included: the founding partnership between South Africa's two largest non-governmental conservation organisations, WESSA and WWF-SA; corporate sponsors (Mondi Ltd[31]and Mazda Wildlife Fund); wetland users and owners (including rural communities, the sugar industry, the plantation forestry industry and government agriculture and conservation extension services); and various non-governmental conservation groups such as the Endangered Wildlife Trust (EWT) and the South African Crane Working Group. This strong partnership approach has enabled the Mondi Wetlands Programme (despite its small size) to lobby decision-makers, raise awareness and build capacity in relation to wetland management, as well as to physically rehabilitate and conserve degraded wetlands [Doc.02-07].

As the community of the Mondi Wetlands Programme activity system is so extensive, its mediating artefacts and tools are also dispersed and varied, and cannot be reviewed comprehensively here. These include: the programme's website; the programme document which sets out goals and objectives (and equivalent documents for WESSA because the Mondi Wetlands Programme resides within WESSA and thus aligns with its modus operandi and perspectives); annual reports; evaluation reports; press releases (the programme has released over 500 articles in national and regional newspapers and magazines); publications (such as *Windows on Wetlands* educational materials); wetland management tools and resources (many of which are used in the programme's training courses); and, importantly, the verbal interactions as programme staff discuss wetlands with partners through meetings, emails, and public presentations. For the purposes of this research project, I have limited my review of mediating tools and artefacts to those with which Nkanyiso is likely to have

[31] Mondi is the main funder and gives its name to the programme. As one of South Africa's largest commercial forestry and paper-making corporations, Mondi's impact on wetlands and freshwater systems is substantial.

engaged directly and/or those which reflect the key environmental and ethical perspectives of the Mondi Wetlands Programme. These are discussed in Section 7.5.2.

The Mondi Wetlands Programme activity system is regulated by rules and protocols at various levels. At a national level, legislation pertaining to management of freshwater resources (such as the National Water Act of 1998 and the National Environmental Management Act of 1998) frames the purpose and form of Mondi Wetlands Programme's activities. Embedded in all environmental legislation (including the National Constitution) is a commitment to social justice, equity and transformation, most often evidenced through legislated public participation processes and concerns for community benefits linked to natural resources such as rivers and wetlands. Examples of how the Mondi Wetlands Programme staff have taken up these imperatives are outlined in Section 7.5.2.

At a broad organisational level, the Mondi Wetlands Programme activity system is bound by financial parameters and expectations determined by the corporate funders: Mondi and the Mazda Wildlife Fund. The programme operates according to its guiding documents (vision, objectives and so on) and aligns itself directly with its host organisation, WESSA, in particular its ethos and general social-ecological commitments. WESSA's vision is to "promote public participation in caring for the Earth" (WESSA, 2010).

In terms of activity system rules at a more local level, WESSA's national office in Umgeni Valley Nature Reserve where Nkanyiso was allocated a workstation during his internship, is locally recognised as a place where people and the natural environmental are respected, and the workplace is characterised by particular forms of collegiality and professional support. At a local level, the WESSA-Umgeni Valley workplace also has professional protocols and procedures such as honesty, non-racism, punctuality, the convention of signing an attendance register, expectations of moderate telephone usage limited to professional tasks only, and general pro-environmental behaviour such as recycling, and using electricity and water conservatively. Many informal workplace conversations focus on these latter topics, and mechanisms are in place to support related practices in the form of waste separation bins and a recycling depot in the car park.

Figure 7.4 summarises the Mondi Wetlands Programme as an activity system, and Figure 7.5 indicates other activity systems with which the Mondi Wetlands Programme has substantial interactions, such as Mondi Paper, WESSA, WWF and the Umgeni Valley Nature Reserve.

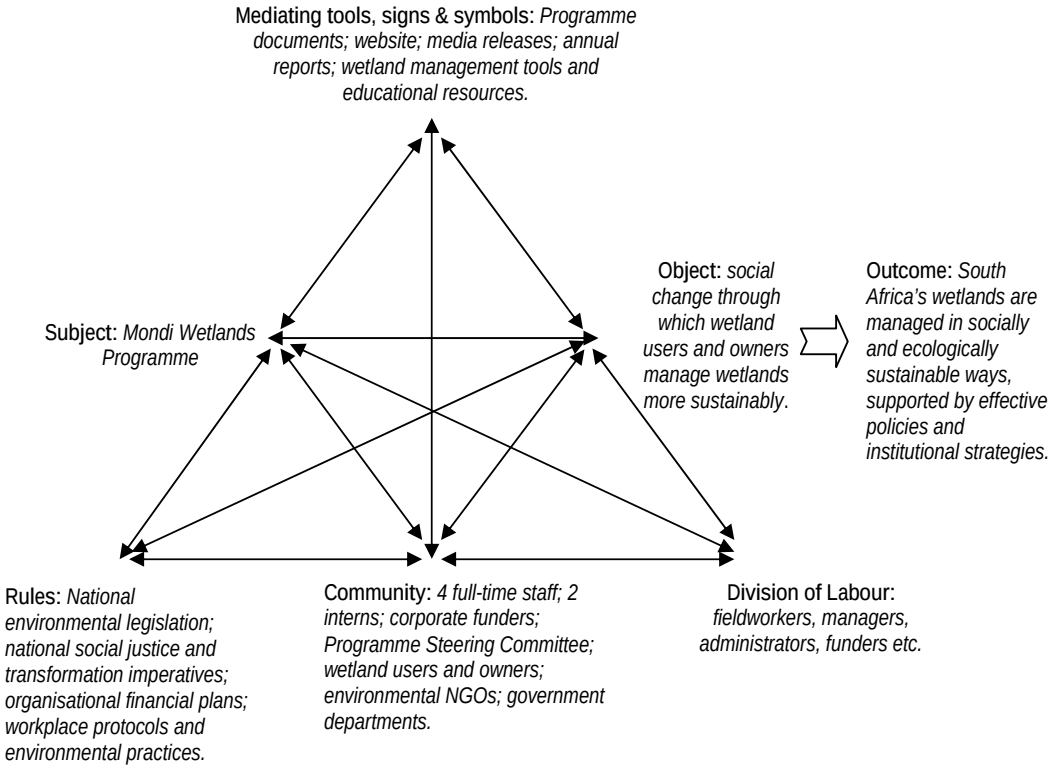

Figure 7.4 Activity system of the Mondi Wetlands Programme

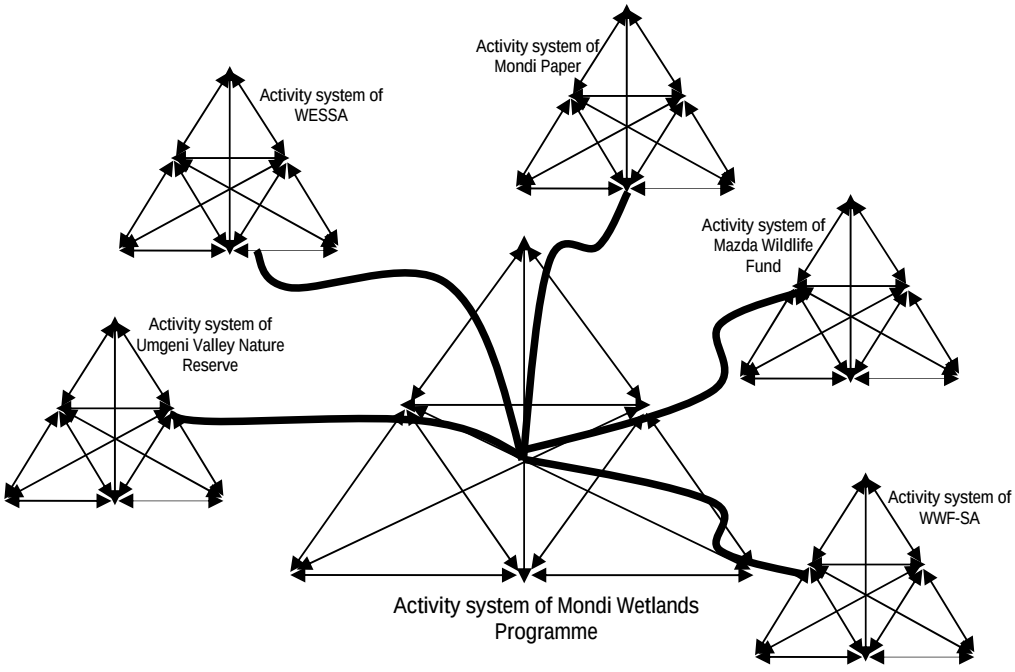

Figure 7.5 The Mondi Wetlands Programme activity system and some of the main activity systems of partners and funders with which it interacts, and which influence its object, rules, mediating tools, community and division of labour

7.5.2 Ethical and Environmental Discourses and Practices in the Mondi Wetlands Programme Workplace

It was interesting to note that the Mondi Wetlands Programme's ethical orientation to people, learning and social change was much more explicitly articulated and reflexively examined than its ethical orientation to the natural environment. Programme evaluations conducted in 2005 and 2009 emphasised the importance of working in participatory, collaborative and open-ended ways with individuals, organisations and communities as seen, for example, in the executive summary of the 2009 Evaluation Report, which was strongly guided by WESSA's educational orientation:

> … working collaboratively rather than in an 'us and them' fashion; to join 'others' in communities of practices working out solutions together, rather than 'shouting at them' from a distance; and that this requires both a good understanding of the context and challenges of all parties, as well as slow, patient and open-ended processes [Doc.02-09].

This orientation appears to have been understood and taken up strongly by Mondi Wetlands Programme staff. Damian explains that working effectively with people to manage their wetlands better begins with:

> … realising, first and foremost, that we are actually working with people to build knowledge with people, build understandings, new understandings to improve on the way that we manage the environment, and wetlands is one part of that. We don't come to people saying, look, we're wetland experts, we've got answers. We kind of say: what is the problem that you feel we have here? And we share our take on the problem, so how do we now solve this problem or how do we work together on it? [Int-02-08]

The 2009 Programme Evaluation Report suggests that this approach was not always dominant, and that it is only in recent years (possibly since the first evaluation in 2005) that the programme has consciously moved away from taking up a values-based position with partner groups regarding wetlands:

> In the early years of its existence the MWP has focussed strongly on creating awareness and advocating that South Africans consider the value of wetlands more strongly. This work has borne fruit, and it is appropriate that it is no longer a main focus in the programme. … Increasingly, advocacy is focussed on 'what we can do', while 'why it is important' becomes a smaller, although still important, component of awareness and training initiatives. (Mondi Wetlands Programme, 2009, p. 27, my emphases)

Damian, one of the longest standing employees, explains further:

> … our job isn't to try to dictate or strongly influence other people's environmental values. We come with that set of environmental values, as something we hold, but the values that government places on fresh water systems, for example, and the way in which our national legal framework, policy framework deals with many of the issues that we're involved with, kind of almost leads us by the nose a little bit. We kind of haggle these things out with the people we work with. So we kind of work with people to redevelop or reformulate, sort of working with them on environmental value…. *It's not our job to really push a particular set of environmental values because the people create their own values systems, their own ethical systems*. So we're … interacting with people who either have similar or sometimes different systems. Ja [yes], and *we give our point of view, and they give theirs.* [Int.02-08, my emphases]

He further notes that the programme's history, originating in two organisations (WWF-SA and WESSA) may have contributed to their environmental ethics position being "…a bit of a blend" [Int.02-08]. Vaughn suggests that they "… follow WESSA's way of doing things, their broad values", although Damian differs, noting that "… in many ways we don't have a strong WESSA approach … [because] we wear multiple hats". As noted above, he refers to the way compliance with national legal and policy frameworks "… almost leads us by the nose a little bit", and how their work as advisors to the Department of Water Affairs requires that they "have to be a very objective source of information and not push one particular agenda" [Int.02-08].

Although Damian explained that: "We come with that set of environmental values, as something we hold" [Int.02-08], he, Vaughn and the programme manager, David, struggled to pinpoint or describe precisely what 'that' set of environmental values really is. When I tried to probe this during an interview, our conversation consistently returned to professional ethics[32] and broad social commitments – an area which Damian and Vaughn acknowledge is much more explicitly addressed than environmental values and ethics. Damian summed it up: "I could discuss much more freely about what sort of ethics, *workplace* ethics, we have in working with people, rather than the overt environmental value", and later: "So I think we are quite hard and fast on *how* we work, perhaps; and maybe far less on the environmental values" [Int.02-08].

It was through this conversation that Damian and Vaughn showed a developing insight into the relationship between their organisation's values, the quality of interactions about such

[32] Damian explains his understanding of professional ethics: "… if somebody sends you an email or phone call, you return your phone calls quickly, timeously. You don't bullshit people, you don't lie to people. You work honestly, if you have a problem you go to them sensitively, directly and you take it up with them". [Int.02-08]

values in the workplace, and the professional development of novice employees such as Nkanyiso.

> LO: How often are they [values held by MWP] outwardly expressed at work? Have Mdu and Nkanyiso, for example, been orientated into those things?
>
> Vaughn: It's been discussed, ja [yes].
>
> Damian: But in a very superficial manner. You're sort of like introduced to WESSA, we spent maybe three to five days of induction period, kind of what we do, how Mondi Wetlands works, and then sort of internal management issues, how do you get paid, we need to get you guys on a payroll, that kind of nonsense. But as to opportunities for them to pick up what our …
>
> Vaughn: [interjects] In terms of when you're dealing with people, what are the values you're trying to impart, or whatever.
>
> Damian: I would imagine that *the opportunities for them to pick up what our unspoken or spoken values are would be pretty slim*.
>
> Vaughn: [Interjects] *Because we haven't had any interaction with them in the workplace.*
>
> Damian: [pause] That's a very good point!
>
> Vaughn: But we don't even do it ourselves, it's not like David talks to us about our values once a month before we go talk to SASA [South African Sugar Association]. You know! [Int.02-08, my emphases]

Seeking to examine further the Mondi Wetlands Programme's implicit environmental values and position regarding people-environment relationships, and having found little clarity through conversations with employees, I used the O'Regan (2011)/ Kronlid & Öhman (in press)-inspired analytical tools (see Section 4.7.3.4 and Appendix 21) to analyse two organisational texts in detail: (i) the seven objectives of the Mondi Wetlands Programme [CDA.02-1] and (ii) an extract about the programme's relevance, taken from the 2009 Evaluation Report [CDA.02-02]. I selected these texts because their social-ecological focus would allow me to focus specifically on the value of wetlands and people's relationship with them, as represented in the Mondi Wetlands Programme discourses.

Insights gained from this detailed textual analysis complements a broad review of the titles of nine of Mondi Wetlands Programme's media releases (see Table 7.1) which indicates the programme's strong emphasis on socio-economic values of wetlands and the importance of managing wetlands wisely for human benefit. The titles were selected from 17 media releases

on the Mondi Wetlands Programme website, and narrowed to a selection of ten whose titles indicated some form of environmental valuing. Only two categories emerged in relation to Kronlid and Öhman's (in press) analytical distinctions: (i) Instrumental value (wetlands meet human needs) – which was reflected in eight of the nine article titles; and (ii) Intrinsic value (dependent on transactional processes between nature and humans) – which was reflected in two of nine article titles.

Table 7.1 Environmental Values implied through the titles of Mondi Wetlands Programme media releases.

	Title of Article	Implied Environmental Value / People-Environment Relationship
1	*Wetlands are Custodians of Water*	Instrumental value (wetlands meet human needs)
2	*MWP's Community Outreach Pays Dividends*	Instrumental value (wetlands meet human needs)
3	*Putting a Socio-economic Value on Wetlands*	Instrumental value (wetlands meet human needs)
4	*A Sacred Place Under Siege - Lake Fundudzi*	Intrinsic value (dependent on transactional processes between nature and humans)
5	*Wetlands Critical for Food Security*	Instrumental value (wetlands meet human needs)
6	*Wetlands Can Wash Away Poverty*	Instrumental value (wetlands meet human needs)
7	*Wetlands and Human Health - Ramsar*	Instrumental value (wetlands meet human needs)
8	*The Wonder of Wetlands*	Intrinsic value (dependent on transactional processes between nature and humans)
9	*The Central Role of Wetlands in Water Management*	Instrumental value (wetlands meet human needs)

- ***Mondi Wetlands Programme Objectives***: The following objectives were analysed to identify implicit or explicit environmental values and conceptions of human-nature relationships:

    1. Improved wise use of communal wetlands in rural tribal areas through raised awareness, increased capacity, establishment of wetland governance structures, and implementation of better management practices.

2. Improved environmental management performance of growers in the plantation forestry and sugar industries, through the adoption of better management practices reducing their impact on wetland and estuarine ecosystems.

3. Integration of the wise use of wetlands into government's catchment management planning and implementation of water resource management.

4. Wetland rehabilitation catalysed and government efforts through the government-led Working for Wetlands Programme are effective and sustainable.

5. Raised awareness and increased capacity amongst natural resource managers, environmental impact assessment practitioners, regulators and policy makers resulting in improved management of South Africa's wetlands.

6. Key wetland management tools and resources developed and used by wetland practitioners, improving the effectiveness of wetland conservation.

7. Increased public awareness of wetlands through the generation of publicity on wetland importance, topical wetland issues, their rehabilitation, sustainable utilization and management. [Doc.02-06]

Wetlands are identified as the focus of moral concern, being mentioned 13 times within the seven objectives, and always in relation to needing better management or being better understood. See, for example: "Improved wise use of communal wetlands in rural tribal areas" (Objective 1)" and "Increased public awareness of wetlands through the generation of publicity on wetland importance" (Objective 7). Collectively, the seven programme objectives suggest that wetlands in South Africa need to be rehabilitated, conserved, sustainably utilised and wisely managed. However, the text is less clear on *how* wetlands are being valued, for instance, does the programme value wetlands for their intrinsic value regardless of people's interest in them, or for their instrumental value, that is, their ability to fulfil people's needs. Although this is not directly clarified through the programme objectives, by implication, the text's very strong emphasis on environmental management suggests a more instrumental valuing of wetlands as natural resources that must be effectively managed if they are to continue their function of flood attenuation, water purification, provisioning of reeds for crafts (and hence economic opportunities) and so on.

An environmental management discourse (or what Dryzek (2005) would describe as a discourse of administrative rationalism) is very dominant in the programme objectives, implying that nature must be managed through policies and strategies so as to be most accessible and beneficial to people. Solutions to wetland degradation and risk are constituted by the Mondi Wetlands programme in terms of comprehensive and detailed management practices such as: "Integration of the wise use of wetlands into government's catchment management planning and implementation of water resource management" (Objective 3) and the development of "… wetland management tools and resources" (Objective 6). Such a view implies that nature is ontologically separated from people, requiring, for example: "… establishment of wetland governance structures, and implementation of better management practices" (Objective 1) and "Improved environmental management performance of growers in the plantation forestry and sugar industries, through the adoption of better management practices reducing their impact on wetland and estuarine ecosystems"(Objective 2). Rather than seeking to reduce the people-nature separation at this ontological level, the programme seeks to *manage* the relationship – in ways ranging from awareness raising and capacity development to the formulation of policies, social partnerships and technical wetland management tools and resources.

- ***Extract from the 2009 Evaluation Report***: The selected short text from the 115-page report reviews strategies taken by the Mondi Wetlands Programme to achieve its wetland conservation objectives. The text outlines how Mondi Wetlands Programme's strategy of collaborative co-learning and development for better wetlands management is appropriate and effective, especially in the light of current global social-ecological insights and concerns. Part of this strategy has involved a move away from awareness raising and environmental values, towards capacity-development, collaborative action, problem-solving and the development of practical tools and resources in support of better wetland management.

While the primary focus in this text is on establishing the collaborative, co-learning approach to social change as ethically desirable and environmentally expedient, some environmental values orientations are also evident. Consistent with the programme objectives reviewed above, this text also positions wetlands as the focus of moral concern: "… advocating that South Africans consider the value of wetlands more strongly" [CDA.02-02, line 20] and "… protect and repair wetlands" [line 28]. "Sustainability practices" [line 8] and "social change" towards better wetland management [line 9] are also constituted as desirable moral concerns.

Clearer than in the programme objectives, the text revealed a strong instrumental valuing of wetlands (and nature in general), evidenced for example, in terms such as "land users" [line 5] and "natural resources" [line 15] and in the identification of key partners who utilise wetlands: "government, industry and individual land-users" [line 24]. Nature appears to be ontologically excluded from the human discursive community (Kronlid & Öhman, in press), as evidenced from the following quotations: "Setting up or improving the structures and systems with which to take better care of natural resources like wetlands" [line 15] and "Our practices and actions including traditions and development decisions, which directly and indirectly affect natural resources" [line 16]. Whilst natural resources are here understood as being inextricably linked to human well-being and actions, they are regarded as *external* elements *upon/ towards* which we are compelled (morally or materially) to act in appropriate ways.

Administrative rationalism predominates in this text as it does in the programme objectives, (see, for example, "wetland delineation, assessment and management tools, and tools for planning, assessing and reporting land use in agriculture" [line 6]) but this discourse is extended (or balanced) through recognition of more socially contextualised processes, such as the "… need to keep advocating" [line 22] and "… the programme's collaborative work with others, on the condition of wetlands" [line 33].

From this section's review of interactions with Mondi Wetland Programme staff, the review of media release titles (Table 7.1), and analyses of the programme objectives and an extract from the 2009 Evaluation Report, the following trends emerged regarding the programme's value orientation and ethical stance:

- ***Instrumental valuing of wetlands***: It was initially difficult to ascertain whether: (a) wetlands were being valued by MWP for their intrinsic value – with the programme seeking to work in the most effective ways possible with people in order to conserve wetlands *for wetlands' sake*; or (b) wetlands are valued primarily for their services to people – with the programme working closely with people to conserve wetlands for current and future *use by people.* The seven programme objectives suggest that wetlands are unambiguously the moral concern of their work but it is unclear *why* they are being valued. However, the Evaluation Report, and more especially the review of nine media release titles, suggest that wetlands are valued for benefits they bring to people – in other words: wetlands are valued instrumentally.

- ***Administrative rationalism***: Managerial language was prevalent across all the reviewed texts, indicating that the Mondi Wetlands Programme regards natural systems as needing effective management through governance structures, policies and tools. This orientation complements the abovementioned instrumental valuing of nature as it is only through effective wetland management of wetlands that they can provide long-term benefit for people.

- ***Environmental pragmatism***: In may seem strange, following the preceding descriptions of the Mondi Wetlands Programme's instrumental valuing of nature and its environmental managerial approach, to suggest that the programme's ethical stance is one of environmental pragmatism. An environmental pragmatist stance, sometimes critiqued for the risk of relativism, requires that environmental problems be considered in context, that there can be "no final framework or indubitable truth" to resolve their complexity, but that the "large toolkit" of environmental ethics can be helpful in this process (Hattingh, 1999, p. 80). Similarly, the Mondi Wetlands Programme resists taking up an explicit environmental ethics position, opting strategically to work in open-ended ways to deliberate the rightness or wrongness of environmental practices that affect wetlands and freshwater systems, even when individual staff members might hold strong personal positions. This environmental position complements the social imperative of development, transformation and equity (see 'democratic imperative' below) which suggests that working with others in respectful, non-impositional ways is more important (and may ultimately be more beneficial for the environment) than taking up and defending a particular position.

- ***The democratic imperative***: It seems that the pragmatist approach just described is traceable to changes in the Mondi Wetlands Programme's orientation, linked to its first evaluation in 2005 which proposed a move away from awareness raising and behaviour change objectives towards a more socially transformative, participatory, deliberative, co-learning approach. This shift is also indicative of similar shifts in the global environmental arena, and most directly in post-apartheid South Africa.

This section has shown how key shifts in the global and national arenas are affirmed and advanced by WESSA, for example: an increase in environmental management approaches; endorsement of participatory, social-ecological, co-management approaches to nature conservation; and national environmental legal and policy frameworks that prioritise socio-

economic development, equity and transformation. In turn, these broad and influential discourses appear to have shaped the Mondi Wetlands Programme's current environmental and ethical discourses which are essentially people-centred and pragmatic. These organisational discourses formed part of the professional context into which Nkanyiso was inducted as an intern, and in which he extended and deliberated his ethical response to environment.

7.5.3 Nkanyiso's Educational Practices with the Mondi Wetlands Programme

Nkanyiso was appointed by the Mondi Wetlands Programme in August 2009 in the capacity of an Environmental Education Practitioner [Doc.02-11] although opportunities for him to practice actively as an environmental educator were limited and much of his contracted time was spent working on his EETDP Course assignments, or was unaccounted for. According to his letter of appointment, Nkanyiso's post was:

> 1. To support the incumbent [Nkanyiso] to expand and improve his professional skills and capacity through workplace based training, fieldwork, and completion of a learnership programme that leads to the achievement of the Level 5 National Certificate in Environmental Education, Training and Development Practice (EETDP).
>
> 2. Respond to specific WESSA requirements as and when a need arises with a focus on adapting/developing education and action projects that respond to the environmental issues identified by WESSA. [Doc.02-11]

The first point clarifies the provision made for Nkanyiso to work on his EETDP Course assignments during his contracted work days, something which was expanded upon in the same letter: "Days spent attending EETDP contact tutorials or working on EETDP workplace assignments will not be considered study leave but basic duties of the post" [Doc.02-11] and in the modus operandi document that specified that Nkanyiso would spend half of his contracted time (five of ten days per month) working on the EETDP Course [Doc.02-11] (see Figure 7.6). This left only five days per month to get involved with other education and training activities in the Mondi Wetlands Programme workplace.

Figure 7.6 Nkanyiso works on his EETDP assignments at his workstation in the WESSA–SustainEd open-plan office at the Umgeni Valley Nature Reserve

It proved difficult to integrate Nkanyiso with existing education and training initiatives for even the remaining five days per month. Vaughn reflects how his and Damian's way of operating at work has developed over time in relation to their own capacity and experience, making it very difficult for someone (like an inexperienced, unqualified intern) to fit in and cope at the level they are currently operating. Damian similarly notes that he and Vaughn have been doing this work for eight to ten years (both having qualified with four-year, specialist qualifications as wetland ecologists), and in the early years they, too, really struggled [Int.02-08]. There was an expectation, however, for Nkanyiso to work in support of Vaughn and Damian's current educational work with no substantial prior experience in the field, and this proved to be untenable. This challenge appears to have been compounded by the lack of specificity in Nkanyiso's letter of appointment regarding actual projects or activities for which his services would be required. The letter merely stated that he would work: "… with a focus on adapting/developing education and action projects that respond to the environmental issues identified by WESSA" [Doc.02-11]. It appears that no appropriate education or action projects arose during the year to provide Nkhanyiso with a consistent and tangible professional focus. This point is elaborated in Section 7.7 in terms of mentorship and workplace learning processes.

In trying to clarify if I had overlooked any educational practices during my workplace observations, Vaughn explained via email that the only project Nkanyiso had been directly involved in through the Mondi Wetlands Programme was investigating wetlands in and around Mpophomeni township (mapping them and documenting their uses and impacts). This

corresponded with my observation of Nkanyiso visiting Mpophomeni township in September 2009 to collect information towards his first EETDP assignment which required an investigation into a local environmental issue. During my four workplace observations based at Umgeni Valley Nature Reserve between mid-2009 to mid-2010, Nkanyiso was either working with MMAEP, at his desk for a short time working on his assignments before leaving, or his whereabouts was not known by the WESSA staff. For example, in March 2010 I recorded in my research journal:

> No-one knows where Nkhayiso is. 'Maybe he's with Midlands Meander today, maybe he's just chilling at home' says [a colleague]. [Another colleague] said I could try Nkhanyiso on his cellphone but I might not have success as it's usually off. It seems that whoever I speak to at Umgeni Valley alludes to the fact that both guys [referring to Mdu and Nkanyiso] are hard to pin down. [J2a, p. 101]

The following day's entry started with: "No sign of Nkhanyiso today. I tried his cell yesterday and sent a sms [text message], but no feedback from him. No-one at WESSA knows where he is and some suggest I call Nikki, his boss at MMAEP" [J2a, p. 102].

From these collective observations, conversations and experiences, it seems that, other than working on his EETDP assignments, Nkanyiso's productive time in the Mondi Wetlands Programme workplace was very limited and I was unable to observe or get secondary accounts of his environmental education practices.

7.5.4 Nkanyiso's Ethical Deliberations and Actions through the Mondi Wetlands Programme

I enquired into Nkanyiso's perspectives on the ethical dimensions of his work with the Mondi Wetlands Programme through numerous interviews and informal conversations in 2009 and 2010. I began by asking Nkanyiso if he regarded WESSA and the Mondi Wetlands Programme's educational responses as necessary or appropriate. He replied in favour of their educational work, explaining:

> … it is the community that is doing that [having an environmental impact]. It starts from the community. So I think, yes, it is [right] for Mondi and WESSA [to get involved] because they're caring about the earth, they care for the earth, I mean like caring for wetlands and also other things – it's part of their duty. So since wetlands, being seen as one of the most important things in the world, I think it's their job. So they must run workshops as they are doing, education workshops in the communities, and try to make people understand the environmental issues. [Int.02-13]

Nkanyiso's responses to questions with a social-ecological focus were mostly generalised and abstracted and I came to realise that this was possibly because he was not actively involved in much environmental education work through Mondi Wetlands Programme. When I asked Nkanyiso to describe his perspectives on wetlands and their conservation, his responses were mostly generalised, hesitant and dis-embedded from his direct experience and understanding, unlike many of his other narratives presented later in this chapter (see Sections 7.6.4 and 7.9). I asked Nkanyiso in an interview, for instance, to tell me about any ethical challenges related to wetlands conservation work and he responded:

> Like the Zulu people, it's like they are performing their rituals in a wetland. So it's their beliefs. It's their beliefs so you can't change that. It's what they're told. It's what they believe in. *It's just that I never saw them doing that*. But it's a real thing *but I'm not sure what they are using when they're in a wetland*. Because they might be using something that is not good. They might hurt some animals living in the wilderness, you see. [Int.02-13, my emphases]

Here, Nkanyiso has correctly pinpointed that tensions might exist between nature conservation/ wetland management agendas and a Zulu community's cultural traditions and beliefs pertaining to wetland use. However, it is an abstract example and Nkanyiso acknowledges that he has no direct knowledge or experience of such practices. His ecological knowledge seems similarly limited as he vaguely suggests that Zulu rituals performed in wetlands "…might hurt some animals living in the wilderness".

In the same interview, Nkanyiso added: "I don't think they [the Zulu community] care about that, that they might be damaging a wetland in other ways" [Int.02-13]. When I asked *why* he thought people didn't care, Nkanyiso identified ignorance and lack of education – something which, across various interviews, emerged as a strong driver of his motivation and commitment as an environmental educator. (This is further discussed in Section 7.6.4.2.)

In a different interview, I asked Nkanyiso how he would make up his mind about doing the right thing regarding a degraded wetland and he replied:

> This thing leads to humanity. If you know that you are doing something that makes other people suffer, then why are you continuing doing that thing? It's up to you to decide, 'cause really I can't tell you what to do. [Int.02-19]

I attempted to ascertain if Nkanyiso valued wetlands for their intrinsic value, but his responses consistently indicated an instrumental valuing, if not for local, current generations, then at least for future generations. The following extract from that dialogue reveals

Nkanyiso's very clear sense that wetlands are morally considerable because of their value to people:

> LO: What happens if there's a wetland and there are no people living nearby; it was just a wetland in a far area that is a beautiful beautiful wetland for its own sake, but there's no people there to harvest reeds or anything like that. And then somebody comes up with the idea to drain that wetland because they want to turn it into agricultural land or something. So nobody's going to be kicked off the land or anything. Would it be all right to drain the wetland then because no people are affected, it's just a wetland?
>
> NN: Uh no…because there is something that is happening in a wetland space, like it can produce water. So it's an ongoing thing, water is going somewhere. So if they are draining it, surely there will be other people far away that will suffer…you see. So eish!
>
> LO: And if we could use technology to get that water [for those people] from somewhere else?
>
> NN: To feed those people?
>
> LO: Ja [yes], is it OK then to just destroy that wetland?
>
> NN: Hmm, there is something I know, I'm not sure if it's a reality, but they're saying that wetlands stock up on carbon. But the scientists are busy trying to find out how much…
>
> LO: Oh, the carbon sequestration thing?
>
> NN: Yes.
>
> LO: And why is that important?
>
> NN: Because by draining that wetland, if the wetland is not functioning at all, I don't think it will be easy for it to store that carbon. That carbon that is contributing to the global warming. So there are so many debates. [Int.02-19]

Beyond these anecdotal indicators, I was unable to engage more substantially with the ethical dimensions of Nkanyiso's professional practice in relation to the Mondi Wetlands Programme. There were, however, more opportunities to discuss his ethical deliberations, most especially in relation to his work with the Midlands Meander Association Education Project which is the focus of the following section.

7.6 NKANYISO'S WORK WITH THE MIDLANDS MEANDER ASSOCIATION EDUCATION PROJECT

7.6.1 The Midlands Meander Association Education Project (MMAEP) as an Activity System

Nkanyiso started working part-time for the MMEAP about two months before he started with the Mondi Wetlands Programme and started the EETDP Course. The MMAEP was established in 2003 as an educational project within the Midlands Meander Association, a sustainable tourism, arts and crafts association which describes itself as "a collective of creative and hospitable people making a living at a gentler pace [who] strive at all times to conduct our business in harmony with our community and the natural environment" [Doc.02-04]. The association is situated in the KwaZulu-Natal Midlands, situated between the city of Pietermaritzburg in the East and the Ukhahlamba Drakensberg mountain range in the West. The symbol of the Midlands Meander Association is the rare and endangered Karkloof Blue Butterfly (*Orachysops ariadne*).

The object and outcome of the MMAEP activity system is reflected in its vision and mission statements, which also serve as rules guiding the activity system (see Figure 7.8):

> Our vision is to help Midlands' schools nurture capable, confident, curious children who are sensitive to environmental issues, who have the resilience to cope with a changing world and are able to contribute positively to their communities.
>
> The MMAEP aims to increase awareness of the importance of caring for the natural environment among all sectors of the community in the Midlands Meander area. Focusing on rural schools, it assists teachers to integrate environmental education into the teaching curriculum, with emphasis on wise resource use, creativity, sustainable living and community building. [Doc.02-01]

The community of the MMAEP activity system is mostly local and connected through informal or semi-formal partnerships and agreements, such as Midlands Meander Association partners, the Eco-Schools Programme's co-ordinating office at Umgeni Valley Nature Reserve, local newspapers, community volunteers, participating rural schools and their teachers and learners.

Rules regulating the activity system are generally local and project-specific, that is, the MMAEP is not bound by national legislative or policy frameworks, other than aligning its school-based work with the National Curriculum Statement. The project is regulated instead by financial constraints as determined by funders, and by local parameters such as the

timetables of participating schools and the geographical positioning of those schools which must fall within the KwaZulu-Natal Midlands in order to receive support. The MMAEP also works closely with the national Eco-Schools Programme which is run by WESSA and co-ordinated through its national office at the Umgeni Valley Nature Reserve. Many of the schools supported by MMAEP are registered Eco-Schools and are thus required to work within the loose framework that the programme prescribes. Beyond these formal 'rules', the support that MMAEP offers to teachers and schools, most especially through its mediating tools, are mostly determined by the experience, creativity and intuition of the project co-ordinator and her staff. When asked to comment on the rules that regulate MMAEP's activity system, the project co-ordinator, Nikki, noted: "… we have got written rules but our rules are actually more about ethics and behaviour". These are considered more closely in Section 7.6.2 which focuses on the environmental and ethical practices of the MMAEP workplace.

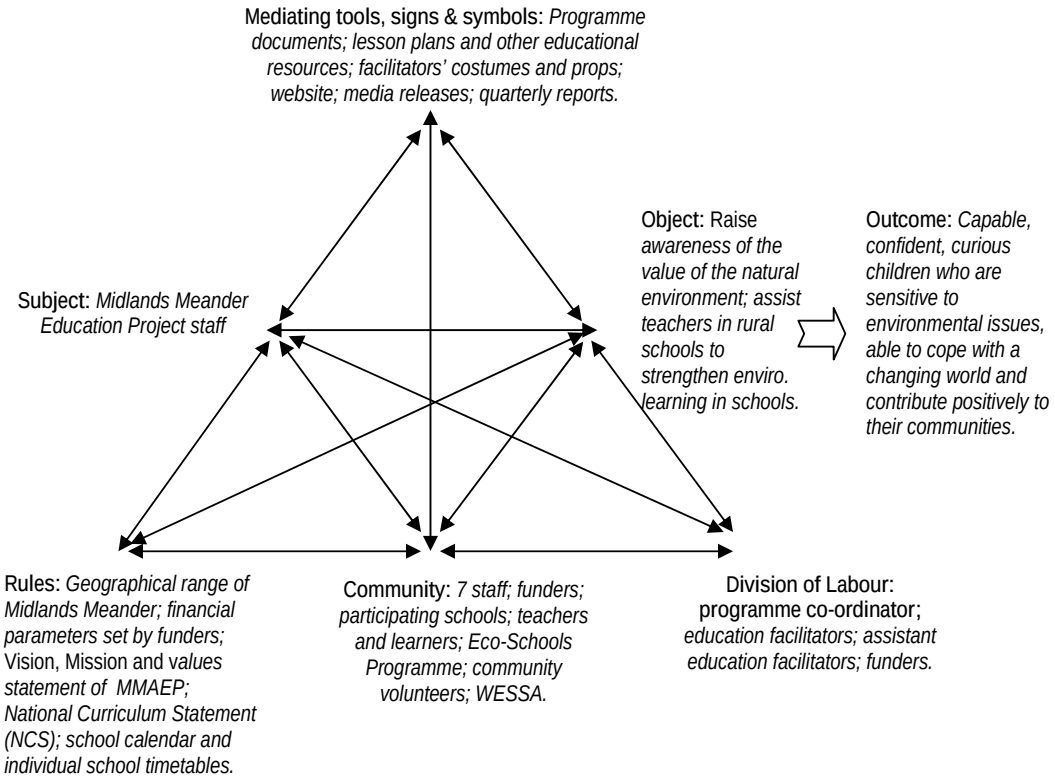

Figure 7.7 Activity system of the Midlands Meander Association Education Project

MMAEP produces and uses a wide range of mediating tools, ranging from media releases in local newspapers to educational games, costumes and activities to support environmental learning in local rural schools. One of MMAEP's characterising features is its emphasis on creativity, imagination and enthusiastic action-taking, most of which is achieved through the

project's mediating tools. The staff are referred to as 'the Bugs', and each education facilitator is named after an insect or small creature: Nkanyiso is Charles the Chameleon, and his colleagues are Super Bug, Gugu Grasshopper, Siza the Spider, Bongi the Butterfly and so on. These characters arrive in costume at participating schools and encourage learners to play imaginative games and express their creativity through art and drama (all with an environmental theme). As noted on the project's webpage: "MMAEP fieldworkers bring enthusiasm and a new dimension to learning which we believe has a positive impact on the development of the 2 400 learners attending schools which currently participate in the programme" (Midlands Meander Association [MMA], 2011).

Figure 7.8 Nkanyiso and a colleague arrive in costume at a local primary school, carrying bags of fancy hats, bandanas and colourful educational resources which attract much interest and excitement amongst learners of under-resourced rural schools

The following section (7.6.2) examines some of the MMAEP's mediating tools in more depth from the point of view of the environmental values and ethical perspectives that they advance.

7.6.2 Environmental and Ethical Discourses and Practices in the MMAEP

The MMAEP works very explicitly with environmental values and ethics, making them in many ways the centre point of the project's work. The Midlands Meander Association's values statement is stuck on the wall of the MMAEP office: "We are a collective of creative and hospitable people making a living at a gentler pace and who strive at all times to conduct our business in harmony with our community and the natural environment" [Doc.02-04]. The

ethos and environmental focus of MMAEP's work is also captured in the following extract from the Midlands Meander Association website:

> To begin with, SuperBug usually spends time in quiet contemplation after which the class might discuss Values – such as peace and respect – and how important they are in our lives – in our interactions with other people, animals and the environment. After the mid-morning meal, often prepared in the solar cooker to demonstrate alternative energy sources, outdoor activities begin. Some learners head off with Gugu the Grasshopper to explore a nearby wetland and learn about the many fascinating plants and animals that make up this important habitat. Masechaba the Mayfly gets everyone tangled playing the Food Web game to illustrate how each creature on Earth depends on others for its survival. DoodleBug might encourage budding artists to draw giant trees or paint mandalas, while Sizakele the Spider gets stuck into the food and medicine garden. (MMA, 2011)

Notes supplementing Nkanyiso's letter of appointment list five values to which Nkanyiso is expected to align as an employee:

- Punctuality is of utmost importance.
- Never answer your phone while in meetings, workshops or classrooms.
- Be polite and respectful to Educators, Learners, Co-workers and Community.
- Work with integrity (as a facilitator, live what you teach).
- Teach from a point of values. [Doc.02-03]

While the first three points address typical professional conduct, point four addresses the expectation that Nkanyiso will set a good example to others as an environmentalist ("live what you teach") and for the MMAEP, this is equivalent to working "with integrity". Point five indicates the MMAEP's preferred educational approach: to use values as the starting point for learning.

Notes under the heading of 'teaching' included 14 bullet points but here I quote only those relevant to environmental values or ethics:

- Encourage – participation, entrepreneurship skills, self-esteem, self-reliance, group work, team spirit, problem solving, confidence, compassion, planning, setting and achieving goals, optimism, expression of ideas, learning new skills, learning more about self in activities, use of left and right brain, discussion and debating issues, presentation skills, social and emotional interaction, listening, eco-friendly living, introduce teachers and learners to new/ alternative ideas about working and living in harmony with nature.

- Promote the value and benefits of working hard in the garden or outdoors, try to dispel negative stigmas.
- Promote respect for the earth/ garden/ people/ insects/ plants and try to dispel entrenched fears and myths without giving offence.
- Make links between personal lifestyle and environment.
- Encourage wise use of natural and other resources. [Doc.02-03]

To probe the project's ethical and environmental discourses more carefully, I reviewed two texts: (i) an article from the MMAEP quarterly newsletter [CDA.02-03] and (ii) an overview of the MMAEP on its own website [CDA.02-04].

- ***Appreciation of Natural Ecosystems***: In both of the analysed extracts, emphasis falls on the importance of people's engagement with natural systems and the creative or inspiring ways that MMAEP seeks to enable that. The newsletter, for example, describes a lesson in the Dargle Mistbelt Forest with a group of children who had a very special and learningful time watching and listening to birds and experiencing their forest habitat. The extract explains how MMAEP educators helped the children to explore the forest by using their senses and develop a deep appreciation for the forest's beauty and peacefulness. The text contained several words or phrases that conveyed a sense of reverence for Nature, such as "marvelling"; "peaceful"; "a magical place indeed". Nature's intrinsic value is acknowledged through sentences such as: "The dead tree provides food for mushrooms and other fungi, new homes for insects, and most importantly opens up the canopy to let in light so that a new tree can germinate and grow" [CDA.02-03, lines 11 – 12]; and sometimes intrinsic value in terms of transactional processes between nature and people: "tourists came from far and wide to see it" and "… marvelling at the Strangler Figs and giant Celtis Africana trees" [CDA.03-01, lines 3 and 6].

In the second analysed text, the website extract describes how MMAEP is working with several schools to support curriculum-based environmental learning, and this work is endorsed or supported by the DoE and major national environmental education programmes. MMAEP's contributions are innovative, fun and above all effective with regards environmental learning. While the text's focus is on the quality and relevance of MMAEP's educational work, the inherent environmental perspective that emerged was of the importance of species and ecosystems for the overall integrity of natural systems: "Learners are always fascinated to learn that if you remove one piece of the ecology pyramid, everything can

collapse" [CDA.02-04, line 10] and "… focus on river health, wetland life, pollution, cholera and the importance of conserving catchments" [CDA.02-04, line 14]. While there may be a suggestion of instrumental valuing of nature in the text (such as cholera which affects people; and the reference to the river catchment which supplies the Midmar Dam), the text as a whole reflects an appreciation of natural systems in their most balanced states, uncompromised by people.

- ***People-Nature separation to be overcome***: Inherent to both texts is the suggestion that, ontologically, people and nature are separate but that this can be changed through transactional processes such as excursions and nature-based investigations. The newsletter extract, for example, presents the Dargle Mistbelt Forest as a special place which the learners were privileged to *visit*, but which they had to *leave* at the end of the *fieldtrip*. It was a place that tourists "… came from far and wide to see", and a place that the children "… hoped to visit again soon". The article adds: "*Before leaving*, everyone blessed the clearing with kisses to thank the forest for *hosting* them" [CDA.02-03, my emphasis]. Together, these quotations indicate a perspective that nature is a revered *but separate* space.

The educational focus of the second extract similarly implies a separation between people and nature, with outdoor lessons and experiential learning being put forward as ways to bridge the divide. The extract notes how environmental topics need to be included in the curriculum [CDA.02-04, lines 2 – 3], and describes how "… learners are taken on field trips" [line 23] or are given the opportunity to "gather samples and identify various forms of life during outdoor lessons" [line 13].

- ***A concern for taking ethical action:*** Part of MMAEP's ethical stance is that people need to take positive, practical action to support the natural environment. Hence, it is also necessary to look briefly at the practices of the MMAEP workplace and the kinds of environmental practices they initiate and support in schools. Some of the main activities and the associated environmental value and ethical choice are summarised in Table 7.2 below:

Table 7.2 Ethical Action Choices evident in the Practical Projects the MMAEP supports in schools

Environmental Practice that MMAEP supports in schools [Doc.02-02; Doc.02-05]	**Social-ecological Rationale**	**Focus of Moral Concern**	**Environmental Ethics stance**
1. Establishing **vegetable and medicinal gardens** in school grounds.	School-based food gardens provide a source of healthy food for children, many of whom come to school hungry. Learning to grow your own food can secure future food security and provide entrepreneurial opportunities.	Children, especially those from impoverished households who do not eat enough nutritious food.	It is right to seek opportunities to grow food and medicinal plants in ecologically sustainable ways in order for children to eat more healthily.
2. **Compost-making**: Schools make compost from biodegradable food waste, grass cuttings, leaves etc, to use in their vegetable or medicinal gardens.	Inorganic fertiliser is damaging to soils and the balance of ecosystems. Organic compost, however, uses local, natural matter and returns their compounds and nutrients to the soil without harming the natural environment or people. Organic compost is free and empowers poor, rural communities to grow food more efficiently without the financial burden of buying fertiliser.	Soil and ecosystems; Poor, rural communities.	It is right to fertilise gardens with natural, organic compost that does not introduce artificial, unsustainable elements into the ecosystem.
Water-saving: Schools (that have taps) are encouraged to audit them for leaks; those with vegetable gardens learn how to apply mulch to reduce water evaporation.	South Africa is a water scarce region, predicted to get drier due to climate change.	Water and the well-being of people who all depend on it for life.	It is right to use water conservatively and to seek ways of reducing water consumption.
Solar cookers: Demonstrating and where possible donating parabolic sun stoves to schools.	Most energy in South Africa is coal-based, thereby contributing to carbon emissions and global warming. Rural and/ or poor communities who are currently without electricity, want access too, but this means increasing carbon emissions. Earth's atmosphere and natural systems are already severely compromised by carbon emissions of our fossil fuel dependent lifestyles.	Earth's atmosphere and natural systems. Human well-being.	It is right to pursue alternative sources of renewable energy, and thereby reduce our individual and communal carbon footprint.

The environmental practices summarised here indicate a general concern for human well-being and the natural systems on which people are so dependent. These environmental practices thus imply an instrumental valuing of natural systems which is hardly traceable in MMAEP's written texts.

I was able to have one formal interview with the project co-ordinator and numerous informal, unrecorded conversations with the two other MMAEP educators. All three women pursue alternative lifestyles in their commitment to minimising their carbon footprints and living ethically. For example, all three are strict vegetarians, and grow their own organic vegetables. When the MMAEP won an international award in 2009, the project co-ordinator Nikki opted not to attend the award ceremony because the carbon emissions associated with the long-haul flight would directly contradict the purpose and content of their environmental work in local schools.

Nikki told me that in a staff workshop at the start of the year, she had asked staff to write down three values that they value, and three values that are important to MMAEP and "… the one thing that came over and over was working with integrity; that our ethics are not compromised. And that came up, from one person to the next person, to the next person, over and over it came up". She adds that this delighted her because it indicated that "… our ethics are uncompromised and I think that's fantastic. I was so thrilled because I really do believe we've got a group of astonishingly interesting people, and very special people" [Int.02-09].

Through this section, it has become evident that the MMAEP workplace is one in which the ethical dimensions of their environmental education work are explicit and current. All staff members are actively committed to living in ways that reinforce rather than undermine their educational work and much of the project's identity is based on this explicit ethical stance. Environmental values associated with the MMAEP are that natural systems and individual species (wetlands, forests, birds, cows, reeds, insects and so on) all have a role to play in the balance of ecosystems and they are worthy of respect and care. The project's discourses reveal strong inclinations towards intrinsic valuing of nature but it seems generally to keep discussions open-ended regarding the reason for valuing nature, for example, it neither promotes nor discourages an instrumentalist valuing of nature but is willing to engage learners in discussions about that, should they arise.

7.6.3 Nkanyiso's Educational Practices with the MMAEP

Nkanyiso was appointed as Assistant Environmental Education Facilitator to the MMAEP in mid-2009, contracted to work between five and ten days per month, mostly in support of environmental education activities in local (mostly rural) primary schools. Nkanyiso is seldom required to plan and present lessons by himself and usually co-teaches with an experienced educator such as Jessica, Charlene or Eidin [Int.02-09]. The few lessons he does run independently are about wetlands because the MMAEP recognises his experience in this area. The schools that Nkanyiso visits have established relationships with the MMAEP: education officers visit schools at least once a month, and teachers interact with the education officers through professional development workshops and other local environmental events at least once a term.

Nkanyiso's letter of appointment outlines these contractual obligations as well as the more general expectation of supporting local schools, such as by building "meaningful relationships with schools, educators and learners", encouraging whole school involvement and attending meetings and workshops with teachers at least once per term [Doc.02-03]. The letter of appointment also specifies professional or administrative responsibilities including completing a Daily Reporting Sheet for every school visit, submitting monthly reports to the programme manager, keeping a photographic record of his school-based activities, keeping his workspace tidy and using equipment with care [Doc.02-03]. The environmental topics that Nkanyiso mostly teaches about are wetlands, recycling and climate change. Figures 7.9 - 7.12 illustrate the typical activities and context of his work with MMAEP.

Figure 7.9 Nkanyiso teaches learners from a local farm school while dressed in his outfit as 'Charles the Chameleon'

Figure 7.10 Nkanyiso assists learners from Triandra Farm School to interpret a map of the KwaZulu-Natal Midlands while Eidin, another MMAEP educator, directs the lesson

Figure 7.11 Nkanyiso and a class of foundation phase learners blow kisses to bless the compost heap they have prepared in the school grounds that will be used to fertilise their trees and food garden

Figure 7.12 Nkanyiso occasionally assists at *Fundanenja* ['Learning with Dogs'] in Mpophomeni township. Collaboration between the local SPCA, dog trainers, kennels and the MMAEP has created a free township-based dog training school for boys on Friday afternoons. Nkanyiso's ability to interact with the boys in isiZulu to explain responsible dog ownership is valuable to the project. (See www.fundanenja.co.za)

In an email correspondence I received in April 2010, the Project Coordinator attached the MMAEP quarterly newsletter and report, noting that, of all the listed activities in the report, Nkanyiso had been involved in only two. She added: "That is all he managed to do this month – he missed quite a few days he was scheduled to do because he was disorganised, didn't check his diary, lost his phone and arrived too late for the bug lift" [Doc.02-09].

I observed two classroom lessons in which Nkanyiso was involved. The first of these was a late morning visit to Triandra Farm School where he supported Eidin, the education officer, to teach a combined class of Grade six and Grade seven learners. The lesson was to teach map reading and compass directions and Nkanyiso's role was mostly supportive, especially with regard to bridging the language barrier. Eidin had brought tourism maps of the Midlands Meander and she led an interactive lesson, getting the learners to find various places or features on the map, explain if something was north or south of another point, and so on. Nkanyiso was highly involved in supporting the learners, especially the Grade sixes, during this map reading task (see Figure 7.10 above) [J2a, p. 50].

Nkanyiso and Eidin then co-facilitated a picture-based game on climate change in which Nkanyiso read clues to the learners who had to race to find corresponding picture cards. The game was supported by some discussions (such as about using energy-saving light bulbs) conducted in isiZulu by Nkhayiso [J2a, p. 51].

The second lesson I observed was run by Nkanyiso alone, this time with Grade seven class at Sifesesihle Primary School in Mpophomeni Township. He began by getting the learners to rearrange the desks and chairs so that everybody could sit on the floor in front of the classroom. Nkanyiso then played the wordgame 'Hangman' with the learners, eventually spelling out the word 'wetlands'. Thereafter, he instructed the learners to work in groups to write a paragraph in English explaining what a wetland is. After ten minutes, one person from each group had to read their paragraph to the rest of the class (See Figure 7.13). All of the paragraphs were read in isiZulu so the learners appear to have misinterpreted the instruction, even though it was given in isiZulu (despite English being the mandated language of instruction in South African schools beyond Grade three).

Figure 7.13 Nkanyiso listens while Grade seven learners read their paragraphs about wetlands to the rest of the class

This activity was followed by the learners learning a fun song with actions about Bob who works in a butter factory. Thereafter, Nkanyiso distributed various educational resources about wetlands and learners were directed to work in small groups for fifteen minutes to read information about wetlands in the resources provided.

Nkanyiso then took the class outside to play a game (unrelated to wetlands) called Huckle Buckle which required learners to pair up and follow his instructions such as "stand cheek to cheek" or "sit ankle to ankle". After this break, Nkanyiso and the learners returned to the

classroom where Nkanyiso read them a story in English about a girl called Lindiwe who notices that the stream she crosses enroute to school every day is reduced to a grey trickle. She walks upstream and finds a bulldozer digging up the wetland. The story ends with a question to learners "What could she do?" (J2b, p. 12). Learners were then set the task of developing short dramas to enact what Lindiwe could do to respond to the destruction of the wetland behind her village.

After the morning break, Nkanyiso got the three groups to have a relay race to draw as many features of wetlands as they could recall (see Figure 7.14).

Figure 7.14 A Grade seven learner takes his turn to add something to the picture in the relay race to draw as many features of a wetland as possible

Nkanyiso briefly but superficially discussed each group's picture, focusing on identifying and counting each feature they had drawn, and resolving disputes where necessary. Thereafter, learners continued preparing their dramas and performed them to Nkanyiso and the rest of the class before lunch.

Overall, although I was unable to follow the details of Nkanyiso's dialogue with the learners because the lesson was predominantly conducted in isiZulu, I got the impression that most interactions were either to give or clarify instructions, or to discuss the physical features of wetlands. Although the lesson's content – especially the drama about how to stop wetland degradation – was a potentially rich stimulus for values or ethics-oriented discussions, the amount of time need to explain and re-explain most instructions, combined with the pace at

which the morning's numerous activities flowed from one to the next, suggested that there was little time or capacity for such reflections.

These two lessons that I observed, and Nkanyiso's assistance with the Fundanenja dog training classes in Mpophomeni Township (see Figure 7.12), seem to provide a good profile of his typical educational practices through MMAEP. After gaining an understanding of Nkanyiso's professional practices, the following section provides an account of my understandings of his ethical concerns and actions in relation to this work at MMAEP.

7.6.4 Nkanyiso's Ethical Concerns and Actions in the MMAEP

7.6.4.1 The strong influence of colleagues' ethical positions

In general, it seems that many of Nkanyiso's ethical deliberations in the MMAEP workplace were linked to his emerging identity as an environmentalist and as an educator, and that the specific environmental topics presented in schools were a vehicle for that ethical development. This emerging identity as an environmentalist and as an educator is strongly influenced by his colleagues at MMAEP who, as noted above in Section 7.6.2, are very conscious of pursuing ethical lifestyles. His manager, Nikki, reflects that culturally their working environment must be quite challenging ("a hell of an adjustment" [Int.02-09] for Nkanyiso who has been brought up in a completely different context: "So you haven't only hung out with *white* people, you've hung out with a certain kind which are fringe at the best of times! Solar cooking, wild green eating, dog hugging" [Int.02-09, Nikki's emphasis]. And she adds:

> … through us he gets to watch all the movies: *Kiss your Gas Goodbye*, *Who Stole the Electric Car*? and stuff he's never even thought about. So that must be just mind blowing. But then he goes home and it's still Balgowan, and aunty's cooking. And he's terribly respectful! He's the most respectful young man. [Int.02-09]

Although she never talked through the meaning and details of the Midlands Meander Association's values statement with him, Nikki is conscious that many of Nkanyiso's ethical actions are learned at work and adhered to because that is the dominant or habituated practice in that workplace: "… he just follows our lead, I think he's quite sharp so he would observe the climate and what the group is doing. … I think he hasn't had to make any difficult [life] choices" [Int.02-09].

It is clear that the MMAEP workplace provided very direct stimulus for Nkanyiso's deliberations, both through role models and resources such as books and DVDs to scaffold his learning. Much of this environmental learning and deliberation was focused on: climate change and the importance of reducing one's carbon footprint; reducing the amount of solid waste disposed of in landfill sites; the importance of vegetarianism and organic farming practices; water conservation practices; the environmental impacts of consumerism; and animal welfare.

The following extract of a conversation I had with Nkanyiso (NN) about his efforts to cut back on eating meat points to the influence of colleagues and access to resources:

> NN: Yes, since I've been working at WESSA, I've been working with so many people ... Preven... and also at Midlands Meander, Nikki. Nikki Brighton. Ja. She's always telling me, kept like informing me about, like, about these things, you see.
>
> LO: Is she a vegetarian?
>
> NN: Yes, she is a vegetarian.
>
> LO: And Charlene is as well?
>
> NN: Yes.
>
> LO: Ok, so, did they like tell you stuff like 'Hey Nkanyiso, you shouldn't be eating that!' Or did *you* ask them questions? How did it come about that you learned these ideas from them?
>
> NN: Their approach was very useful because they didn't like...[incomplete sentence]… cause I was new at Midlands Meander. So they [he dramatises a concerned, feminine voice] 'Ok, so what food do you like, what kind of food do you enjoy?' I said, yo, I like meat very much! And they're like 'Oh, ok! What kind of meat?' And then I say I like chicken the most. 'Oh, ok. Good'. And then they didn't rush me.
>
> LO: Mmmm.
>
> NN: And then as days go by they started telling me: [he puts on a feminine voice again] 'Do you know the story of meat?' I say 'No, can you tell me?' And then they told me, they gave me CDs.
>
> LO: Oh really?
>
> NN: Yes, I've got lots [Int.02-10].

Nikki describes how ethical eating habits dominate in the MMAEP workplace and inevitably influence Nkanyiso's choices:

> We always have this table laden with food. There's nuts and fruit. Everyone brings the food from their gardens and it's raw, Jessica only eats raw, Leila eats a lot of raw. We've all got productive gardens. I mean, it must be, just if he learns that there's other food beyond KFC, and just to learn that, that you can't eat KFC, and why. [Int.02-09]

Later she adds: "… he just doesn't [eat meat] with us, so he brings bananas and carrots now too"; and finally:

> So he understands now about organic and all the rest, but I still don't think he chooses it. I mean when we go out, when he went out to dinner with me, he had the vegetarian option, but that's to try something new, you know: tourine of avocado or something bizarre! When we've had burgers even, he's had veggie burgers. He would do that when he's in the group, but I don't expect that it goes home with him. [Int.02-09]

More details regarding Nkanyiso's meat-eating quandary (as they played out in his personal life or were articulated in his course assignments) are presented in Section 7.9.1.

Nkanyiso recognises that much of the environmental knowledge he gains through his work is often contrary to the Zulu culture in which he was raised and now works. This is especially stark when he visits local farm or township schools and interacts with children whose upbringing is very similar to the one he experienced, and many of their actions in relation to environment are the same as his at that age. Although he did not describe it to me in these words, my impression was that he regards himself as a bridge between these two often conflicting perspectives and he enjoys the mediation that occurs through his educational work with young, rural children. This is elaborated in the following section 7.6.4.2 which focuses on Nkanyiso's sense of educational ethics.

In October 2010, two months after the EETDP Course and Nkanyiso's contract with the Mondi Wetlands Programme had ended, Nikki shared some anecdotes via email which she felt might be interesting:

> At our AGM recently, while there was plenty of different food available, I noticed Nkanyiso chose the vegetables options without any coercion. He often says that MMAEP challenges his lifestyle choices. Interestingly, he also expressed concern for a Zulu colleague who needed to sit down to eat (culturally, eating standing is not OK for women) – I thought the comparison of him choosing veg for himself

> (unusual for a Zulu man) but still feeling attached to his Zuluness (helping Lindiwe to sit) was very interesting.
>
> He has started a small veggie garden at the home he shares with two other young men (much to their astonishment!). I think he takes his position seriously as role model for the township kids quite seriously. The Enviro-Club kids whom he and Char work with are absolutely astonishing. [Doc.02-13]

7.6.4.2 Nkanyiso's Integration of Educational Ethics in his Environmental Work

Being respectful of others' ethical positions is important for Nkanyiso and he seems to have an intuitive grasp of the scope and complexity of ethics: "… if people do things in a particular way, it usually is a sign that ethically behind the scenes they believe certain things or want certain things and that's why they do it like they do it" [Int.02-13]. He is very aware, however, of the way in which access to knowledge influences ethical engagement, and so he seems reluctant to criticise people's positions, especially if they have not had access to relevant environmental information. This position came across consistently in interviews I had with Nkanyiso: "It's just the way they do it. And they believe in it, so it's hard to tell someone that what you're doing is wrong" [Int.02-10]; "… we are human so we have different values, so if somebody is doing his or her own thing, and then I'm doing my thing, it's difficult to make him or her understand" [Int.02-11]; and: "It's their beliefs, so you can't change that" [Int.02-13].

However, even after people *have* had an opportunity to learn, he still feels reluctant to make an ethical judgement on their actions: "Ja [yes] that's difficult, but as long as I pass the knowledge in a correct way, you see, as long as I made a person understand, I think that would be the best way because I can't really say 'stop'" [Int.02-13]. It seems from this statement, that Nkanyiso understands the role of environmental education to be to raise people's awareness and understanding, but not to take up ethical positions that might offend others.

In talking to Nkanyiso about hunting and the empathy with which he approaches the topic with the children he teaches through MMAEP, he explains that he knows "all the things about environment" whereas the children do not. "They are still hunting, hunting so it's not easy to tell them that they mustn't, because I know the facts about the environment *and* then I know the facts about their beliefs. You see, because I am also from the same group" [Int.02-13].

I then asked him how he mediates this ethical tension during the lesson and he explained:

> I don't decide; I let them decide that. Like maybe opening a debate … and then I will let them discuss. I will first maybe do the presentation, for example like saying 'okay animals are part of our lives so we mustn't hurt them' and like 'what is the difference between the animal and the human being?' So after that I let them discuss. …
>
> I can say, by that time, they develop something inside their hearts. But I don't know if in their homes are they still continuing thinking about what I have told them or [if] they still do the same thing that they have been doing. [Int.02-13]

The following exchange with Nkanyiso during an interview shows a similar educational orientation and concern to guide but not impose on children's thinking about climate change and transport:

> NN: We also hear their views about what they think should be done. And then if they say it's better to use public transport, then it's their opinion. It's what they think or maybe do.
>
> LO: What do you do if a child has a different view, like they say it doesn't matter if all the animals in the ecosystem die out or it doesn't matter if the river dries up, and they disagree with the things you're saying? What do you do? How do you respond to that?
>
> NN: We do get situations like that. What we do is that when we come because we know that all the children are from disadvantaged schools, so for example, when we are teaching them about climate change and we come to the issue of transport, and we know that they all use public transport and then we ask them what if they had enough money to buy a Hummer or to buy a big car. That's when they start to think deep and say to me I would obviously buy a Hummer.
>
> LO: Do these kids know about Hummers?
>
> NN: Ja they do! So we debate about what is really important. Because you will buy your Hummer, but who will suffer at the end?
>
> LO: And then besides the schools thing, if *you* won the lottery, what would *you* do? If you had the money to go out and buy anything that would make you happy, what would you do?
>
> NN: You know Lausanne ... You get excited automatically and you say I would buy a Hummer, I would buy! But you also think about the environment and that's where you think about better cars that are fuel efficient and are not contributing that much [carbon] to the atmosphere. [Int.02-12]

7.7 MENTORSHIP AND PROFESSIONAL LEARNING ACROSS TWO WORKPLACES AND A COURSE

Through my observations and conversations with Nkanyiso and others, it became apparent that his reflexive deliberations around the ethical dimensions of his work were influenced substantially by workplace mentors and line managers across both organisations. It is therefore necessary to add to the preceding sections by presenting a 'bird's eye view' of the various organisational arrangements made to support Nkanyiso as a young, inexperienced environmental educator, because it appears that their *combined* influence has been substantial.

Nkanyiso's mentorship through the MMAEP was highly structured, explicit and continuous. The work environment was structured around specific activities that were scheduled and prepared for in advance, such as conducting visits to participating schools, or attending workshops or staff meetings. Nkanyiso knew each month, for example, on which days his services were required to visit various schools, the purpose and content of these visits was known to all staff, and numerous resources were available to support them. As described in Section 7.6.3, Nkanyiso also had a clear job description with MMAEP (Doc.02-03) to which he was regularly held accountable by his manager when his performance at work was poor. In essence, the rules and associated mediating tools of the MMAEP activity system were explicit and consistent, and were engaged with actively by all MMAEP employees. Nikki adds that he benefits a lot through his enjoyment of the work and the working environment that MMAEP provides:

> I think he really likes hanging out with us, he really loves being a bug, and he's so proud to be the first boy bug! And we have a jol [party], we have a complete jol! We have picnics, all the time we go out, we have massages, we spend days at the spa[33]! I mean, we have a lovely time. [Int.02-09]

When Nikki noticed that the part-time staff member assigned to Nkanyiso as his workplace mentor was not providing much support (as she herself was poor at meeting professional commitments), and that Nkanyiso was under-performing at work as well as slipping further and further behind on his commitments to EETDP course assignment deadlines, she

[33] As MMAEP is one of the flagship projects of the Midlands Meander Association, the staff is often invited to visit the restaurants, spas, and other recreational facilities offered by MMA members. Although these can be seen merely as perks of the job, Nikki recognises their potential for teambuilding and for exposing Nkanyiso to diverse experiences.

intervened by paying his workplace mentor an additional fee to come in for extra days specifically to mentor Nkanyiso and help him to do corrections on his EETDP assignments. This was the point at which she realised "that some things just need the money" [Int.02-09]. She adds that Nkanyiso "wasn't very good at asking for help in the first place" and so it was difficult to know when or how to help him when, by his own account, things were going well.

Nkanyiso's manager, Nikki, believes that his immersion in the MMAEP workplace is probably the most powerful form of professional development. The opportunity to learn by working alongside experienced and creative educators ("Look at all these cool girls he works with! … They're all so different. You learn from them all. Everyone is so different and adds something, I mean, it's just a wonderful opportunity!" [Int.02-09, p. 4]); the extra effort the staff puts into helping Nkanyiso to learn about and try new things ("We lend him so many books on any subject. I mean, whatever he says, then between us, can you imagine the books?" [Int.02-09, p. 9]); and the general exposure to environmental and socio-cultural experiences which he would otherwise probably not access ("… he came out to dinner with me to the 5-star Lythwood Lodge with so much cutlery even *I* didn't know which to use, so I think all that is part of it, besides the learning and the observing" [Int.02-09, p.4]).

In terms of organisational readiness to take up mentoring roles, the MMAEP is an *educational* project and all of its employees have a strong orientation and commitment to educational work, particularly in developmental or nurturing and creative contexts. In a staff comprising five women (all in their 30s and 40s, and all except one being white), Nkanyiso was the 21-year old young man they had taken under their wing (see Figure 7.15).

Figure 7.15 Nkanyiso with his six female colleagues at the Midlands Meander Association Education Project

This relational dynamic appears to have shaped the mentoring approach taken towards Nkanyiso. In conversations with me, the MMAEP manager frequently used terms such as 'ours' when referring to Nkanyiso, explaining (with some satisfaction) that: "We are going to teach this kid stuff. Just hanging out with us is a good thing. He wanted to work with us, he approached us, we loved him" [Int.02-09]. She criticises the WESSA and Mondi Wetlands Programme managers for having "absolutely disrupted" Nkanyiso's professional and personal growth with the MMAEP by bringing him into their programme in a disembedded and unsupported manner.

The MMAEP manager's concern seemed to centre around individual well-being more than on professional knowledge and skills. For example, she expressed her disapproval of a Mondi Wetlands Programme manager's expectation that Nkanyiso fend for himself upon arrival in the city of Johannesburg during a work trip, adding:

> I'd like to make sure it's OK, it's safe, I mean he's only twenty-one. … And he's the youngest of five kids, five sisters, and he's the baby boy. He's never had to do anything and we all take care of him, which is fine, we don't mind that … [Int.02-09]

Vaughn, Nkanyiso's line manager and mentor in the Mondi Wetlands Programme, suggested that the MMAEP workplace was a much more suitable environment than his for Nkanyiso to receive the type of mentorship he needed. Unlike the structured, activity-based arrangements within MMAEP, Vaughn's work in the Mondi Wetlands Programme was based on long-term, complex and open-ended projects with large corporations such as the South African Sugar Association and Mondi Paper:

> [The nature of our job] doesn't allow one to delegate very easily, especially to someone who is very inexperienced. It's not routine or simple. It's a very mixed bag. There's no fundamental routine that you could start somebody and build them off on. …
>
> Also, the type of people we work with: it's not going to work for a black guy talking to a white farmer. It just doesn't work; it's the reality. … Even as a young white person: one white male speaking to another white male, the issue of seniority just blows everything out of the water. So you can imagine trying to bring in a young black guy. Culturally it just doesn't work. And the risk for us, for me, bringing somebody like that into a meeting, is just not worth it" [Int.02-08]

The expectation that Nkanyiso, with no qualifications except a school leaving certificate, and very limited work experience, would be able to step into a work context focussed on

information-laden and social-ecologically complex consultations with funders, policy-makers, agriculturalists, conservationists and industry, was unrealistic, leaving Damian to question the ethics of hiring Nkanyiso and his fellow intern, Mdu, in the first place:

> I'm always concerned when there's any initiative in a rush to hire a particular group of people for various reasons. So it wasn't like everyone, from the very outset, had these two individual's best interest at heart. Or whether we were trying to bump up our equity ratio. [Int.02-08]

The poor quality of Nkanyiso's educational background in rural black schools, combined with his limited work experience and the fact that he was learning and working in English, his second language, made it difficult for him to take up professional responsibilities without very high levels of scaffolding and mentoring. Nikki, his MMAEP manager noted, for example, that requiring Nkanyiso to take notes during staff meetings – a professional competence required as part of the EETDP Course's assessment – was an unrealistic expectation [Int.02-09] and both Mondi Wetlands Programme line managers similarly acknowledged that they had "… totally over-estimated the guys' ability to work on their own, to read and write and sort themselves out" [Int.02-08]. She also noted that, although the convergence of two workplaces and a professional development course was potentially worthwhile, in Nkanyiso's case it was less effective: "If he'd *just* been a bug, or *just* been with Mondi Wetlands, or *just* done the EETDP. I can see why it's a good thing, but actually it's too confusing, far too confusing" [Int.02-09].

Expressing concern about Nkanyiso's literacy levels and ability to work independently to produce a report or email, Vaughn notes: "In order for it to be done the way it's supposed to be done, it would take virtually day to day constant interactions … It would easily knock off a third of our time" [Int.02-08]. He later added: "It is difficult to catch up on 12 years of education that maybe the guys didn't have the best of" [Int.02-08]. Nikki at MMAEP faces similar mentorship challenges:

> Communication is difficult and also he speaks quite good English but he doesn't understand lots. So he's got a limited vocabulary … he wouldn't know [words such as] 'aspect' ... And often in meetings I stop and say 'Do you actually know what I mean by [the word] inconvenient?' and he'll say 'No'. But you can't go all the time, on and on. [Int.02-09]

Vaughn describes the EETDP Learnership as "a lifesaver" for him as a workplace mentor in this difficult situation, explaining: "I couldn't fit Nkanyiso easily into any of my work, so

thank heavens he had the EETDP to do! [Int.02-08]". But even though the course gave Nkanyiso something structured to work on during his ten contracted days per month, he found it difficult to relate the Mondi Wetlands Programme to his EETDP course assignments and so focussed his work with the MMAEP, making links to wetlands where possible for greater synergy between the two workplaces. His Mondi Wetlands Programme managers accepted this arrangement because it helped to keep Nkanyiso occupied with tasks that were at least complementary of their own programme's objectives, albeit working with school children rather than the industrial, agricultural and conservation sectors.

Figure 7.16 Nkanyiso used his internship with Mondi Wetlands Programme to work on his first EETDP course assignment. He chose to investigate water quality risks in Mpophomeni township as this linked to Mondi Wetlands Programme's environmental focus and the township was the site of many of his MMAEP school activities.

Where the MMAEP approach to mentoring was very structured, proactive and direct, the Mondi Wetlands Programme was less direct and more reactive. Neither Vaughn nor Damian worked on the same premises as Nkanyiso and so all professional interactions were done telephonically, over email or during scheduled meetings when Vaughn would visit Nkanyiso at his office. Vaughn explained that his interactions with Nkanyiso varied: "It could be once a week, to twice a month. Then I go over his work, what he has done, are there any issues. If he's got any problems, he can and does call me" [Int.02-08]. Later, however, he expresses

concern that “Nikki [of MMAEP] will tell me things about the EETDP that Nkanyiso won’t tell me. I don’t know why. I don’t think we have a threatening relationship” [Int.02-08].

Nkanyiso turned to colleagues in close proximity for more day-to-day guidance. One such person was Preven, located in the adjacent cubicle, who was also the co-ordinator and lead tutor on the EETDP Course. Nkanyiso’s situation was thus unique in that his course tutor was also an unofficial workplace mentor and so Nkanyiso was strongly influenced by Preven when making connections between his work and the course assignments.

It is important to distinguish here between Nkanyiso’s internship with the Mondi Wetlands Programme and his physical presence in the general WESSA workplace at Umgeni Valley Nature Reserve. There is substantial evidence that the latter rather than the former has been highly influential in Nkanyiso’s emerging identity as an environmentalist and in stimulating his personal ethical deliberations. He listed numerous colleagues, ranging from senior managers to education officers who were willing to talk to him about environmental topics, direct him to relevant books and generally to give him advice. It was in this collegial and information-rich work environment (together with that of the MMAEP) that Nkanyiso was able to expand his knowledge and develop his reflexivity quite substantially, even though, on a day-to-day basis, he was not meeting the professional expectations of his internship with the Mondi Wetlands Programme.

This section has provided detail about the general workplace mentoring and professional development processes I was able to observe and speak to people about spanning Nkanyiso’s two workplaces. Although these accounts do not relate *directly* to ethics-oriented deliberations, they are the professional context in which such deliberations occur, and understanding their contours may be helpful in understanding how such deliberations came about. Some connections to these are made in the following section which describes the way in which Nkanyiso engaged with the ethics-dimension of the EETDP Course.

7. 8 NKANYISO’S ENGAGEMENT WITH THE ETHICS COMPONENT OF THE EETDP COURSE

7.8.1 Developing an understanding of values and ethics

Nkanyiso acknowledges the significant impact the EETDP Course has had on his environmental knowledge and ability to think more deeply and reflexively about the ethical aspects of his life and work. His first encounter with the environmental values and ethics

component of the course was on the first day of the course when a course tutor, Jonathan, led a values-clarification activity. He presented a scenario of a boy going on a journey and along the way he encountered obstacles that he could only overcome by giving away one of his values. Jonathan got learners to write their top four personal values on pieces of paper, and at key stages in the story, they too had to surrender certain values.

This activity appears to have made an impression on Nkanyiso and challenged many of his values and priorities, as evidenced in his reflections on that activity:

> NN: We were quiet and thinking and thinking because I was having 'love', 'God', 'care', 'responsibility' [as my chosen values]. So it was challenging us to think what value can we give away because I was giving, like God. So I was like, eish! And then I gave him away! [embarrassed laugh]
>
> LO: You gave?
>
> NN: I gave God away!
>
> LO: [laughs] OK.
>
> NN: Because God was one of my values, but I realised ... [he doesn't complete his sentence]
>
> LO: So which one, which value did you end up with?
>
> NN: I ended up with 'love'! [laughs]
>
> LO: OooK! And what made you keep that one, above all the other values?
>
> NN: Oh, it's one of my... eish... one of my strong values.
>
> LO: And what do you mean with the word 'love'?
>
> NN: Love... [pause to think] ... love... love is a very important thing! I don't want to lose it so I'll keep on holding it. … Jonathan was reading a story about a boy who was on his journey, and meeting troubles. And then love, but, but I gave away 'responsibility', all those, even God. But *love*? I don't know what happened because it was my first time, but at the end I was like eish! I was supposed to at least last with God, but when he was telling the story, there was a part where I had to give God. So I ended up holding love. [Int.02-10]

Although this orientating activity was not focused on environment, it directed Nkanyiso's understanding of values as being personal, complex and relative, and this appears to have carried through into his later reflections on environmental ethics dilemmas: "… there are

things that are happening and then at the end, you'll find that this person, it's her or his belief, you see. So you can't really tell someone to stop doing that thing" and "… it's interesting to find that someone is doing his or her thing … not minding someone else. So we've got like different beliefs, you see" [Int.02-10]. (see also Section 7.6.4.2).

As part of the Module One workplace assignment, Nkanyiso was required to describe his understanding of ethics in his life. The first time he submitted the Portfolio of Evidence for assessment, he had omitted *all* the questions related to environmental values and ethics [Int.02-14], but after receiving tutor support and making a more conscientious effort with his assignments, he wrote the following response in his final submission:

> According to me ethics are moral beliefs. It can be right or wrong, positive or negative, fair or unfair. I also think that ethics are determined by my standard of living or a quality of life that I live. As a young person who's living [in] a developing and democratic country, I'm free to express myself in different ways. It can be an attitude towards general issues or it can be a way of taking action to show my concern for the environmental and non-human contexts. [PoE.2, Module 1, p. 22]

At the end of the second course contact session in October 2009 (the module that focused mostly on environmental justice), Nkanyiso reflected on the activities:

> … they were challenging us to think, not really that they were difficult, but these activities were challenging us to use our minds to think. And then at the end you find that this thing is easy, it's just that I was supposed to think deep to come up with the answer. So it was not really easy just to give answers, you see. [Int.02-10]

This comment suggests how the course's commitment to developing critical thinking skills and reflexivity, and its related pedagogy during the module on social justice, pushed Nkanyiso beyond the superficial responses he appears accustomed to having given at school. He started "just to give answers" but these were not accepted by the tutors during class discussions, leaving Nkanyiso initially challenged until he realised that he was "supposed to think deep to come up with the answer".

It is necessary to note here that Nkanyiso also attended WESSA's 10-day Environmental Educators Course in 2009, overlapping his registration with the EETDP Course. Umgeni Valley Nature Reserve has an environmental education centre where numerous professional development courses and workshops are offered throughout the year. Nkanyiso explains that, while he was working as a part-time worker at Umgeni Valley, he used to wonder who all

these people are who come and go at the centre. He learned that they were studying, and soon he, too, was making enquiries about how to study environment. Nkanyiso admits that "it took a long time" (at least four years), but he was eventually supported by WESSA to participate in the 10-day Environmental Educators Course in early 2009 [Int.02-17]. Interestingly, he felt that the overlap of the two courses was productive for him:

> … since the [year-long] EETDP course was a continuous thing, the Enviro Eds course helped me to have a better understanding about the environment and the issues in the environment. So a lot of things just came up into my mind. [Int.02-17]

When probing this further with Nkanyiso, I got the impression that the condensed format of the 10-day course had provided him with a few focussed learning experiences (such as a water quality audit, and a field trip to an agricultural project) in which he could clarify basic environmental concepts, build confidence and develop his personal responses. "So I started from there to get an understanding of these justice and injustice things" [Int.02-17]. Nkanyiso points out that the 10-day course was only 20 credits compared to the EETDP Course's 120, and so "…it was easy for me to talk about these injustice things [on the EETDP Course] because I had already been told about them". Making a comparative study of these two course curriculum processes lies beyond the focus of the current research project but this anecdote suggests the potential value of looking more closely at the influence of a content-rich and assessment laden year-long curriculum versus a looser, more introductory curriculum of a short course, especially for inexperienced students such as Nkanyiso.

Cumulatively, these course interactions (probably in conjunction with workplace learning processes too) appear to have triggered responses in Nkanyiso's personal attitudes and behaviour, as evidenced in the following interview extract. Also, note how the course has given Nkanyiso a (possibly inflated) sense of confidence in his understanding of environmental issues, which may contribute to his emerging sense of agency, along the lines of 'I know a lot about this, therefore I'm in a position to act':

> NN: So now, like since I've been knowing about ethics and justice, there are parts where now I feel like I'm doing the wrong thing for environment. Now I have developed this conscious, you see.
>
> LO: Do you mean like you've developed a conscience?

> NN: Hmmm. So like, if I'm eating this sweet or a paper, … then I can't throw it away[34] so I kind of like put it in my pocket. Then I ended up having, like [gestures to his pockets]
>
> LO: Your pockets are full of paper! [laughs]
>
> NN: You see! So I can't just throw it away.
>
> LO: But what was it that made you change your behaviour like that?
>
> NN: Ay, these issues, there's so many issues in this environment. So I know, I know almost all of them now [Int.02-10].

In the numerous discussions I had with Nkanyiso about his environmental learning and related ethical deliberations, it was difficult to trace them to a particular incident or location. For example, in the abovementioned example of Nkanyiso keeping sweet wrappers in his pocket rather than throwing them on the ground, he cites the environmental knowledge gained from the course as a reason for such behaviour, but it is likely, given the explicitly environmentally conscious nature of the WESSA and MMAEP workplaces (especially the latter which teaches children not to litter), that such responses may also have emerged from Nkanyiso's general professional context rather than one isolated course or workplace incident. The one thing Nkanyiso consistently noted, however, was the role of knowledge in catalysing more ethical environmental behaviour. "Maybe it's lack of education, you see. Some people do things without knowing they're doing the wrong thing" [Int.02-10].

7.8.2 Academic Literacy and Course Assessment

The course's assessment procedures appear to have been less constructive in terms of Nkanyiso's confidence as an environmental educator, as shown in the following quotation. At the end of an interview with Nkanyiso, I encouraged him to pursue a primary school teaching qualification as he is a good and natural teacher. He was surprised by my encouragement, stating:

It's just that, Lausanne, before I came to this course, I was already teaching about something, like little things I knew at the time about environment. So when I came here, finding out the way they are assessing us, it's like really irritating to see those NYC ['Not Yet Competent',

[34] Here, Nkanyiso uses the term 'throw it away' to mean discard it on the ground i.e. to litter.

the official assessment indicator required by the South African Qualifications Authority], and you think you're not really a good teacher [Int.02-13].

Despite Nkanyiso's claim that he "really liked that part of ethics and justice" [Int.02-10] in the course, he appears to have struggled to engage with its more formal aspects, most especially the written assessment tasks. When Nkanyiso submitted his assignments (Portfolio of Evidence) for Module Two, his assessor reported that he did not submit any answers for any of the ethics-related questions (he had omitted other questions in some other sections too, but the ethics-related questions were omitted entirely) [Int.02-14].

Vaughn is uncertain of the extent to which the EETDP Course has enabled Nkanyiso to extend or even articulate his perspectives on environmental values and ethics. He explains:

> It's difficult to tell because he writes so simplistically, but you don't know whether that is a reflection of the language or the depth of his understanding. But I think he gets it, but it could be deepened. Some of the technical terms he struggles with. [Int.02-08]

Nikki, his manager at MMAEP, suggested that the EETDP course had perhaps hindered rather than helped this situation. She was critical of the way the course materials were constructed [Int.02-09] and felt that the stress of trying to meet the course's expectations, overlaid with the lack of clarity regarding his work with Mondi Wetlands Programme had undermined his self-esteem [Doc.02-13].

7.8.3 The Titanium Mining Activity

Section 7.2.4.2 described the titanium mining activity conducted during Module Three of the EETDP Course. This section now focuses on Nkanyiso's engagement with that activity. After reviewing the seven ethical positions, Nkanyiso opted to join the group that aligned with the statement:

> We need economic development so the mining must go ahead. Too bad there will be some negative environmental and social impacts, but that is how life is. We should try reduce the impacts of mining in whatever ways are possible. [J2a, p.80]

Directly after the activity, I asked Nkanyiso to reflect on his reason for, and experience of aligning himself with that group:

> NN: I must be honest, it's hard to make decisions on this thing. 'Cause it's like both sides so it's like sometimes you think for yourself, sometimes you think of someone else, sometimes you think of the environment. So it's hard to take a decision. But I had to go to that group because I think it's the best group.
>
> LO: And what is your reason for feeling it's the best group?
>
> NN: 'Cause it's kind of like supporting both hands, you see. Though when I heard of other groups' comments, I'm kind of convinced [by them]. It's difficult!
>
> LO: But did you change your views at all during that activity as people were arguing in different ways, or did you stay with your first?
>
> NN: Half of me was convinced that mining shouldn't be happening. But on the other side it has to be…there must be mining so, ja, eish! Even now I'm still confused. [Int.02-19]

Nkanyiso explained that he had voted in favour of the mining to take place, but he added that making such a decision should really take a lot of time and he would want more information:

> What I've heard is not enough because really this is a serious thing. In the upper level to actually understand what is happening, what are the aims for these things, what will happen and what is happening at the moment… are they making any laws and stuff? What are the community thinking of this? Are they feeling like me..? [Int.02-19]

Nkanyiso's ethical response to this scenario-based activity is consistent with his other accounts of his ethical deliberations: he immediately recognises the complexity and social contestation of the situation and emphasises that a proper decision cannot be made without more information and understanding.

7.8.4 The Case Study of Wildlife vs. Domesticated Dogs

One of the PoE Assessment Tasks designed to assess learners' achievement of learning outcome 13668 ("Work ethically and professionally as an environmental educator") was a series of questions based on a case study about an environmental educator living on the edge of a large game reserve who witnesses a juvenile warthog from the reserve being killed by a community member's dogs. The environmental educator tells the woman that she should not keep dogs if she lives so close to a game reserve, and she should kill the dogs. The woman gets hysterical, telling the environmental educator he has no right to be on her property and she will do as she wants with her own animals.

When asked to evaluate the environmental educator's ethical behaviour, Nkanyiso wrote the following:

> According to my personal opinion I think it's very important and good for an environmental educator to conduct oneself in a manner that does not show disrespect to the values, customs and norms/ cultures of the diverse community members or individuals. So in this scenario, it would be ethical for the environmental educator to protect the baby warthog from being killed by dogs, but I totally disagree with him asking the lady to kill her dogs. Because the game reserve is near and those dogs serve as a protection to that lady from dangerous and aggressive wild animals that can attack her from the reserve. So it would have been better if the environmental educator had explained to the lady the disadvantages and dangers of staying near the reserve and the importance of nature.
>
> It was unethical for the environmental educator to demand that the dogs be killed because he should promote sustainable development whilst considering the benefit for the environment in any situation. Even if dogs are not human, they have the right to live, and as an environmental educator, you are not supposed to promote the killing of an animal under any circumstances. [PoE Appendix 2 Case Studies, p. 48]

It is difficult to assess the form and quality of Nkanyiso's ethical deliberations from this isolated written task because brief, stylised case studies such as this are, by design, decontextualized and incomplete. However, Nkanyiso's response does reveal the predominance of his sensitivity to people's sociocultural norms which is then closely merged with a secondary concern for animals.

Also noteworthy is the length and coherence of his written response towards the end of the course compared to his very first efforts in Module One's PoE when he did not even provide answers to the ethics-related questions in the first round of assessment. I was not able to ascertain how many drafts and how much mentorship or editorial support Nkanyiso received before producing the extract above, but it can, nonetheless, be considered indicative of his developing confidence in writing, his access to more ethics-oriented concepts and vocabulary which he can now integrate into basic sentence structure (for example: "It was unethical for the environmental educator to demand that the dogs be killed because…") and probably also a more focused effort on his part to invest adequate time in completing assignments which was not evident in his first few months of the EETDP Course.

7.9 ETHICAL DELIBERATIONS ACROSS WORKPLACE, COURSE AND PERSONAL LIFE

So far, numerous sections of this chapter have described aspects of Nkanyiso's environment-oriented ethical deliberations, some in relation to his workplace (see Section 7.6.4) and some in relation to the EETDP Course (see Section 7.8). These processes are, however, not discreet or impermeable and so this chapter would be incomplete without some account of how Nkanyiso's ethical deliberations have played out *at the interface of* workplace, course and his personal life. Two examples are provided here: one about Nkanyiso's consumer choices and the other about his interactions with snakes.

7.9.1 Nkanyiso's Consumer Choices

Making environmentally responsible consumer choices seem to be the most practical and achievable form of environmental action for Nkanyiso at this stage of his life (he does not own a car or have his own home). In his Module One course assignment, Nkanyiso identified areas which for him are sites of ethical choice. He wrote:

> I eat chicken but I didn't know how do they prepare[35] that chicken; I buy vegetables and fruit but when I buy them I choose the best of them e.g. always choosing the big cabbage or the big apple without knowing the preparation of this thing [PoE.2, Mod1, p. 7]

He adds that he needs to "think critically about the food that I buy, do some research" regarding the way the food was cultivated or raised. His concern here seems to be a health one: "Is it a right preparation for my body?" [PoE.2, Mod1, p. 8] although through other interviews it was clear that his ethical concern extended to the welfare of the animals too.

Two months after the abovementioned course assignment, I asked Nkanyiso about lifestyle changes he had made out of concern for the environment. He explained that he tries to avoid buying products with a lot of packaging, noting that sometimes there is no choice in the shops so he has to buy the over-packaged product anyway [Int.02-10]. He explains that he has even bought vegetables and free-range chicken from Dove House, a nearby organic farming enterprise (frequented by WESSA and MMAEP staff), and noted that the chicken bones were stronger and the taste was different [Int.02-10].

[35] By food preparation, Nkanyiso means how the chicken was raised and cared for before it got to the shops (clarified in interview – Int.02-13).

Six months later, we resumed our conversation and Nkanyiso still appeared to be on a personal journey of making more ethical consumer choices:

> NN: You know there's this thing now that is developing inside of me. When it's end of the month where everyone is having money, I'm always looking for those things which are organic stuff, like now I'm starting to buy at Woolworths[36] where I can buy those good stuff. But when I'm broke it's becoming a problem and so I end up buying bad food. But if I have money, especially if I'm with my friends, when they are buying pies, then I'll say 'Please guys come with me to Woolworths, I need to buy something which is organic'.
>
> LO: What do they say?
>
> N: They think I'm crazy. Or sometimes they think that maybe I know everything or that maybe I think I'm better [than them]. [Int.02-12]

Meat-eating remains a challenging ethical concern for Nkanyiso. Culturally, he has been raised to eat a lot of red meat and chicken, and he openly admits to loving a meat-rich diet. However, (as already described) his recent immersion in the MMAEP and WESSA workplaces has challenged that practice as being environmentally unsustainable[37] and there is some evidence of his ethical deliberations and reflexivity in this regard.

As noted above (see Section 7.6.4.1), Nkanyiso's colleagues at MMAEP were mostly vegetarian and provided him with reading material and DVDs about the harmful consequences of meat production for humans and livestock alike. The EETDP course also showed a short film called *Through Farmers' Eyes* which highlighted the environmental destructiveness of commercial meat production. Nkanyiso had previously watched the film through MMAEP and his reflection to me after the EETDP course session on the ethical actions of the farmers was quite abstracted and judgemental, based on a discourse of capitalistic greed and exploitation:

> … like agriculture, I mean farmers, they believe in making money, they don't care about the impacts of the firm or of the industry that they're managing. So they don't care about the impacts to people; they believe in making money. And also to

[36] In South Africa, Woolworths trades as an upmarket food and clothing store, specialising in high quality food. Woolworths markets itself as environmentally responsible and sells many organic products.

[37] Over and above the ethical concerns of killing an animal in order to eat, and health concerns linked to the high levels of antibiotics and growth hormones in domestic livestock, commercial meat production has been linked to methane gas emissions, water pollution, destruction of natural habitats to provide grazing for livestock, and spread of diseases. See, for example, WorldWatch Institute, 2004.

> animals, they use animals to make money. They don't care about lives of animals and how they treat them. [Int.02-10]

I asked Nkanyiso if he could describe a local example of this kind of practice that he had experienced directly. His account of a local chicken farm was more focused on people's knowledge and levels of choice than his judgement of the farmers in the film had been:

> I was living in a village and then in that village there was a chicken factory so I used to go there, my aunty was working there. So I've been there, but at that time I didn't know what they were doing was wrong. Not really wrong, but not really knowing their impact to people. [Int.02-10]

Acting on the ethical impulse as a consumer is not always easy, as Nkanyiso recognises in an interview:

> NN: No, like to be honest, it's not easy to change. Though, I have that consciousness when I'm eating something that I like. I know the effects of food preparation but I still buy chicken from KFC, from Spar, you see, but every time I buy that food, I always have a feeling.
>
> LO: What kind of feeling?
>
> NN: No, like because I know the effect, like meat, the story of why the animals should suffer for us to get food, you see … and also the preparation of the food. Injecting chickens so that they grow fast and I know that is not good for my health, but still you see…ja. [Int.02-13]

Nkanyiso, he told me of a recent incident when he had chosen a vegetarian option: the MMAEP staff had gone to lunch together at a local restaurant. Nkanyiso was conscious of his vegetarian manager's presence and her strong stance on meat-eating, and so he ordered a vegetarian meal for lunch. He told me however, that it upset his stomach and he wasn't sure he would order it again [J2a, p.51].

7.9.2 Learning to Respect Snakes

Nkanyiso and I had a few discussions about snakes and how he has come to understand and respect them in recent years. In the Zulu culture, snakes are greatly feared and usually killed immediately. As a child, Nkanyiso was raised to be afraid of snakes and would help others to kill a snake whenever he found one. As such, his account of an incident (outside of work) where he intervened to rescue a snake from a group of children, struck me as an indicator of his emerging reflexivity and agency in relation to snakes and other creatures. Figure 7.16 is a photograph taken by Nkanyiso one evening in Mpophomeni Township. He chose to include

this photograph in a collection of work-related photographs that I asked him to compile (see Section 4.6.1). During an interview stimulated by his collection of images, Nkanyiso described the incident:

> I was coming home from a soccer field then I heard children screaming 'Snake! Snake!' … And they were all carrying stones and carrying sticks, and they were wanting to kill the snake. Then I told them that snake does not hurt people, so you must respect the snake and it will go away. It only came here for food, not for you guys. And then I tried – but I was scared! – but I took it and put it in the grass [Int.02-12].

Figure 7.17 Photograph of a snake taken by Nkanyiso after he intervened to save it from a group of children

I asked Nkanyiso to explain what had led him to respond differently to snakes these days. He explained:

> I can say as I was growing up [here he is referring to the past three years since finishing school] and being introduced to this environment industry, many people were helping me to learn about the real life of animals. ... Nikki Brighton was the first one. She used to give me books, videos and sending me all the documents about snakes. So I was reading them and reading them and that's where I started to understand and respect the snakes. [Int.02-12]

Through MMAEP, Nkanyiso had been given some basic training in snake identification and their role in the ecosystem by an elderly man, Pat, who was a local snake expert. Figure 7.18 shows a rather tense-looking Nkanyiso holding a corn snake during one of his MMAEP school visits with Pat. He explained to me that his role during such lessons was to assist Pat by translating his explanations into IsiZulu and "being a good example" by holding the snake,

thereby demonstrating to the children that a Zulu person can also handle snakes safely [Int.02-12]. In a separate interview, he recalls the children's reactions during the same event:

> … then they ran away, they ran away and then they laughed, and then they come back and we saw that maybe they're like that because he is white so they didn't believe. So I had to personally touch the snake… Ja, so I had to be a good exemplar, even though I was kind of like shaky! Ja, I went there and they all wanted to touch it and, ja, that is one of those things. [Int.02-13]

Nkanyiso adds that he was surprised by the children's excitement and willingness to touch the snake "because at [that] age I used to scream and scream" [Int.02-13].

Figure 7.18 Nkanyiso poses holding a corn snake during a school visit to teach about snakes

7.10 NKANYISO'S CASE STUDY: A SYNTHESIS SO FAR

If one were to review Nkanyiso's EETDP Course Portfolio of Evidence alone, it would appear that his ethics-oriented reflexive deliberations were undeveloped and tentative. However, reconsidered in the light of his interview narratives and the thoughtful, respectful way in which he engages with new ideas, one would instead see his ethics-oriented reflexive deliberations as the authentic, lived struggles of a young man making his way in the world.

As was the case with Paul and Faaiz, Nkanyiso's ethical deliberations must be seen as emergent across time and place, influenced by intersecting sociocultural, historical and economic contexts. His sociocultural identity as a young Zulu man who grew up in rural

KwaZulu-Natal, and his educational background in disadvantaged rural schools, are the backdrop to his newly emerging identity as an environmentalist and educator.

His two workplaces have significantly influenced his ethics-oriented reflexive deliberations. Although the specific professional practices and interactions within the Mondi Wetlands Programme seemed not to be very generative, the Programme's location within WESSA, and Nkanyiso's physical location at WESSA's national office at the Umgeni Valley Nature Reserve in Howick, KwaZulu-Natal, provided a collegial and supportive working context in which his environmental knowledge and values were substantially nurtured. The MMAEP workplace also highly influential and the explicit, uncompromising nature of the staff's environmental ethos appears to have made a lasting impression on Nkanyiso.

Nkanyiso struggled greatly with the environmental values and ethics component of the EETDP Course. It seems that this was not because he does not think about such matters – there is ample evidence in this case study to suggest that he does. His difficulty was in articulating his internal reflexivity in his second language, supported by course materials that were in many cases jargon-heavy and fragmented, and framed within the particular logic of the Course's assessment tools which in turn reflected the logic of the South African Qualifications Authority unit standards and its body of philosophical frames that were opaque to Nkanyiso. Despite these challenges, it seems that the Course, in particular the way it compelled Nkanyiso to systematise and articulate his thoughts about his relationship with the world around him, has contributed to his ethics-oriented reflexive deliberations.

Nkanyiso's case was the last of three case studies presented in this research project. In the following chapter, Chapter Eight, I look across all three cases towards answering the study's research question: 'How does ethics-oriented reflexive deliberation take place in the interacting activity systems of course-supported EETDP workplaces?'

CHAPTER EIGHT

DISCUSSION OF ETHICS-ORIENTED REFLEXIVE DELIBERATIONS

> *Fundamentally, we cannot account for any outcome unless we understand the agent's project in relation to her social context. And we cannot understand her project without entering into her reflexive deliberations about her personal concerns in conjunction with the objective social context she confronts. (Archer, 2003, p. 131)*

8.1 INTRODUCTION

This chapter discusses the data presented in Chapters Five, Six and Seven in relation to the study's research question: 'How does ethics-oriented reflexive deliberation occur in, or at the interface of, the interacting activity systems of course-supported EETDP workplaces?'. The study's three research goals (as outlined in Section 1.4) helped me to move progressively towards answering this research question. Goal One (to identify and describe the interacting activity systems of selected environmental education, training and development practices) and Goal Two (to identify and describe the ethics-oriented reflexive deliberations of selected novice environmental educators) were achieved in Chapters Five to Seven in which I used the concepts and language of CHAT to trace Paul's, Faaiz's and Nkanyiso's engagement with the ethical dimensions of their environmental education practice. The sociocultural-historical dimensions of their engagement, including their synergies, tensions and contradictions, have been summarised in Sections 6.6.10, 6.7.10 and 7.10 respectively. Goal Three was to identify and describe causal structures and mechanisms at the interface of activity systems that influenced these ethics-oriented reflexive deliberations. This goal is important because of the study's critical realist underlabouring. "…. *[E]xplaining* why what does happen actually does happen" helps me to "understand the dynamic dimension of reality" (Danermark et al., 2002, p. 52, original emphasis) and "address questions about the relationship between our physical and social environments, what we say and do about them and how we live within them" (Sims-Schouten & Riley, 2005, p. 105).

Achievement of these three goals allows me to give an account of the "triadic relationship between agency, culture and structure" (Mutch, 2006, p.3), that is, to discuss the ways in which the contexts of each learner-practitioner's workplace, course and personal life have

intersected and been actively deliberated. To this end, I take a 'phased' approach to this chapter, preceding my discussion of the study's findings with a review of the broad sociocultural-historical context in which the ethics-oriented reflexive deliberations occurred, as well as providing a more detailed account of their nature.

Sections 8.2 to 8.5 constitute the chapter's four phases. **Phase One (Section 8.2)** is primarily concerned with tracing causality (in the critical realist sense noted above). I use Archer's morphogenetic approach as introduced in Section 2.4.3 to trace the historically-constituted nature of the workplace, course and life experiences in which Paul, Faaiz and Nkanyiso deliberate the ethical dimensions of their work. **Phase Two (Section 8.3)** then focuses on their actual experiences of ethics-oriented reflexive deliberation across these three contexts, identifying five facets of the deliberative process. These are:

- Content, form and access to social-ecological knowledge;
- Mediation of knowledge and experience;
- Resonance and identification;
- Articulation of a personal values and ethics position;
- Enactment and reflexive evaluation.

In line with a critical realist methodology, in **Phase Three (Section 8.4)** I employ a retroductive mode of inference by posing the question: "What makes Paul's/ Faaiz's/ Nkanyiso's ethics-oriented reflexive deliberations what they are?" Responses to those questions are made possible by the sociocultural and historical depth achieved through the earlier CHAT-based analysis and synthesised in Section 8.2. As far as possible, I reserve discussion of the data in relation to theoretical perspectives until **Phase Four (Section 8.5)** which presents seven synthesising insights (findings) of the study and discusses them in relation to sociocultural-historical perspectives on learning, development and social-ecological change, and to critical realist, relational and pragmatist perspectives on ethics-oriented reflexive deliberations.

8.2 PHASE 1: MORPHOGENETIC ANALYSIS OF THE THREE CASES

8.2.1 Overview of morphogenetic analysis in this study

As described in Sections 2.4.3 and 4.7.2.2, the morphogenetic approach distinguishes analytically between structures in the world and human agency in order to examine their interplay over time. Archer (1995) proposes a framework using the element of time (T_1 to T_4) that enables social scientists to give an account of how processes of social elaboration lead to either morphogenesis (social change) morphostasis (social reproduction). This morphogenetic approach allows the researcher to trace causality in the phenomenon being studied, that is: "*explaining* why what does happen actually happens" (Danermark et al., 2002, p. 52, original emphasis). This is because it makes explicit the underlying structural conditions and the ways in which human agents have interacted with them through what Archer (1995) calls social elaboration.

In the sections that follow, I review the three case studies in terms of the interacting dimensions of the workplace, course and immediate sociocultural context, each of which I consider from a morphogenetic perspective, that is, emergence from T_1 to T_4. This increases the ontological depth of the analysis through identification of causal mechanisms. For each case (Sections 8.2.2 and 8.2.3) I present a diagrammatic summary of the morphogenetic analysis of the workplace, course and sociocultural context in interaction, supported by a narrative discussion. Where overlaps occur across the case studies, the discussion is presented when it first arises and cross-referenced in subsequent discussions. Due to the similarities and shared context of Paul's and Faaiz's case studies, they are presented jointly in Section 8.2.2 below.

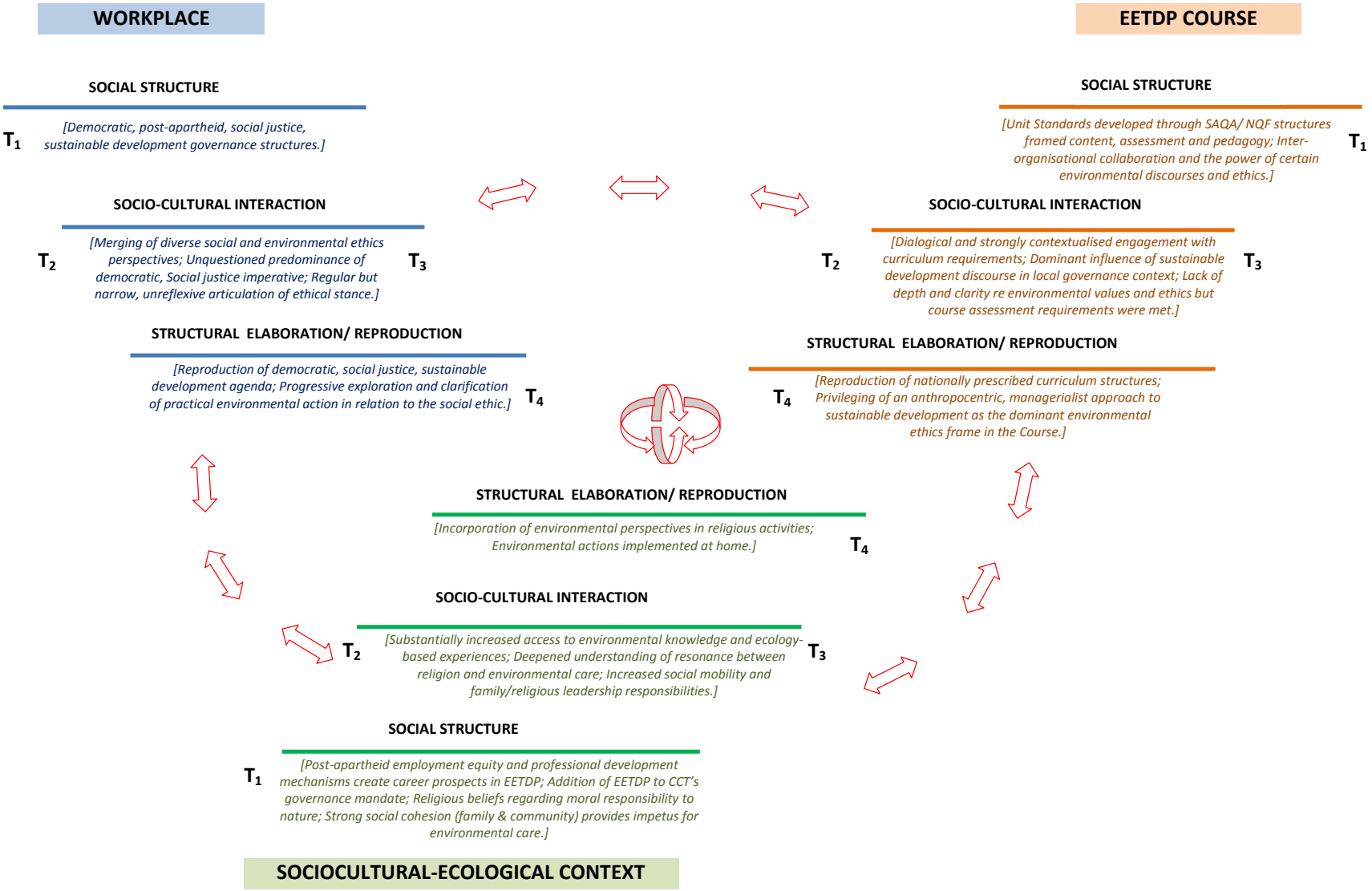

Figure 8.1 Dimensioning of Paul's and Faaiz's ethics-oriented reflexive deliberations, showing the interaction of environmental values, discourses and ethics in the CCT ERMD workplace, EETDP Course and their immediate sociocultural-ecological context

8.2.2 Interacting contexts of Paul's and Faaiz's Ethics-oriented Reflexive Deliberations

8.2.2.1 Emerging environmental values, discourses and ethics in the CCT workplace

- **Structure [T_1] ~** Socio-political activism and economic conditions at a global and national level contributed to the segregationist, racial, inequitable structures of apartheid governance in South Africa being transformed into post-apartheid, democratic governance structures. These historical transformations (which could themselves be narrated morphogenetically as progression from T_1 to T_4) are noted but not elaborated here because the analytical focus is on the more recent history of environmental values, discourses and ethics in the CCT workplace. It is, however, important to keep the colonial and apartheid legacy in mind as a contextualising backdrop when considering environmental values, discourses and ethics in post-apartheid South Africa. (Some orientating perspectives were presented in Section 1.2). The City of Cape Town governance structures – and hence its Environmental Capacity Building, Training and Education Section – did not exist prior to the shift to democratic governance and were established in the mid-1990s. These new post-apartheid governance structures, in particular those relating to the Environmental Resource Management Department, are taken analytically here to constitute T_1.

Constitutionally, the Bill of Rights entitles all South Africans to an environment that is not harmful to their health or well-being, and that the environment is to be protected for present and future generations. Government equally committed itself to providing all South Africans with equitable access to the country's resources. The Bill of Rights also states that all South Africans have the right to have their dignity respected and protected, which by implication includes the right to adequate housing and sanitation. These and other rights were provided for by government structures such as the Reconstruction and Development Programme (RDP) initiated in 1994, and through legislation to regulate local government structures such as the Municipal Systems Act of 2000 and the National Environmental Management Act (NEMA) of 1998.

In the light of previous inequitable governance structures, a powerful social justice agenda permeates all South African legislation and governance structures, some of which were discussed in Sections 6.4 and 6.5. CCT's Environmental Capacity Building, Training and Education Section was thus founded on principles such as human well-being, socio-economic development and equitable access to natural resources.

- **Social Elaboration [T2 – T3] ~** Section 6.5 described trends in the environmental discourses of CCT's Environmental Resource Management Department. It was noted that an eco-managerial orientation linked to a sustainable development agenda, underpinned by a holistic understanding of environment and a concern for the people-environment interface was clearly dominant, but that calls to care 'for nature for nature's sake', and allusions to ecological destruction as a result of rampant human development permeated the discourse occasionally. I suggested that this amalgam of people-centred and nature-centred perspectives was due to collaborative policy and strategy formulation processes common in post-apartheid South Africa, as well as the trend in government departments to outsource development of reports and publications to external consultants, many of whom (in this case) have backgrounds in the biological sciences or nature conservation and whose environmental values (such as the intrinsic value of nature) 'slip into' official CCT strategies and publications which otherwise explicitly endorse a people-and-development-centred orientation.

Despite CCT's Environmental Capacity Building, Training and Education Section being strongly guided by a social justice, human development, equity agenda outlined above in relation to the structures at T_1, these ethical commitments appear less dominant in the day-to-day practices and discourses of the workplace. This is not to say that they are not strongly endorsed by staff members; there is ample data to suggest otherwise (see, for example, Paul's comment in Section 6.6.7.1 that environmental education's purpose is to actualise the freedoms we now enjoy as a result of Nelson Mandela's struggle to liberate South Africans, or Faaiz's comment in Section 6.7.5 that he is pleased to be able to do something 'positive' in his work as an environmental educator). Yet these ethical positions are so embedded in the lived experience of the novice environmental educators (all of whom come from politically and economically disadvantaged backgrounds) that they form an *unquestioned* backdrop to their work, such that now the ethical focus falls to engaging the 'newness' of environmental actions and pursuit of a sustainable future for the City of Cape Town.

Within the Environmental Capacity Building, Training and Education Section, it appears that pro-environmental actions (such as recycling, reducing travel, planting trees, and saving electricity) are frequently discussed at a *practical* level ('how to do it more effectively'; 'who is/ isn't doing it?'), but *in-depth* reflections on the *connections* between these practical actions and environmental values and ethics are seldom made, beyond some generalised assertions that certain actions, like wasteful printing or unnecessary use of the pool car, are just 'unethical'). The uptake of these ethics-based environmental actions appears to rest on two assumptions:

(i) that environmental actions such as recycling paper, saving electricity and reducing travel are valid and desirable steps towards achieving the departmental mandate of establishing Cape Town as an ecologically sustainable, equitable city by the year 2020; and that (ii) all staff members understand and are committed to that connection.

It is perhaps not surprising that a concern for practical actions supersedes collective, in-depth reflection on their underpinning environmental values and ethics because, as described in Section 6.6.5, the majority of Paul's and his colleagues' work within the YES Programme was administrative or logistical. This was in line with the institutional arrangements of CCT which mandated the YES Programme to serve as a *co-ordinating and enabling hub* in support of environmental education activities, (see Section 6.6.5). Thus, although the five YES Programme staff members' official job descriptions designate them "Assistant Professional Officer: Environmental Education Officer", their typical work might be better captured in an alternative title such as 'Environmental Education Events and Activities Co-ordinator'. Similarly, Faaiz's day-to-day work was largely administrative.

- **Structural Elaboration [T4] ~** The commitment of CCT's environmental education staff to the national priorities of democracy, social justice, sustainable development and the dismantling of apartheid's legacy, has served to reinforce and reproduce the ethics-based structures described in T1 (morphostasis). Although more in-depth analytical work specific to CCT's discursive emergence would be needed in order to make substantial claims about structural changes, it appears that the fundamental ethics-based structures have remained constant since the democratic turn in the mid-1990s, but that the practical uptake and endorsement of pro-environment actions in relation to that social ethic is being progressively clarified and extended (morphogenesis). The YES Programme and the Smart Living Programme are two examples of how the organisation has responded (in the past decade) to environment and sustainability concerns *within the context of* democratic local government structures, and these programmes carry particular environmental values and ethical discourses into the public domain (as discussed in Sections 6.5; 6.6.8.2; and 6.6.7) where current and future structural elaboration is likely but undocumented in this study.

8.2.2.2 Emerging environmental values, discourses and ethics in the EETDP Course

- **Structure [T_1] ~** There were multiple structural influences during the origination of the environmental values, discourses and ethics component of the EETDP Course. Some influences were traced to the dominance of organisational discourses around environmental

values and ethics which were mobilised by course materials developers and tutors (Section 5.3.2). Others were traced to inter-organisational links such as the long-standing intellectual collaboration between WESSA's National Office in Howick and the Rhodes University Environmental Education Unit, and between more recent links between WESSA and post-apartheid environmental groups such as the Department of Environmental Affairs and Tourism, and the Environmental Justice Networking Forum (see Section 5.3.5). Conceptual capital and ethical perspectives distributed across these organisations influenced the development of the values and ethics component of the course to varying degrees.

The most substantial structural influence was that of the ethics-oriented Unit Standards generated by the EETDP Standards Generating Body, in alignment with South African Qualifications Authority and the National Qualifications Framework. These gave rise to a detailed and concept-laden cluster of ethics-oriented Unit Standards, Assessment Criteria and Specific Outcomes which framed the EETDP Course's assessment frameworks and – ultimately – its pedagogy (see Sections 5.4 and 5.5).

- **Social Elaboration [T2 – T3] ~** The environmental ethics component of the course was mediated in a dialogical, highly contextualised and partially explicit way. By partially explicit, I mean that the tutor, Patrick, had a strong understanding of the ethical dimensions of the various case examples that the learner-practitioners raised for discussion and was thus able to point out the ethical tensions of most situations; however, whilst the ethical dimensions were frequently alluded to, there was very little explicit analysis of exactly what those dimensions might be, what their origins were, what their consequences might be, and so on. Learner-practitioners struggled to access, understand or appreciate the section on environmental philosophies and their engagement with ethics-oriented discussions during group interactions tended to be superficial, generalised and self-referential.

A sustainable development discourse, closely coupled with people-centred, environmental management discourses, was most dominant in these interactions, even though the EETDP Course's mediating tools created spaces for alternative responses. This appears to have been a direct consequence of the highly contextualised and dialogical approach of the course which was strongly dominated by the CCT employees (nine of the eleven learner-practitioners) whose organisation.

- Structural Elaboration [T4] ~ The broad nationally-prescribed structures of the EETDP Course curriculum appear not to have been transformed in any way, although it was never

intended or expected that they be transformed. There does, however, appear to have been a slight departure from the holistic intention of the nationally prescribed unit standards relating to environmental values and ethics, as well as from the way WESSA-SustainEd appear to have intended the section to be mediated. Where the unit standards provide for a very diverse and holistic consideration of environmental values and ethical responses to people-environment relations, the CCT version of the EETDP Course provided mediation that was heavily inclined towards a sustainable development perspective, as understood within the context of Cape Town's local government structures. It thus appears that the dominance of macro-structures (such as government structures, including discourses) have altered the meso-structures of the EETDP Course curriculum.

8.2.2.3 Emerging environmental values, discourses and ethics in Paul and Faaiz's sociocultural-ecological context

- **Structure [T_1] ~** To appreciate the impact of post-apartheid structures on Paul's and Faaiz's lives, and towards the development of their engagement with the people-environment interface, it is necessary to reflect on their preceding social structures. As described in Sections 6.6.2; 6.6.3; 6.7.2 and 6.7.3, both Paul's and Faaiz's study path and career choices were compromises of their life aspirations. Paul wanted to study law and Faaiz wanted to become a mechanical engineer, but both were denied access to these options due to segregationist Apartheid policies and legislation that reproduced educational and socio-economic divisions along racial lines. It was only from the mid-1990s when equitable and affirmative employment and capacity development imperatives came into effect that their career prospects opened up, although this coincided with the closing of the Athlone Power Station in 2006. New labour legislation required the CCT to reskill and redeploy rather than retrench workers at the power station. During the same period, EETDP emerged as a distinct field on the South African education and training landscape and, within the CCT, a specific environmental education programme (the YES Programme) had been developing since 1999 as part of the City's mandate to achieve an ecologically sustainable and equitable city.

Beyond their career changes, both Paul's and Faaiz's engagement with ethical and environmental concerns was underpinned by socio-religious structures. Paul's Christian faith and Faaiz's Muslim faith provided strong spiritual platforms from which to approach their new work in environmental education. Domestically, both were married with children and an extended family, and were active members of their cultural community. This social cohesion similarly provided a social context for the application of environmental ethics perspectives.

- **Social Elaboration [T2 – T3] ~** As Paul's and Faaiz's careers in environmental education gained momentum, aspects of their personal lives were also developing. Cumulatively, these formed a rich backdrop for their engagement with social-ecological concerns. The CCT workplace is a resource-laden environment and both Paul and Faaiz commented on the amount of environmental information they are able to access through their workplace. Paul, for instance, reports how he draws on this information to support his daughter's homework projects and that he takes pleasure in being able to help in this way. His environmental education experience has also translated into environmental themes or projects being taken up by his church, especially under Paul's leadership as the youth pastor. Paul feels that his increasing responsibilities in church leadership directly benefit his professional competence in the CCT and vice versa (see Section 6.6.7).

For Faaiz, the links between his spiritual and professional life are more introspective: he recognises that Islam originated in a water-scarce region and self-restraint and moderation are fundamental values. This leaves Faaiz wondering if he, his family and wider faith community are truly doing enough towards natural resource conservation in Cape Town. Furthermore, Islam requires that its teachers lead by example, and Faaiz transfers this principle to his environmental education practice too, demanding of himself that he 'practices what he preaches' as an environmentalist.

- **Structural Elaboration [T4] ~** There is no evidence that the macro-structures mentioned in T_1 (such as employment equity and professional development mechanisms in CCT) have been transformed by Paul and Faaiz's personal career and domestic trajectories, and it would be unrealistic to expect such a relationship. Morphogenesis is evident, however, in the local, social structures such as family, community and church, as described, for example, in Sections 6.6.7 and 6.7.5.

8.2.2.4 Paul's and Faaiz's ethics-oriented reflexive deliberations at the interface of workplace, course and sociocultural-ecological context

The preceding sections have foregrounded the historical emergence of environmental values, discourses and ethics in the CCT workplace, the EETDP Course and Paul and Faaiz's sociocultural-ecological contexts respectively. Their ethics-oriented reflexive deliberations occurred between T_2 and T_3, that is, during social elaboration. However, to get a deeper and more reality congruent understanding of the deliberative process, it is necessary to examine the

interaction across all three strata[38]. Although direct and self-contained causal links across these strata are seldom evident (such as being able to claim that Faaiz undertook an environmental action at work 'because of' something he read on the EETDP Course), it becomes apparent that the messy intersection of workplace-based, course-based and family, church or community-based realities (represented in Figure 8.1 as two-directional arrows) cumulatively influences Paul's and Faaiz's ethics-oriented reflexive deliberations in complex, indeterminate but powerful ways. I use the term 'realities' here in the critical realist sense of these dimensions having causal efficacy regardless of Paul's, Faaiz's or anybody else's knowledge or experience of them because the chains of influence are often indirect or taken for granted.

Consider, for example, how the dominant discourses of sustainable development and environmental management in the CCT workplace were taken up quite strongly in the 2008/ 2009 EETDP Course (enhanced by the tutor's own experience in mediating these discourses through his professional experiences within WESSA's Cape Town office), and the echoes of these discourses in Paul's EETDP Course assignment in which he states: "… considering the current *pressure on our resources*, the City is required to *take urgent action to reverse the current trends* and *secure* our coastal *assets*" [PoE, 1A, Mod. 2, Assign. 2, p. 2, my emphasis]. Paul made this statement when asked to provide a rationale in a course assignment for his Marine Week lesson on the EduTrain with Grade Seven learners. However, textual analysis of his 30-minute verbal presentation to the learners revealed a more fluid 'amalgam' of instrumentalist and intrinsic valuing of marine life, some environmental managerialist responses to the decline of marine life along the Cape Town coastline, as well as appeals for more personal moral responses to sharks' ecological significance and to future generations that seemed traceable to mass media and popular pro-environment narratives (see Section 6.6.8).

[38] I refer to the CCT Workplace, the EETDP Course and Paul and Faaiz's immediate sociocultural-ecological contexts as strata in alignment with Archer's account of social stratification (see Section 2.4.3) but note that where a social realist account of strata suggests that each stratum emerges from preceding strata, those presented here are not necessarily hierarchical. The strata of the CCT workplace exist alongside that of the course and the one does not presuppose the other. They do, however, have an open-ended, iterative relationship.

8.2.3 Interacting contexts of Nkanyiso's Ethics-oriented Reflexive Deliberations

8.2.3.1 Emerging environmental values, discourse and ethics in the MWP workplace

- **Structure [T_1] ~** South Africa's socio-economic development trajectory (industrialisation, urbanisation and expansion of commercial agriculture, including forestry) poses a threat to the country's freshwater supplies. As discussed in Section 7.5.1, the Mondi Wetlands Programme was established in 1991 specifically to respond to these concerns. The environmental sector was strongly influenced by a protectionist approach to nature conservation and a transmissive, expert-driven approach to environmental education and awareness raising (see Section 1.2.2). By the late 1980s and early 1990s, these orientations were increasingly challenged in the light of international and national shifts towards more people-centred, participatory approaches to natural resource management. It was in this social-ecological-political climate that the Mondi Wetlands Programme was established as a collaborative, inter-organisational programme in the early 1990s.

The Mondi Wetlands Programme's ethos was also shaped by a range of national environmental legislation which all made provision for public participation processes towards the national goal of social justice, equity and transformation.

- **Social Interaction [T2 – T3] ~** The Mondi Wetlands Programme's early experiences with lobbying, policy development and the institutionalisation of wetland management through collaborative work with multiple stakeholders entrenched the programme's strong partnerships and awareness-raising approach. Section 7.5.2 also identified a strong focus on environmental management and an instrumental valuing of natural resources. The complexity of working with multiple and diverse stakeholders appears to have shaped the Mondi Wetlands Programme's more recent pragmatic (perhaps relativist) approach to the environmental values and ethics dimension of its work. Staff were consistent in explaining that they work to accommodate the diverse environmental values and ethics of the groups they work with because they have no right to tell others how to do things. As elaborated in Section 7.5.2, it became evident that the programme's very explicit *social* ethic (which had emerged in recent years since the WESSA-led programme evaluation in 2005 foregrounded the shortcomings of awareness-raising approaches as opposed to participatory, democratic approaches) had eclipsed the programme's environmental ethic which staff admitted was seldom, if ever, discussed.

- **Structural Elaboration [T4] ~** Through its collaborative, shared problem-solving approach to wetland degradation and the management of freshwater systems, the Mondi Wetlands Programme has established itself as a key partner in the sector, working extensively with large corporations such as Mondi Paper and the South African Sugar Association to transform land management practices. These successes have served to reinforce (and hence perhaps to reproduce) the social goals of national environmental legislation and WESSA's orientation to EETDP.

8.2.3.2 Emerging environmental values, discourse and ethics in the MMAEP workplace

- **Structure [T_1] ~** Historical structures associated with colonialism and apartheid produced socio-economic and political conditions in the KwaZulu-Natal midlands, and especially in Mpophomeni Township that shaped people-environment relationships and exacerbated social-ecological challenges. These include (but are not limited to) wetland degradation, deforestation, water pollution, littering and overgrazing. It was to these complex socio-economic-ecological challenges that the MMAEP aimed to respond through education.

This social-ecological context of MMAEP's educational endeavour was overlaid by severe challenges in the schooling system. For the same socio-political, historical reasons, the majority of schools in the KwaZulu-Natal midlands were under-resourced and poorly managed, and classroom pedagogy was characterised as authoritative, transmissive and uncritical.

As noted in Section 7.6.1, the MMAEP is not bound by national legislative or policy frameworks (except for aligning its school-based work with the National Curriculum Statement) but it is regulated instead by more local and project specific structures such as the parameters of donor funding, and the location and management of schools that participate in the project.

- **Social Interaction [T2 – T3] ~** In this open environment, the MMAEP has been able to articulate its environmental and social values and ethics quite explicitly and work autonomously towards actualising them (see Section 7.6.1). The project takes a values-based approach to its environmental education work in schools and encourages learners to respect or even revere nature for its intrinsic worth as well as for the benefits it provides to people. These environmental values are reflected in all the staff members' professional conduct and personal lifestyle choices, for example, most are strict vegetarians, grow their own organic vegetables

and strive in various ways to reduce their carbon footprint. Thus, a particular form of ethics-oriented conversations are in constant circulation in the MMAEP workplace and there is little ambiguity regarding the preferred pro-environment ethical stances adopted by the project. These perspectives are shared in local, rural or peri-urban, disadvantaged schools using learner-centred, creative and deliberative pedagogies.

- **Structural Elaboration [T4] ~** The MMAEP recognises that (like most educational work) its impacts in local schools cannot be easily quantified, making it impossible here to trace structural changes at the societal level to the activities of MMAEP. However, the project's reports (and the accolades and awards it has received) may be taken as indicators that the project is contributing to a shift towards greater environmental sensitivity and action competence at the community level through its project-based work in local schools. Primary schools are being supported to establish permaculture gardens, thereby increasing the food security of those children. The MMAEP may also be restoring an alternative sociocultural appreciation of gardening and compost-making, activities that were historically stigmatised under the Bantu Education System through the subject of agricultural science.

8.2.3.3 Emerging environmental values, discourse and ethics in the EETDP Course

- **Structure [T_1] ~** The structural conditions of the environmental values and ethics component of the EETDP Course have been traced in Section 8.2.2.2 above. Differences did occur, however, during the social elaboration phase (T_2 – T_3) and so here I focus only in phases T_2 – T_4.

- **Social Elaboration [T2 – T3] ~** The cumulative experience of the environmental values and ethics component of the Course was of fragmentation and confusion. Due to time constraints and inadequate contextually relevant planning of mediating tools, sessions focussing on environmental values and/or ethics were frequently rushed, poorly structured, or decontextualized. One key session was cancelled due to time pressures, leaving learner-practitioners without the conceptual capital they needed to adequately complete their course assessment tasks. Tutors were nonetheless sensitive to and respectful of the diversity of environmental ethics positions and consciously avoided favouring one position over another. Their intention was to encourage learner-practitioners to think critically and decide for themselves.

The EETDP Course's main mediating tool, the module handbooks, had recently been amended to streamline the section on environmental ethics in response to concerns about learner-practitioners' low levels of academic literacy. However, it appears that the reduced text, although shorter and more linguistically accessible, no longer provided a coherent framework to guide learner-practitioners' thinking about environmental ethics.

Structural Elaboration [T4] ~ The national structures of the unit standards, specific outcomes and assessment criteria were not transformed but, as noted in relation to the Cape Town-based course, there was no expectation that they would be. On the surface, no substantial deviation occurred from the course structures as determined by WESSA-SustainEd, as all assessment requirements were met. Beyond the data of this study, it is likely, however, that the tutors' experiences of interpreting and responding to the nationally-prescribed structures and then mediating the environmental values and ethics component of the course will lead to some level of reflexivity and change in the future.

8.2.3.4 Emerging environmental values, discourse and ethics in Nkanyiso's sociocultural context

- **Structure [T_1] ~** Nkanyiso's environmental knowledge and values were strongly influenced by the traditional Zulu culture in which he was raised and, to some extent, educated. Cultural practices (such as raising livestock to be tended by young boys; eating large quantities of red meat; living with an extended family of aunties, cousins and grandparents; immediate killing of snakes when they are found close to the homestead) form the backbone of Nkanyiso's identity as a young Zulu man (see Section 7.3), and are the starting point of his ethics-oriented reflexive deliberations.

National schooling structures were (and remain) profoundly influenced by colonial and apartheid ideologies and policies, resulting, for example, in Nkanyiso receiving a poor quality education in local schools in the KwaZulu-Natal midlands that were under-resourced and only partially functional. Nkanyiso reflected that the schooling system provided no opportunities for environmental learning (see Section 7.3).

It was the structures of WESSA and the Umgeni Valley Nature Reserve in particular that created an enabling environment for Nkanyiso to learn about environment and sustainability after leaving school. WESSA's organisational aim of 'promoting public participation in caring for the Earth' (see Section 7.5.1) together with national post-apartheid employment equity

policy imperatives to develop human capital and employ black staff, and the environmental sector's acknowledgement of the urgent need to transform its predominantly white profile, enabled a series of professional development learning opportunities (formal and informal) for Nkanyiso, as discussed below under social elaboration.

The same structural drivers were evident in the MMAEP whose account of the decision to employ Nkanyiso was more tacitly framed by the merging discourses of political compliance and social justice. The MMAEP manager reported that meeting Nkanyiso and seeing his potential was very fortunate for the project as they were conscious of their team of white women and were eager to have a black man join them.

- **Social Elaboration [T2 – T3] ~** Nkanyiso acknowledges that it was through his involvement in activities at the Umgeni Valley Nature Reserve in Howick that his environmental learning and associated ethical deliberations were triggered. Prompted mostly by a senior manager who identified the transformation of the environmental sector's racial demographics as a moral obligation towards the betterment of South Africa, Nkanyiso was given opportunities to develop knowledge and skills whilst earning money working for environmental projects. Nkanyiso was self-motivated and demonstrated a willingness to learn and get involved in environmental education, for example, asking for WESSA to support him to participate in the two-week Environmental Educators' Course. He similarly took the initiative to approach the MMAEP to employ him after he had met the manager at a school greening event. The culmination of these social interactions across WESSA, Mondi Wetlands Programme and MMAEP, was Nkanyiso's appointment as an intern with the Mondi Wetlands Programme, to study the EETDP Course. As described in Sections 7.5.4, 7.6.4, and 7.7, it was the through the social dynamics, environmental values and discourses and knowledge-sharing practices across these workplaces, and later of the EETDP Course (see Section 7.8) that Nkanyiso's ethical deliberations about environmental concerns deepened.

Nkanyiso's cultural background and immediate social context was also influential. He noted how his gradually changing practices such as avoiding buying fast foods were not understood or endorsed by his circle of young, male Zulu friends, and there was evidence that his domestic situation (living with his aunt who prepared all the meals) and his limited financial resources hindered his uptake of ethical environmental practices.

- **Structural Elaboration [T4] ~** The social elaboration just described is too localised and person-specific to be equated with transformation of macro social structures such as

cultural traditions, national policies and so on. However, there are indicators that small changes (or the beginnings of potential changes) may be occurring at local organisational, familial and community levels. For example, the insistence of senior managers at WESSA and the MWP to pursue employment equity and capacity development goals in the sector (not only for reasons of policy compliance, but also due to their commitment to a social change agenda) has generated some degree of change in their organisational response to sectoral transformation.

There is also early evidence that Nkanyiso's engagement with environmental ethics concerns in a cross-cultural setting enables him to mediate environmental learning in township and rural farm schools with insight and sensitivity. He is able to bridge particular forms of environmental care – most commonly associated with middle-class white people (see Section 1.2.2) – and the environmental practices common in traditional Zulu, rural, low-income areas. Working within the MMAEP as the enabling structure, and with his personal and continuing journey of ethics-oriented reflexive deliberations, Nkanyiso is able to disrupt and/or mediate culturally and systemically entrenched patterns of people-nature interactions in the schools.

8.2.3.5 Nkanyiso's ethics-oriented reflexive deliberations at the interface of workplace, course and sociocultural context

As was noted at the end of Section 8.2.2, ethics-oriented reflexive deliberations occur at the 'messy intersection' of workplace, course and personal contexts. The interactions are often indeterminate, obscure and difficult to account for. Nkanyiso's engagement with the ethical dimensions of his Mondi Wetlands Programme, and MMAEP workplace, the EETDP Course and his immediate sociocultural context in the KwaZulu-Natal Midlands appears to me to be a feat of unself-conscious, relentless navigation. His professional-personal life consists of navigating cultural differences, language difficulties (most of the mediation of environmental and ethics-oriented learning occurs in English, his second language), differences between environmental and ethical discourses across workplaces, differences between environmental practices, and so on. Ethics-oriented reflexive deliberation inevitably occurs through these interactions and Nkanyiso's main challenge through the EETDP Course, has been in articulating the journey he is navigating.

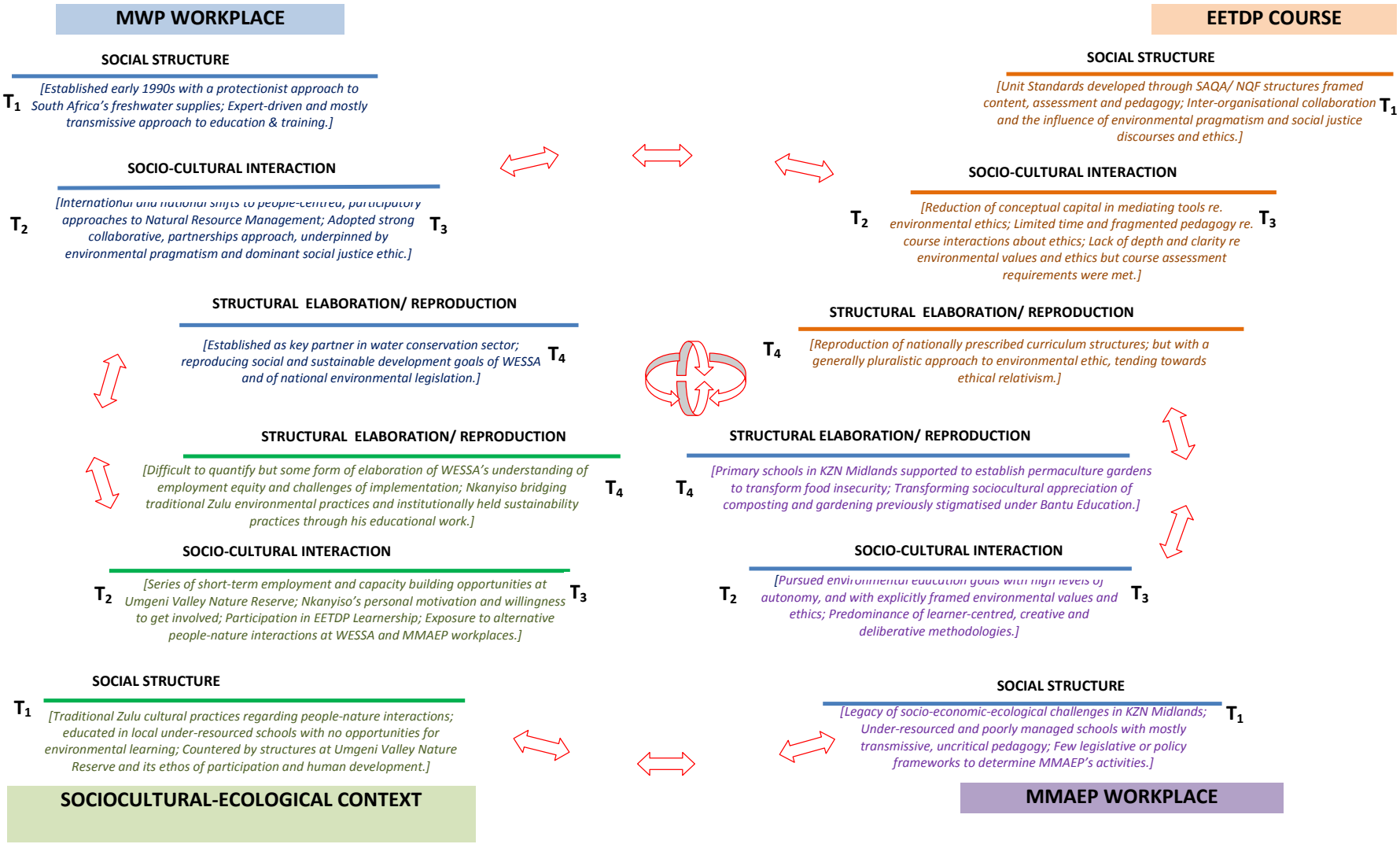

Figure 8.2 Dimensioning of Nkanyiso's ethics-oriented reflexive deliberations, showing the interaction of environmental values, discourses and ethics in the Mondi Wetlands Programme and MMAEP workplaces, the EETDP Course and Nkanyiso's immediate sociocultural-ecological contexts

8.3 PHASE 2: IDENTIFYING FACETS OF ETHICS-ORIENTED REFLEXIVE DELIBERATION

Having reviewed the ways in which the socioculturally and historically-constituted contexts of workplace, course and personal life intersect and are causally efficacious in the ethics-oriented reflexive deliberations of Paul, Faaiz and Nkanyiso, it is now possible to describe the nature of those deliberations in more detail. This section identifies and discusses five facets of ethics-oriented reflexive deliberation, as based on the three case studies. The discussion rests upon the recognition (discussed in Section 8.2 above) of historical emergence and inter-relatedness of the environmental values, discourses and ethics in workplace, course and sociocultural and ecological context. Until now, discussion of Paul's, Faaiz's and Nkanyiso's ethics-oriented reflexive deliberations have been kept separate; in this section I now look *across* the three cases to identify trends, anomalies and convergences. The discussion is framed by the five facets listed in Section 8.1.

8.3.1 Content, form and access to social-ecological knowledge

For Paul, Faaiz and Nkanyiso, access to information was fundamental to their ethical engagement with social-ecological concerns. In the YES Programme, for example, Paul's work is supported by a resource collection containing posters, activity sheets, brochures and so on, covering a range of environmental topics (see Figure 6.9). When preparing for his Marine Week lesson on the EduTrain, I observed Paul visiting these cupboards to access information about marine ecology and sharks, not merely to share with school learners, but for his own understanding too. He told me that he also used the Internet quite extensively to extend his knowledge of the topic. Paul's selection and application of this information was not mediated by senior colleagues because the nature of the workplace supervision process was mostly centred on the logistical and administrative aspects of the Marine Week programme.

Faaiz explained that they are 'constantly bombarded' by environmental information in the CCT workplace but that the information excited and stimulated his passion for environmental education. In one interview Faaiz even equated it to a 'jolt of lightning' that challenged him to ask himself what to do next in the light of this new information (see Section 6.7.5). As with Paul's case, however, I found no evidence of this wide range of environmental information being mediated in the workplace in terms of its inherent values and ethical

implications, or in terms of environmental learning; it was left to Faaiz to make of it what he chose.

Nkanyiso's access to information was also primarily through his two workplaces although, unlike Paul and Faaiz, he benefited from quite high levels of mediation, as discussed in Section 8.3.2. In the MMAEP workplace, colleagues regularly lent Nkanyiso books and DVDs on environmental topics, many of which had a strong ethical dimension. Nkanyiso used some of his time in the Mondi Wetlands Programme workplace to browse the Internet and access environmental information relevant to his EETDP Course assignments.

The inter-relationship between EETDP Course and workplace is significant here. It appears that the workplaces' most powerful contributions were in *providing access to* environmental information whereas the Course's intended contribution was to *support the mediation* of that information with conceptual tools and a diversity of perspectives. I specify 'intended' contribution here because there was frequently a mismatch between the course's intentions and the way in which they were actually mediated in the untidy reality of curriculum implementation.

Course-based mediation is discussed more fully in Section 8.3.2 below but in this section I focus on the ethical content of the course (as a form of knowledge) and how it came to be mediated in that way. As described in Section 5.3 (and synthesised from a morphogenetic perspective in Sections 8.2.2.2 and 8.2.3.3), the environmental values and ethics component of the course was heavily influenced by the SAQA unit standards and to a large extent this determined the scope and depth of environmental ethics perspectives. Also influential was the Masters Degree in Environmental Education at Rhodes University which several of the course developers and two tutors had studied immediately prior to or during their involvement with the EETDP Course. This study has been able to trace how certain philosophical, conceptual and even pedagogical features of the ethics component of the Masters course have manifested in the EETDP Course (See Section 5.3.4).

Discussion of the content, form and access to social-ecological knowledge needs to be wider than the access to environmental information already discussed. Knowledge accumulated through prior experiences, cultural practices, and other forms of informal learning must also be taken into account. For example, Nkanyiso's starting point for many of his environment-centred ethical deliberations was the knowledge he had accumulated as a Zulu boy herding

cattle in Impendle; he explained how he was terrified of snakes and other creatures which, in his immediate sociocultural context, were very real threats.

Often, the absence of knowledge in the ethics-oriented deliberative process was as influential as its presence. Faaiz, for example, described how in his previous work in the ship repair industry he had pumped toxic sludge into the harbour, ignorant of the consequences for marine life. And in his work at the Athlone Power Station he had taken pride in his role in coal-based electricity production, again ignorant of the environmental impacts. It was only once he started to learn about environment that he became 'sort of uncomfortable' (see Section 6.7.3) and that stimulated his desire to keep learning more so that he doesn't find himself with similar regrets again.

8.3.2 Mediation of knowledge and experience

Mediation of the learner-practitioners' knowledge and experience occurred in different contexts (such as workplace, course, community, media) and in different ways. The mediating tools that I was able to identify in this study are: written texts (such as brochures, videos, books, course notes) and dialogic interactions (such as meetings; collegial interactions, course presentations, conversations with tutors and assessors).

For the purposes of this discussion, I take environmental values and ethics to be the object being mediated. This discussion (which is theoretically elaborated later in Section 8.5.2) focuses on workplace and course-based mediation. This is not to devalue mediation processes in the more general social domain (which could include mediating tools as diverse as social networking sites, body language, jokes, photographic exhibitions and so on) but as the data generated in this study did not extend to the learner-practitioners' private social interactions, I cannot make claims in that regard.

8.3.2.1 Mediation processes in the workplace

As noted above, all three learner-practitioners – but especially Paul and Faaiz – worked in very information-rich environments where they had easy and frequent access to environmental information. In the CCT and Mondi Wetlands Programme workplaces, there was little evidence of the environmental information being professionally mediated through workplace interactions. Mediation still occurred, however, because the socially and historically constituted production of each text is itself a process of mediation (Wertsch,

1997), as evidenced in the discourse analysis of selected organisational documents (see Sections 6.5; 6.6.8.2; 6.7.7.3; 7.5.2 and 7.6.2). Organisational texts, such as the *Smart Living Handbook*, MMAEP's quarterly newsletters, the Mondi Wetlands Programme's Objectives and so on, played a direct (albeit largely unacknowledged) role in mediating the respective organisations' environmental values and ethics in the absence of a physically present mediator like a manager or mentor.

In Nkanyiso's case, mediation of ethical concerns seldom occurred via the 'formal' channels of a workplace mentor, but through more informal, collegial interactions. Nkanyiso's managers and workplace mentor in the Mondi Wetlands Programme acknowledged that they seldom, if ever, discussed the ethical dimensions of their work or drew attention to underlying values. Their interactions with Nkanyiso seemed mostly managerial and, when ethical perspectives *were* discussed, they tended to be of a professional nature such as punctuality or misuse of telephones. Conversely, the broader working environment of WESSA's Umgeni Valley Nature Reserve, where Nkanyiso was based during his internship, proved to be stimulating and inspiring in terms of environment-centred ethical actions. The mediation appears to have been mostly spontaneous and collegial, for example, Nkanyiso would read something in an environmental education booklet being compiled on the premises and ask a colleague about it during their tea break. In this way, the environmental ethos inherent at the Umgeni Valley Nature Reserve was informally mediated and appears to have contributed significantly to Nkanyiso's developing ethical deliberations.

Mediation of environmental values and ethics was much more explicit and pervasive in the MMAEP workplace. Over and above the DVDs and books lent to Nkanyiso by his colleagues, work-based interactions appear to have been strongly ethics-based. As discussed in Section 7.6.2, ethics were discussed during staff meetings and frequently formed the basis of office-based environmental actions such as using 'second-hand' paper in the printer. 'Leading by example' is a key principle in the MMAEP workplace, evidenced by the staff's personal lifestyle choices such as vegetarianism and growing organic vegetables at home. These practical actions also serve as mediational tools because they directed Nkanyiso's ethical engagement in particular ways.

8.3.2.2 Mediation processes in the EETDP Course

Mediation processes in the course consisted of a complex combination of spoken interactions, written texts and assessment tasks. Through its unit standards, specific outcomes, assessment

criteria and the overall stated purpose of the qualification, the EETDP course curriculum explicitly set out to provide relevant conceptual tools and reflexive spaces for (amongst its numerous other aspects), the ethical dimension of environmental education practice. But in the realities of a content-overloaded curriculum, tight time frames, some tutors' own inexperience in mediating ethics-oriented learning, the learner-practitioners' language barriers and limited access to western-based environmental philosophies, the potential of the course pedagogy was seldom fully realised.

The form and quality of mediation was substantially influenced by class size, the homogeneity of the group and the tutors' preferred styles. In the Cape Town-based course, seven of the nine learner-practitioners were from CCT and their tutor had many years of experience working closely with local government through his work with WESSA. Consequently, class discussions about environmental topics were easily grounded in local context and, due to the homogeneity of the group, the tutor was able to push discussions to a deeper level (often of an ethical nature) in an authentic, applied way, although it was not possible to spend much time on such discussions.

The Johannesburg-based course, by contrast, consisted of 54 learner-practitioners, five tutors and five assessors. The learner-practitioners were placed in a range of organisational settings for the Learnership such as botanical gardens and local municipalities, making it very difficult during plenary sessions to explore context-specific examples in any depth. This is not only because the learner-practitioners themselves had very different environmental education contexts and experiences to draw on, but also because the tutors didn't know each context thoroughly. This limited the depth of ethics-oriented mediation on the course because it was difficult to 'push deeper' or engage critically with work-based discussions because few people were sufficiently knowledgeable of the various contexts to interrogate or contradict what others were saying. This led to somewhat superficial or at least generalised responses to ethics-oriented discussions.

The written course materials provided another way of mediating the values and ethics component of the EETDP Course, although it appears they were not as effective as anticipated during their initial development. As described in Section 5.5.2, in the sections relating to environmental ethics, a tension existed between introducing learners to the (often complex) concepts and language commonly associated with environmental philosophy on the one hand, and trying to 'lighten' and contextualise the subject matter on the other hand. The

historical dimensions of this phenomenon are presented in Chapter 5 and in the morphogenetic analyses in Sections 8.2.2.2 and 8.2.3.3. There was little to no evidence of Paul, Faaiz or Nkanyiso engaging closely with the course handbooks' sections on environmental ethics and no reference was made to course readings in their assignments.

Course assignments seem to have served as more effective mediating tools in the ethics component of the EETDP Course than the handbooks. Most obviously, this seems to be because the assignment questions compelled learners not only to *think* about the ethics-oriented questions, but also to *articulate* a personal response. Where it is possible in group discussions to circumvent problematic areas, or for individuals simply to disengage from the interactions, written assessment tasks directed all learners along particular thinking and writing paths. In the case of the EETDP Course assignments, these paths were mostly reflexive and contextualised, in line with the course's commitment to developing reflexive environmental education practitioners. The assignment tasks were mostly completed at the end of sections and this summative purpose seems also to have enhanced the effectiveness of their mediation.

A final aspect of course-based mediation related to environmental ethics was course pedagogy. As described in Sections 6.2.2 and 7.2, the course pedagogy was strongly influenced by: tutor's preferred teaching styles; their levels of confidence with the topic of environmental ethics; their choice of strategies to respond to the tight timeframes associated with an overloaded curriculum (see Section 5.3); and their choice of strategies to cope with large class size and low levels of English proficiency and academic literacy (in the case of the Johannesburg-based course). The tutor of the Cape Town-based course, for example, drew on his own extensive professional experiences and strong ethical stance as an environmentalist to integrate considerations of environmental values and ethics in many of the course discussions, even when the modules' stated focus and outcomes did not 'require' it. As noted above, due to his in-depth knowledge of CCT, its context and political mandate, the tutor was further able to ground such discussions in authentic case examples that stimulated ethics-oriented deliberations by the learner-practitioners. The approaches taken by tutors in the Johannesburg-based course to mediate the ethical component of the course were more varied and responsive (such as starting with a content-heavy lecture and changing to a light-hearted interactive approach halfway through in response to learners' passivity) but this varying pedagogy seemed not to serve the learners well as they seldom pursued any trajectory in depth and the different approaches appeared to disrupt the continuity of their engagement.

8.3.3 Resonance and identification

The third facet of ethics-oriented reflexive deliberation concerns how comfortably the ethical perspectives under consideration sit within each learner-practitioner's professional and personal life (what I am calling 'resonance') and the relationship this has with his developing identity as an environmental educator.

Both Paul and Faaiz speak of their personal commitments to making a positive difference in society – a commitment that seems embedded in their religious orientations and in their personal backgrounds as coloured South Africans who had been marginalised under Apartheid. This broadly-framed ethic of care resonated with the general ethical underpinnings of the field of environmental education, leading both men to feel 'at home' in the moral trajectory of their new careers. Paul recognised synergies between environmental education and his pastoral work with youth in his Christian church, noting that this was one of the reasons he elected to make the career move in the first place. Faaiz recognised synergies between pro-environmental practices and the teachings of Islam, thereby increasing his motivation to teach others to pursue environmental practices that are respectful and responsible towards the planet. Paul and Faaiz are also both committed family men, and their conversations with me about their commitment to environmental concerns seemed inherently tied to their concern for the well-being of their children and the kind of future that their grandchildren will inherit. Again, the ethic of environmental care and responsibility in the field of environmental education resonated with their intergenerational familial priorities.

Lack of resonance also seems to be a potentially powerful influence in ethics-oriented reflexive deliberations. In Nkanyiso's case, as a young man in his early twenties, he is still carving a professional and personal path for his life and he does not have immediate and tangible responsibilities such as a wife, children, or his own home. Where Paul's and Faaiz ethics-oriented reflexive deliberations seemed to be accelerated by the high levels of resonance with their life projects (family and religion), Nkanyiso's deliberations seemed stimulated by the many *dissonances* between environmental ethics and his cultural background and personal priorities. Coming from a poor and rural background, most of the modern urban benefits he aspired to while growing up are now being revealed to him (through workplace and course-based learning) as environmentally harmful; many values and practices in traditional Zulu culture that he respects very deeply – such as killing snakes and predators, eating large quantities of red meat, setting snares in the *veld* for small antelope and

rabbits – are now also being challenged by his developing understanding of social-ecological sustainability. Cumulatively, these dissonances appear to have prompted Nkanyiso's ethics-oriented reflexive deliberations quite substantially.

In all three cases, I found evidence that the learner-practitioners' engagement with, and uptake of, an environmental ethic corresponded with their emerging professional identities as environmental educators. All three learner-practitioners were new to the field of environmental education at the time of studying the course: Paul and Faaiz had been transferred within CCT from the Athlone Power Station where they had performed technical, manual work; Nkanyiso was a school-leaver who had (somewhat opportunistically) drifted into environmental education after his work as a casual labourer at the Umgeni Valley Nature Reserve stimulated his interest in the environment. These backgrounds are important influences in the ethical deliberative process because they serve as the reference point for current and future ethics-oriented changes. Now, in their new roles as environmental educators, Paul, Faaiz and Nkanyiso are conscious of aligning their ethical positions with the field of environmental education (as it is variously constituted through organisational, sociocultural and course-based discourses and practices).

8.3.4 Articulation of a personal values and ethics position

The resonance and identification processes described above remain intrapersonal until articulated in a social space. This important facet of ethics-oriented reflexive deliberation appears to mark the transition from the internal conversation (Archer, 2003; 2007) to social dialogue and perhaps action. However, my experiences of generating data in this study suggest that articulation of personal and organisational environmental values and ethics is an area in need of further attention. For example, with the exception of staff of the MMAEP, most people I interviewed (line managers, workplace mentors, course tutors, course assessors) struggled to identify the environmental values underpinning their work, and when asked about their organisation's environmental ethics position, they most often described a social ethic (which has implications for, but is not the same as, an environmental ethic).

Paul, Faaiz and Nkanyiso all struggled to articulate their thoughts about environmental values and ethics during interviews as well as in the course assessment tasks. This seems in part traceable to:

- language proficiency (especially in Nkanyiso's case) and the shortcomings of the EETDP Course in mediating philosophical language which many learner-practitioners found intimidating and off-putting;

- the paucity of applied, discursive approaches and tools to environmental ethics concerns in a South African context which (if they existed more widely) might enable more reflexive engagement with environmental values and ethics in workplaces and in the public domain;

- the internal and largely unexamined ('taken-for-granted') nature of ethics-oriented reflexive deliberations.

Despite its noted shortcomings, the EETDP Course did contribute significantly to stimulating ethics-oriented reflexive deliberation. For example, Nkanyiso's progressive clarification and deepening of ethical deliberations could be traced through his assignment work where he had at first omitted *all* the Module One questions related to environmental values and ethics, then after guidance from tutors and his assessor, he provided short answers which were adequate but superficial, and by the end of the course he was writing whole paragraphs responding to the ethical dimensions of some case studies (see Section 7.8.4).

Without the structure of the EETDP Course that compelled Paul, Faaiz and Nkanyiso to articulate their personal environmental values and ethics, it is likely that they would remain unexamined and internal.

8.3.5 Enactment and Reflexive Evaluation

An inevitable consequence of Paul, Faaiz and Nkanyiso's ethics-oriented reflexive deliberations were the practical actions and lifestyle changes that they made in the light of their new social-ecological understandings and clarified ethical positions. All three reported changed environmental practices: Paul downsized to a more fuel-efficient car but still opted to use public transport to commute to the CCT offices each day. In the workplace, he was one of the 'champions' of the office policy to recycle paper, reduce printing and conserve electricity. Faaiz started recycling at home, including making a compost heap in the back garden and, when submitted his assignments for the EETDP Course, he reduced the font size and printed back-to-back to conserve paper. Nkanyiso reduced his meat consumption and tried, when finances allowed, to purchase organic, free-range chicken and vegetables. He

learned to handle and respect snakes through his work at MMAEP and subsequently rescued a snake from a group of children in Mpophomeni Township who wanted to stone it.

Ethical actions such as these, which all three learner-practitioners claim they would not have done prior to their professional development as environmental educators, become part of a larger reflexive process. For example, Faaiz has become quite critical of some aspects of CCT's environmental practices and, in terms of his personal development, his dialogue with me during interviews contained many words and phrases indicating his reflexivity: "Why am I not making that change, that leap?" and "I'm monitoring myself".

Paul also showed reflexivity when he explained how he took a big step as an environmentalist by replacing his (coveted) powerful car with a smaller, fuel-efficient model, but he acknowledges his own limits and the influence of other social priorities and so he is not going to downsize any more (see Section 6.6.7.1). These and similar ethical struggles led Paul to state in a course assessment task: "You are taken in many directions when you are thinking" (see Section 6.6.9.2).

Nkanyiso is regularly in a reflexive space as he works to reconcile the explicit ethics-based environmental actions of his MMAEP colleagues with his personal and immediate social aspirations and preferences. Popping into town to buy lunch is now a deliberative struggle for Nkanyiso in which he weighs up his desire for Kentucky Fried Chicken with his moral concern for the plight of hormone-injected battery chickens living in cramped, dark cages, his understanding of the personal health compromises when eating fast foods, his appreciation of local, grain-fed and organic chickens whose production also stimulates the local economy, but which also costs more to buy, and so on.

8.3.6 Conclusion

This section has discussed five facets of ethics-oriented reflexive deliberations based on the case study data presented in Chapters Five to Seven. Although they have been presented here in a particular sequence, they are, in fact, not linear but more iterative and overlapping. For example, it is possible that the task of *articulating* a personal environmental values position through the EETDP Course could prompt an ethical *action* that – once done and *reflexively engaged with* – triggers a process of enquiry to access more *social-ecological knowledge* which must then be *mediated* in the Course, workplace or social sphere.

This section – the second phase in discussing this study's data – has partially responded to the study's research question by identifying significant facets of ethics-oriented reflexive deliberations. The third phase (Section 8.4. below) attempts, through retroductive inference, to integrate these five facets with the morphogenetic analysis of the first phase to provide a summative platform for the fourth and final stage: presentation of the study's findings.

8.4 A SYNTHESISING RETRODUCTIVE COMMENT

8.4.1 Retroductive Inference in this Study

As described in Section 4.7.2.2, retroduction in critical realist enquiry is a thought operation through which the researcher moves from empirical observation of events to "a conceptualization of transfactual conditions" (Danermark et al., 1997, p. 96). In this study, such retroductive inference is necessary for me to produce an in-depth response to the question: 'How does ethics-oriented reflexive deliberation occur in, or at the interface of, the interacting activity systems of course-supported EETDP workplaces?'

Having discussed the interacting sociocultural-historical dimensioning of ethics-oriented reflexive deliberations across time and space (Section 8.2) and five facets of ethics-oriented reflexive deliberations based on the case study data (Section 8.3), I now strive to get beyond the empirical by considering: 'What must exist/occur for ethics-oriented reflexive deliberations to be what they are?' Danermark et al. (2002) suggest that one part of this retroductive move involves understanding the *internal relations* that ethics-oriented reflexive deliberations have with other phenomena. This can be done by attempting to reconstruct its constitutive norms, rules and dispositions, and examining the consequences of their interaction.

The CHAT-based syntheses at the end of each case study (see Sections 6.6.10; 6.7.10 and 7.10), together with the morphogenetic discussion in Section 8.2, have adequately laid the ground for this kind of retroductive inference. This enables me, now, to present an integrated, retroductive discussion in response to the question: 'What makes Paul's, Faaiz's and Nkanyiso's ethics-oriented reflexive deliberations what they are?' It is interesting to examine the causality of reflexive deliberation in this way because it affirms Archer's (2003) point that our personal powers are exercised through reflexive deliberation and that these are causally linked to our concerns, projects and practices in society.

In the broadest sense, the three learner-practitioners' ethics-oriented reflexive deliberations were made possible by characteristics and occurrences in three strata: (i) physiological/ cognitive; (ii) social-ecological and (iii) sociocultural. As this study has not pursued a cognitive psychological approach, and characteristics such as sensory perception, cognitive functionality, physical ability, and so on are assumed to be 'in place and normal' across the case studies, I do not elaborate on this aspect, but focus instead on the social-ecological and sociocultural strata. (I note, however, that research into the physiological/ cognitive dimensions of ethics-oriented reflexive deliberations would enhance this and similar studies which take an explicit sociocultural-historical approach).

8.4.2 The Social-ecological Stratum

Social-ecological contexts and challenges, and the experiences and forms of knowledge in relation to them, were fundamental centres of concern for all three learner-practitioners and hence gave shape and purpose to their ethics-oriented reflexive deliberations. These social-ecological foci included, but were not limited to:

- The vulnerability and documented decline of marine, freshwater and terrestrial ecosystems;
- Climate change and its anticipated radical ecological, socio-economic and political consequences;
- Urban pollution (land, water, air);
- Urban expansion, with associated challenges such provision of municipal services (housing, water, sanitation, waste management; electricity);
- Diminishing water resources and water quality;
- Food security and agricultural production.

As made evident in Chapters Six and Seven, Paul, Faaiz and Nkanyiso's levels of awareness and understanding of these social-ecological challenges and their respective ethical dimensions were substantially increased through workplace and course-based learning processes. All acknowledged that once they had this social-ecological knowledge, they were morally obliged (especially as environmental educators) to respond to them. For Faaiz, this response had a strong action component, that is, motivating and equipping people (including himself) to implement direct, practical changes in their daily lives; for Nkanyiso, the

responsibility was to ensure that others also had access to that knowledge so that they might choose socioculturally appropriate responses.

The learner-practitioners' past experiences of social-ecological contexts and challenges seemed as influential as their newly-acquired knowledge. Paul and Faaiz have positive childhood recollections of nature-based experiences with family and friends and these memories underpin their concern for ensuring that their children can enjoy similar experiences. Nkanyiso experienced an even stronger connection to the natural environment through his boyhood cattle-herding experiences but it was only later that these came to the fore in his ethics-oriented reflexive deliberations when he acknowledged that he now missed the undulating hills, dolomite rocks and open spaces of rural Impendle.

Faaiz in particular was very conscious of what he did *not* know or *not* do in relation to his social-ecological context in his previous jobs with Globe Engineering and the Athlone Power Station. Although he recognises that he cannot be held morally accountable for things he did not know about or understand, and that his personal life circumstances were also very different in those days, these past 'environmental regrets' seem to motivate his current ethical commitments quite directly, as if he is somehow trying to make up for them or save others from the same shortcomings.

8.4.3 The Sociocultural Stratum

Numerous and diverse elements of the sociocultural stratum interacted to make each learner-practitioner's ethics-oriented reflexive deliberations what they were. These include: their access to mediating tools (such as language and [social-ecological and philosophical] concepts); cultural norms and traditions; family commitments; religious perspectives and commitments; and professional identity. Each of these elements has been discussed already in this chapter in relation to structural conditioning and sociocultural elaboration, or will be further discussed in the study's findings presented in Section 8.5, so I present only a brief, holistic reflection here.

As revealed through the legacy of Vygotskian work on mediation, language and other semiotic phenomena (such as art works, counting systems, maps and signs) are the tools through which meaning is made and actions are made possible. It may seem obvious to claim that Paul, Faaiz and Nkanyiso were able to deliberate the ethical dimensions of their work only because they had access to the tool of language. This truism becomes more useful,

however, in the light of two main mediational challenges experienced during the EETDP Course regarding the teaching of the ethics component of the course: (i) many students' difficulties (Nkanyiso being one of them) in accessing the often-complex English texts in the course handbooks; and (ii) many students' difficulties (including Paul, Faaiz and Nkanyiso) in accessing philosophical terminology and arguments about environmental values and ethics (see Section 7.8.2). Point (ii) is exacerbated when students are disadvantaged by Point (i); in other words, access to the language of instruction (in this case, English) is a *direct route* to accessing the conceptual capital needed to enhance ethics-oriented reflexive deliberation. (This point is elaborated in Finding 5.)

As has become evident in the discussions so far (for example Section 8.3.3), Paul's, Faaiz's and Nkanyiso's ethics-oriented reflexive deliberations 'are what they are' because of their immediate sociocultural contexts. Here, I refer to context as spanning past, current and future because all three seem influential. The learner-practitioners' past experiences (such as childhood interactions with nature; previous employment; places visited); the cultural norms and traditions into which they were inducted (such as ways of interacting with animals; ways of handling waste in the home; food preferences); and the ways in which these things were devalued, revered, abandoned or modified in relation to their colonial (and now post-colonial) experiences, all form a rich, complex and influential backdrop to their ongoing ethics-oriented reflexive deliberations.

Religious orientations and the moral imperatives they generate in daily life are similarly influential. As discussed in Section 8.3.3, both Paul's and Faaiz's faith and pastoral responsibilities add impetus to their ethical engagement with environmental concerns. In Faaiz's case in particular, environmental ethics have become incorporated within his wider reflexivity as a Muslim rather than seen as a separate area of concern.

The three learner-practitioner's immersion in the field of environmental education and all that this entails (such as intensified access to environmental information; exposure to new environmental discourses and practices; peer influences; and the opening up of career trajectories) has inevitably resulted in the development of their professional identities. It seems that environmental ethics-oriented reflexive deliberations are strongly influenced by their emerging personal identities as environmentalists and as educators.

The elements identified here that contribute to Paul's, Faaiz's and Nkanyiso's ethics-oriented reflexive deliberations being what they are, influence one another too, resulting in a complex, indeterminate web or social relations, artefacts and actions.

8.5 DISCUSSION OF KEY FINDINGS

So far in this chapter, I have presented data-based discussions to show that the ethics-oriented reflexive deliberations of the three novice environmental educators: (i) occur across time and space at the untidy intersection of workplace, course-based and personal sociocultural contexts; (ii) are multi-facetted and (iii) are causally linked to social-ecological concerns, projects and practices. Against the backdrop of these insights, I now answer the study's research question, 'How do ethics-oriented reflexive deliberations occur at the intersection of interacting activity systems in course-supported workplaces?' by presenting the following findings.

8.5.1 Finding 1

Novice environmental educators' ethics-oriented reflexive deliberations are historically-constituted and occur freely and non-systematically at the interface of workplace, course and the individual's sociocultural and social-ecological context.

This study has shown very clearly that ethics-oriented reflexive deliberations are underpinned by deeply contextual realities whose causality has developed over time, and often with very different origins. South Africa's colonial and apartheid legacy are examples of socio-political structures in the distant and recent past out of which contemporary social-ecological challenges, political responses, institutional discourses, particular forms of environmental practices, and patterns of people-nature interactions have emerged. All of these – and more – constitute the vast, complex and largely unknowable terrain of individuals' ethics-oriented reflexive deliberations.

This account of reflexive deliberation as one dimension of learning at the interface of workplace and course, resonates with relational, sociocultural-historical perspectives on workplace learning. Fenwick (2001, p. 8) explains how workplace learning has in recent

years come to be understood as "relational processes of continuous invention and exploration". Knowledge in such workplace learning contexts is distributed "across lifetimes, social practices, social groupings and institutions" [Fenwick, 2001, p. 8, citing Gee, Hull & Lankshear, 1996]. Elsewhere, Fenwick (2010b, p. 104) refers to the "flows" among work activity, politics and knowledge, while Billett (2009) writes of adult learning experiences as "negotiations between the personal and the social".

This study found evidence that ethics-oriented reflexive deliberations do occur separately in personal, professional and course-based contexts, but are intensified and extended through their interactions. For example, Nkanyiso was required to deliberate environmental concerns through the EETDP Course assignments; secondly, as a young South African transitioning from the rural, Zulu lifestyle to a professional career in environmental education, he was also constantly engaging reflexively with socio-cultural tensions; and thirdly, in his workplace he was exposed to discourses and practices that also stimulated reflexive engagement. As rich as these are when reviewed in their individual spheres, the fullest, most nuanced and challenging picture of Nkanyiso's ethics-oriented reflexive deliberations emerges when the three spheres are considered *in relation to one another*.

Archer (2007) discredits what she calls 'social hydraulic' accounts of human action which maintain that objective structural or cultural properties constrain or enable subjective human agents. Rather, she argues that our human capacity for reflexivity makes our action in the world a *mediational* and not hydraulic process. Archer does, however, acknowledge that there are also structural and cultural factors over which agents have no control and which they must confront. In this study, these manifest as (amongst others) historically and politically imposed constraints such as limited educational opportunities for Faaiz and Paul as school-leavers in the 1970s and 80s respectively, and Nkanyiso's poor quality schooling in the 1990s. The social-ecological contexts of Cape Town, Mpophomeni township and the KwaZulu-Natal Midlands are also objective factors that Paul, Faaiz and Nkanyiso 'inherited' and must now confront. As evidenced in this study, such factors are powerfully influential and cannot be predetermined because they are acted upon/ responded to by subjective, reflexive people: "… the very causal efficacy of 'objective factors' is held to depend upon their reflexive mediation" (Archer, 2007, p. 89).

As shown in this study (and elaborated in Finding 6), this reflexive mediation process is determined by each reflexive agent's 'ultimate concerns' (Archer, 2003) and once this self-

consciousness has emerged "we each *engage in active interplay with all orders of reality*, including the social" (Archer, 2007, p. 90, my emphasis). Maccarini and Prandini (2010, p. 90) describe this world of concern as multi-dimensional, ranging from the things that worry us, to the things we strive to accomplish because they are important to us. They add: "Since they simultaneously participate in all three orders of natural reality [natural, practical and social], human individuals must accomplish a relatively successful *dovetailing of their concerns and commitments* in each of them, working out a modus vivendi that comes to represent the bulk of their identity" (my emphasis).

Building on the previous example, we then come to see that Paul, Faaiz and Nkanyiso had to reflexively choose how to respond ethically within their new roles as environmental educators *in relation to* their past education and training experiences, *in relation to* their previous workplace experiences, *in relation to* the social-ecological concerns in their professional and domestic spheres, and so on. The causal powers of these heterogeneous social forms are thus seen to be mediated *through* human agency. Archer (2007, p. 15) alludes to the unsystematic and indeterminate nature of these ethics-oriented reflexive deliberations at the messy intersection of work, course and immediate sociocultural contexts when she writes:

> Our internal conversations perform this mediatory role by virtue of the fact that they are the way in which we deliberate about ourselves in relation to the social situations that we confront, certainly fallibly, always incompletely and necessarily under our own descriptions, because that is the only way we can know or decide anything.

8.5.2 Finding 2

Ethics-oriented reflexive deliberations are strongly influenced by the ways in which environmental values and ethics are mediated in the workplace and course, and this mediation is shaped by contradictions and resonances within and between activity systems.

As noted in Section 2.6.4, contradictions are recognised as the main drivers of learning and change within and across activity systems because actors respond to disturbances which originate in systemic contradictions. Contradictions always have structural origins but they can manifest as tensions, disruptions, problems and breakdowns in activity systems (Engeström, 2001; Virkkunen & Kuutti, 2000). Through its use of CHAT-based analysis, this

study has identified numerous tensions and disruptions at the interface of course and workplace activity systems and endeavoured to 'trace them back' to structural contradictions. I now review these and consider their implications for ethics-oriented reflexive deliberations. In the second part of the discussion, I show that resonances can be as influential as contradictions in this regard.

Environmental values and ethics were mediated in diverse ways, ranging from tacit to explicit, in numerous sites across the three case studies. Section 5.3 described some of the contradictions that became evident in relation to the activity system of the EETDP Course and I will not repeat those here, except to note that the tensions and disruptions associated with the activity system of the Course could be traced variously to their structural origins in contradictions between the rules of the South African Qualifications Authority unit standards-generating activity system, the object, mediating tools and community of the WESSA/ SustainEd activity system, and the various EETDP workplaces described in this study. In many instances, the pedagogical and assessment practices of the EETDP Course hindered rather than enhanced ethics-oriented reflexive deliberations.

One example of this was the way in which the cluster of environmental values and ethics-based unit standards of the National Certificate in EETDP was interpreted by the WESSA-SustainEd community (including the extended team of curriculum developers and materials developers), subsequently advised upon and quality-assured by SAQA officials, mediated by course tutors, and assessed by tutors and formal assessors. While this interpretation process (or recontextualising process, in Bernsteinian terms) is inevitable in any curriculum process, it has proven to be especially stark in the case of ethics-oriented learning.

Daniels (2010) cites recent personal communications with Virkkunen (2008) who was working to understand the relationship between actions and operations, as proposed by Leont'ev (1981). He notes: "… if an operation is acquired unconsciously (as in mother tongue speech) [and internally, such as ethical deliberations] then it is often hard to transform it into an action in which it is open to conscious reflection and manipulation (as with the use of grammar) [or in formal assessment tasks]" (Daniels, 2010, p. 107). If this insight is applied to ethics-oriented reflexive deliberations, it allows me to recognise that ethical deliberations, as tacit, internal conversations (Archer, 2003; 2007), are not easily transformed (or at least translated) into the explicit, external conversations required by course assessment processes. A contradiction occurs between the *mediating tools* of the EETDP Course's activity system

(such as pedagogy and assessment strategies ad tools) and the *subject* (such as Paul, Faaiz and Nkanyiso) of a more abstract activity system whose object is the deepening of ethics-oriented reflexive deliberations in relation to social-ecological concerns. The internalised, tacit nature of the latter's ethics-oriented reflexive deliberations is in tension with the explicit, formalised unit standards-based mediation processes of the former.

Where the discussion so far corresponds with both Engeström's (1987) account of systemic tensions and contradictions as drivers of change in activity systems, and Wals' (2007) proposal that dissonance, deframing and reframing are vital elements of change-oriented social learning processes, this study has also drawn attention to the significance of *resonance*. Case study data has shown that Paul, Faaiz and Nkanyiso 'take up' ethical engagement more strongly (and certainly more consciously) when it resonates with religious priorities (in Paul's and Faaiz's cases), with overarching political transformation and social justice commitments (in all three cases), with cultural orientations (in Nkanyiso's case) and family values (in Paul's and Faaiz's cases especially).

It seems that resonance and dissonance are *both* needed but that the timing of their inter-relationship is crucial. From this study, it seems that ethical deliberation triggered by resonance precedes that triggered by dissonance, but that once the ethical concern has been identified and articulated (see Section 8.3), subsequent reflexive engagement is stimulated by dissonance. For example, as presented in Sections 5.3; 6.2; 6.5 and 6.7.7.3, the EETDP Course and the CCT workplace presented a wide range of environmental and ethical perspectives, many of which Faaiz bypassed, and others which profoundly moved or challenged him. Valsiner (1998, cited in Billet, 2004, p. 5) suggests that this selectiveness is typical as "… most of human development takes place through ignoring and neutralisation of most social suggestions to which the person is subjected in everyday life".

The things that moved or challenged Faaiz were not always the same as those that moved or challenged Paul, despite them having the same course experience and working within the same organisation. Although I would need more data to advance such a claim, my proposition based on these three cases is that one determining factor is the *extent of the resonance* of the diverse environmental and ethical perspectives with Faaiz's 'ultimate concerns' and with professional priorities. Those things which did not resonate *from the outset*, seldom featured in Faaiz's subsequent ethics-oriented deliberations. However, for those aspects where resonance did occur, reflexive deliberation seemed heightened by dissonance. Once Faaiz had

ascertained that responsible or sustainable environmental practices resonated with the teachings of Islam, and/ or that they were things that his immediate family could do and benefit from doing, he engaged much more reflexively with the subject. He started recycling cardboard, glass and paper at home, installed a water-saving showerhead in the bathroom, and defended his decision to have a compost heap in the back garden despite his wife's protestations (an instance of dissonance). The momentum gained from these ethics-oriented narratives and actions in his home's activity system were perceived by Faaiz as being in tension with the mediating tools of his workplace activity system which he felt could be rhetorical and superficial. This in turn deepened his deliberations around his personal practice as an environmental educator and strengthened his resolve to 'make a difference' and lead by example. It seems unlikely that this level of reflexive engagement and commitment stimulated by dissonance would have been achieved prior to the initial resonance.

Based on the insights from the three cases, it seems, therefore, that resonance between a learner-practitioner's 'ultimate concerns' and new social-ecological knowledge is a prerequisite to subsequent ethics-oriented reflexive deliberations. This proposition calls for adult educators to think more carefully about (i) the balance achieved between resonance and dissonance when supported ethics-oriented learning, and (ii) the ways in which course and workplace-based learning processes might be able to widen the scope for potential resonance so that the ground for subsequent reflexivity is opened up.

8.5.3 Finding 3

Institutional ethical and environmental discourses are historically-emergent, mobile, and hence strongly influential in workplace and course-based environmental ethics-oriented learning processes.

Sayer (2000) notes that although discourses are the outcomes of activated causal mechanisms, they themselves have the potential to produce causal effects. Workplace discourses frame professional life in particular ways, naming some things while ignoring others, reifying some things while deriding others, endorsing certain practices while shunning others (Fenwick, 2001). While such a view of discourses might suggest that they are pervasive and deterministic, a social realist perspective would add that, although discourses are undeniably influential, agency ultimately resides with individuals. It has been interesting, therefore, to consider the extent and ways in which Paul, Faaiz and Nkanyiso have engaged with the environmental and ethical discourses of the EETDP Course and their workplaces.

There was little evidence across the case studies of the three learner-practitioners 'acting back upon' their organisations' environmental and ethical discourses. This resulted in a kind of morphostasis of the institutional discursive structures (at least as they related to environmental values and ethics). Given the particularities of the three cases, morphostasis may be due to the novice status of the three environmental educators, their lack of readiness to challenge or transform things which they themselves are still trying to navigate, and/or the power relations within the workplaces and the EETDP Course.

There is substantial evidence, too, that the learner-practitioners found the environmental and ethical discourses of their workplace and course to be unproblematic and hence not in need of change. The professional discourses and practices of the CCT, Mondi Wetlands Programme and MMAEP workplaces all focused on the transformation of social injustices and/ or the empowerment of people to secure social-ecological sustainability in their immediate contexts. Such discourses and practices reflect the country's social justice, transformation, empowerment and sustainable development trajectory and align directly with the Constitution and national environmental legislation. Collectively, these produce a powerful moral imperative that has explicitly come to frame environmental education, training and development practices in post-apartheid South Africa, and with which this study has shown Paul, Faaiz and Nkanyiso (as previously marginalised black and coloured South Africans) to be deeply committed.

This does not mean that the three novice environmental educators are uncritical servants of their organisations' discourses: all three have at some point expressed frustration or criticism (to varying degrees) about environmental practices in their workplaces. For example, Faaiz felt that the CCT's Smart Living Programme presented a limited set of alternative practices to Cape Town citizens that corresponded with the City's agenda of municipal service delivery, but they did not encourage people to think *outside* of that frame such as by promoting off-grid lifestyles independent of local government services. Both Paul and Faaiz expressed concern over what they perceived to be performative contradictions within the CCT staff regarding individuals' commitment to the sustainability practices that they tell *others* to adopt. And Nkanyiso was conscious of mismatches between the strong environmental message of his MMAEP workplace and the rural Zulu children with whom they worked. But such forms of critique actually reflect the novice environmental educators' *commitment to* the overarching institutional post-apartheid agenda (and hence its discourses) rather than their intention to disrupt them. Following on from the preceding examples, Paul and Faaiz were

concerned with making sure that the institutional discourse of sustainable development is one of lived practice, not political rhetoric; and Nkanyiso was willing to mediate the tensions within his local cultural context because he genuinely cares about social-ecological sustainability in the KwaZulu-Natal Midlands and hence strives to advance the Mondi Wetlands Programme's and MMAEP's agenda towards that end. It seems, then, that in these case studies, the environmental ethics discourses of the organisations *added impetus to,* rather than challenged, the environmental ethics concerns of the three environmental educators.

Despite the clarity and consistency of each learner-practitioner's account of their ethical struggles, all three favoured the institutional discourses over their more personal accounts of the same ethical concerns when articulating them for assessment purposes in the EETDP Course. Where my interviews and other informal interactions at work with Paul, Faaiz and Nkanyiso opened up highly contextualised examples of ethical engagement substantiated in terms of religious or other socio-cultural personal commitments, their written responses to the EETDP Course's assessment tasks were generally more formal, impersonal and neutral, framed by institutional and field-specific discourses such as sustainable development and ecological protection.

Section 5.3 traced the mobility and power of environmental and ethical discourses *across* institutions too – in particular educational institutions – and the extent to which this shaped the way in which the environmental values and ethics component of the EETDP Course was conceptualised and mediated. For example, the 2009/ 10 iteration of the Course was tutored by Preven who was, at the time (2009 - 2010), studying for a Masters Degree in Environmental Education at Rhodes University, and hence influenced by the way in which environmental values and ethics had been mediated in that post-graduate programme; the curriculum development process had been led by Jonathan who, at that time (2004 – 2005), was also studying the same Masters course at Rhodes University; and that I, as a graduate of that same programme (2002 -2003) had been involved in the early stages of the EETDP Course's curriculum development and had even drafted the first few pages of text towards the environmental ethics section of Module One's handbook. The environmental values and ethics discourses in the Masters programme at Rhodes University were traced via the revisions made in 2002 by Professor Lotz-Sisitka, to the initial work of Professor Janse van Rensberg who had introduced the environmental ethics component into the Masters programme following interactions with Professor Hattingh of Stellenbosch University's Philosophy Department and Anthony Weston and Bob Jickling, both environmental ethicists

and educators from North America (with Professor Lotz-Sisitka later supervising and Professor Jickling co-supervising this current study). Rhodes University also offered a short course in environmental education which, although it did not address environmental ethics directly in its mediating tools, nonetheless advanced or silenced certain environmental and ethical discourses. Several course tutors and assessors in the 2009/ 10 iteration of the EETDP Course had completed this short course through Rhodes University as their most substantial orientation to environmental education theory and practice. Furthermore, several members of South African Qualifications Authority's EETDP Standards Generating Body that produced the unit standards of the EETDP qualification had completed the same short course or were otherwise affiliated to Rhodes University's environmental education unit.

The other occurrence of the mobility of institutional environmental and ethical discourses was in the participatory curriculum development process in 2004 and 2005. The multiple stakeholders involved in the initial needs analysis, and the subsequent materials development team, represented government departments (such as the Department of Environmental Affairs and Tourism), non-governmental groups and activist groups (such as WESSA, the Environmental Justice Networking Forum and Earthlife Africa) and Rhodes University as the only higher education institution. During the curriculum development process, the (mostly implicit) environmental and ethical discourses of these numerous contributors intermingled and became integrated in the course-specific environmental and ethical discourses which, as described in Section 5.4 were largely eclectic and relativistic, but inclined strongly towards a social justice and sustainable development agenda.

This discussion has noted the high levels of correspondence between organisational environmental and ethical discourses and the ethical stances of the three learner-practitioners and how this has added impetus to their ethics-oriented reflexive deliberations. It has noted with interest the tendency of the learner-practitioners to frame their ethics-oriented discussions within these organisational discourses rather than to foreground their personal ethical stances in course-based assessment tasks. And finally, this discussion has also drawn attention to the mobility and power of the environmental and ethical discourses produced and mediated by educational institutions, and the way in which such discourses are carried over time and across institutions to influence course-based environmental ethics-oriented learning processes.

8.5.4 Finding 4

There appears to be a direct relationship between the scope and depth of learner-practitioners' social-ecological knowledge and the extent of their ethics-oriented reflexive deliberations.

Reflexivity is characterised by "the self-referential characteristic of 'bending-back' some thought upon the self, such that it takes the form of *subject-object-subject*" (Archer, 2010b, p. 2). Adding an ethical perspective, Sayer (2011, p. 2) adds: "… we are beings whose relation in the world is one of concern", beings whose everyday lives are filled with questions about how to act, and what to do for the best. Considered together, an understanding emerges of ethics-oriented reflexive deliberation as the bending-back of the subject upon himself *in relation to* the objects of his life's concerns, so as to do what is right. This study has shown that Paul's, Faaiz's and Nkanyiso's life concerns (most especially family, religion, culture, and justice) have been the *starting points* of their widening spheres of social-ecological concern and environment-oriented ethical deliberations, but that extended environmental knowledge has been key to *extending* these spheres of concern. Reeves (2010, p. 158) anticipates such a finding with her proposal that:

> knowledge is a practical accomplishment, a quality manifest in activity … [that may] allow an actor who displays such knowledge to adopt a particular course of action. Whatever form it takes, knowledge in action is conceived as the basis for agency. It is performed. It is a capacity to do things in the world.

Section 8.3.1 has already discussed how increased access to environmental information and awareness seems to have boosted all three learner-practitioners' confidence and motivation as environmental educators and stimulated an ethical response to their work, albeit sometimes tacitly. It is interesting to reflect on the sources of this environmental information: the three learner-practitioners refer variously to organisational reports and publications, interactions with more knowledgeable colleagues, archived collections of environmental information (in the YES Programme), the Internet, printed media in the public domain, and audio-visual media such as DVDs. These information sources are mostly authoritative, facts-based texts and I found little evidence in the workplaces that their 'facticity'[39] (Mukerji, 1998, p. 259) was interrogated and mediated in any depth.

[39] Mukerji (1998, p. 259) reports how sociological studies of knowledge-construction in science laboratories revealed how scientists collaborated to transform everyday laboratory practices into 'knowledge' and hence saw

Interestingly, the EETDP Course was not cited as a significant source of environmental knowledge by the three learner-practitioners. I was not able to probe this in depth but propose that it may be due to the more generalised environmental content of the Course which did not resonate directly with the learner-practitioners' immediate professional context or practices. In some instances, it may also be traceable to the pace at which sessions were taught, due to the overloaded curriculum, allowing little time for careful, contextualising discussions about environmental content. It should also be noted, however, that the purpose of the EETDP Course was to prepare novice environmental educators for their professional practice, not to disseminate environmental knowledge per se. Where environmental knowledge was presented, it was mostly with the intention of clarifying conceptual understanding (such as environmental justice debates, active learning approaches to environmental education, and so on). In other words, specific environmental content was often a 'vehicle' to teach more education-oriented content.

A critical realist vantage point draws attention to the importance of ontological depth and the risks of judgemental relativism in the absence of depth knowledge (Bhaskar, 1979) and demonstrates how (environmental) education and training becomes an ethical project. Without depth knowledge, we are unable to move beyond our (often numerous and diverse) social constructions of reality towards less relativist accounts. Sayer's (2000; 2010) discussions about the 'practical adequacy' of truth reflects a critical realist understanding of the fallibility of knowledge but a recognition that it is possible to move towards ever-fuller accounts of the phenomenon under consideration.

The EETDP Course, especially the 2009/ 2010 iteration, foregrounded the participatory, democratic project to the extent that each learner-practitioner had an opportunity to formulate his/her ethical response to various case studies or propositions. However, in-depth knowledge of the phenomenon under consideration was seldom, if ever, achieved. This is due, variously, to time constraints, lack of tutors' knowledge and experience, pedagogical norms in the course, learner-practitioners' poor educational background and limited experience regarding critical engagement with social-ecological concerns, and so on. Each case study hence came to be relativistically discussed, with various perspectives being 'noted' and 'respected'.

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their research results as "deeply social constructs", making only some knowledge 'authoritative'. This is contrary to the assumed 'facticity' of many scientific research findings in the public domain in which the factual basis is taken for granted.

A particularly stark illustration of this was the Titanium Mining Activity described in Section 7.2.4.2 in which learner-practitioners were asked to position themselves ethically and decide whether mining should proceed along the Wild Coast of the Eastern Cape or not. However, only one learner in the class of approximately 50 knew what titanium was, and nobody new how titanium is extracted and processed, or what the environmental impacts and risks associated with such processes are. There was no time in the session to present such information and so the activity moved directly into the ethical deliberations with no substantial knowledge base. The session was highly interactive and challenging for the learner-practitioners, achieving its goal of stimulating independent, critical thinking and dialogue. Inevitably, however, the interactions were superficial and relativistic, with each group presenting an argument in defence of their chosen position, tutors cross-questioning those arguments, and ending the activity with a class vote to determine whether the titanium mining should proceed or not. The class voted in favour of the mining due to its potential for job creation and general economic upliftment and, as the group dispersed for tea, the tutors quietly lamented that outcome amongst themselves. In the absence of depth knowledge, the deliberations could not move beyond a social constructivist acceptance of the group's diverse perspectives, a position which was complemented by the Course's particular uptake of participatory, dialogic methodology.

8.5.6 Finding 5

Relativist responses dominate the ways in which the environmental ethics component of the EETDP course are mediated; these seem to be the consequence of limited knowledge and lack of systematic analysis rather than a consciously held ethical position.

Although it is not stated anywhere in the EETDP Course materials, and was not named as such by the course developers and tutors, the Course assumes an environmental pragmatist position. What I want to discuss here is the extent to which this pragmatist position slips into what appears to be a relativist position and creates, I argue, much of the uncertainty and reticence regarding ethics that was evident in the mediating processes of the Course. Towards understanding the underlying causes of this slippage, it is necessary to consider the socio-political and historical context of South Africa as well as the origins of the SAQA unit standards that prescribe the general trajectory of the ethics component of the Course.

The triumph of democracy after centuries of first Dutch, then British colonialism, followed by almost four decades of Apartheid rule, has entrenched principles of tolerance, respect and equity in the lives of most (but sadly not all) South Africans. These principles constitute the 'moral project of the day' in South Africa and are formalised through the national constitution, in particular its Bill of Rights. The three case studies indicate that ethics-oriented reflexive deliberations are in many ways a natural extension of these deeply held commitments to social justice and equity. Ideologically, this is understandable; philosophically, it raises some complex challenges to be discussed in this section.

More specifically, as described in Section 5.4.1, the main ethics-oriented unit standard in the EETDP Course was developed by Professor Hattingh of Stellenbosch University's Philosophy Department. Hattingh, an environmental pragmatist, (see Hattingh, 1999), was tasked by the EETDP standards-generating body in the late 1990s to develop the unit standard (US 13649 –see Section 5.3) and the influence of this pragmatist position is evident in the specific outcomes and assessment criteria.

Further to that, Hattingh had been invited as a guest lecturer to teach the environmental ethics section on the newly-established Masters programme in environmental education at Rhodes University around the same time. Professor Janse van Rensburg, who co-ordinated the programme, had similarly invited Bob Jickling and Anthony Weston (the latter being well known in the field of environmental philosophy for his pragmatist stance) to visit South Africa and make contributions to the Masters programme. (The influence of this Masters programme in environmental education through the number of course developers and tutors who had passed through it, was discussed in Section 5.3.4)

The coherence of the initial pragmatist positioning via the unit standards and endorsed by the community that would be its users, appears to have become lost, or at least misunderstood, within the current activity system of the Course. For example, when I was interviewing a tutor about the ethical dimension of the course, he dismissed the environmental pragmatist approach endorsed by Hattingh in his 1999 paper (which was a reading in the Masters programme), stating: "Hattingh again loses ground there in saying that anything goes" [Int.02-02]. This suggests that he misinterprets Hattingh's pragmatist point that the diversity in the "strange and wild ideas of environmental ethics" need to be considered within a historical framework and engaged with as partners "in a wider and ongoing, creative and prospective human endeavour" (Hattingh, 1999, p. 80). Hattingh's argument for an open-

ended, historically-framed and deliberative approach to environmental ethics has here been erroneously misunderstood as a relativist review of multiple perspectives on environmental ethics that environmental educators can 'choose' from, according to their particular contexts and/ or agendas.

The Course's mediating tools (including the printed handbooks and the spontaneous course interactions) favoured a representation of environmental ethics as a complex and contested field (in which nobody knows or can know what is right), as dependent on individuals' values clarification that would always, however, be heavily influenced by one's society and culture. If I could summarise the Course's general response to environmental ethics in a colloquial statement, it would be: 'There are so many diverse perspectives to choose from and it's not for the course to say which it is right and wrong because that would be an imposition; so it's up to you to decide what's ethical'.

In a learning situation where much time is allocated to the kinds of in-depth reading, thinking and listening required to make such decisions, and where learner-practitioners are supported with adequate conceptual capital, this may be a tenable situation. However, in the case of the EETDP Course, where little time was available for the explicit and in-depth teaching of ethics, and conceptual capital to support for ethical engagement provided by the course was limited (especially in the 2009/ 2010 version), most efforts resulted in hasty, superficial and often self-referential propositions.

Additionally, the structure of the learnership requires that 70% of the learning takes place in the workplace, but as shown in Case Study One with the City of Cape Town's Environmental Resource Management Department and in the Mondi Wetlands programme of Case Study Two, the environmental ethics dimensions of professional practice are mostly tacit and under-examined, and workplace mentors were seldom available or otherwise equipped to provide the necessary levels of mediation.

Consequently, the potential of the course's (implicit) pragmatist position was unrealised and, in the absence of coherent, depth understandings of different environmental ethics responses and their possible contributions to environmental learning processes, the tutors and learner-practitioners alike tended to respond in relativist ways to ethical questions. In fairness, perhaps this cannot be regarded as ethical relativism per se because that implies a conscious positioning whereas the data suggests that people feel uncertain about (even overwhelmed

by) the complexity of environmental philosophical language, lack sufficient knowledge, and are not sure how best to proceed – a situation exacerbated by the pressures of course assessment against prescribed assessment criteria – and so they retreat into what appears to be relativist position.

Leigh Price's (2007) doctoral research into the mismatch between rhetoric and action in an environmental education course in the business and industry sector of Zimbabwe produced similar insights. She criticises the 'just do it' attitude of postmodern-inspired educators who, she claims, are unable to confront the impossibility of logical consistency in their theory and practice because of their postmodernist position. From such a position:

> … practitioners are able to call on a variety of pragmatisms to justify their particular agendas at any given time. For example, they have access to the idea that truth is 'what the majority of people say it is', truth is 'what is best for society', 'truth is what the marginalized people say it is', 'truth is what is beautiful', or 'truth is an empirically validated reality' depending on which of the answers to these questions best suit their agenda. Environmental educators developing curriculum based on the Nike approach will perhaps use statistics to indicate the widespread extent of a pollution problem and identify industrialists as the cause of the pollution (positivism). They might then suggest that the way to deal with the problem is through a participatory process of community involvement (truth about the best way forward is based on what people say it is). All will be well until the community begin to suggest a way forward contrary to that preferred by the educators, in which case they might surreptitiously steer the process in the 'right' direction. If they are aware they are doing this at all, they might justify their actions in terms of 'what is best for society' and refer to Foucault whose work can be interpreted as the cynical claim that knowledge is all about power anyway, so one might as well just do one's best to get one's own agenda on the table before someone else. (Price, 2007, pp. 37 - 38)

Price (2007, p. ii) describes how, in her Zimbabwean case study, "causally efficacious philosophical mistakes, relating to theories of structure/agency and theories of epistemology" functioned to "buttress ideology and its attendant contradictions which in turn function to provide the preconditions that maintain inequalities and poor environmental practice in business and industry".

I would be reluctant, in this study, to suggest, as Price (2007) does, that these postmodernist positions and relativist slippages are positions consciously taken up by course developers, tutors, workplace mentors and the like. Rather, my case study data indicates that such positions are mobile historical inheritances (see Finding 3) which – although they may have been clearly understood and explicitly held positions in their originating stages (such as when

the EETDP Standards Generating Body commissioned Professor Hattingh to frame the environmental ethics unit standards in the late 1990s) – they now occur in the current activity systems as *fragments of historical artefacts*, somewhat detached from their historical depth and intent, and certainly less profoundly understood. As such, I use the terms 'pragmatism' and 'relativism' very guardedly in this discussion but note that this is an area that warrants more careful analysis and collaborative engagement within the environmental education and training sector, and I propose that a critical realist approach may be generative in this regard.

8.5.5 Finding 6

Learner-practitioners' ethical deliberations in relation to their work are enhanced when the workplace mediates its ethical dimensions explicitly and regularly. Conversely, ethical deliberations are reduced in workplaces where such conversations are limited.

> "Our minds are formed by the ways of thinking and concepts in use that are available to us in our social worlds." (Edwards, 2007, p. 3)

Nkanyiso's case study is interesting for the fact that his time was divided between two environmental education workplaces and that the depth and situatedness of his ethical deliberations were substantially higher in the workplace where environmental values and ethics were explicitly and regularly discussed. In the Mondi Wetlands Programme where environmental values and ethics in relation to wetlands were seldom explicitly discussed, Nkanyiso struggled to articulate his ethical stance in interviews with me. His discussion was tentative and often abstracted. By contrast, in the MMAEP where environmental values and ethics were explicitly and regularly articulated as the foundation of the project's educational practices, Nkanyiso was able, not only to explain his ethical stance on matters such as vegetarianism, organic farming and animal welfare, but to adopt a meta-reflexive stance in some cases, that is, reflecting on his own ethical practices and acknowledging that the situation under review is complex and he remains unsure how to proceed ethically.

In terms of workplace learning, Fenwick (2001, p. 9) states that "important learning" is less about acquiring skills desired by the organisation, but more as "… coming to critical awareness about one's workplace contexts, as well as one's own contradictory investments and implications in what knowledge counts". To this end, she suggests that educators: "… make explicit the cultural dimensions and assumptions about difference in the workplace to help workers recognise their cultural identities and to challenge workplace management of

those identities". Here, to Fenwick's proposition, I would add coming to critical awareness of *institutional and personal values and ethics*.

As noted above in Finding 4, knowledge is closely linked to human agency and capacity to do things in the world (Reeves, 2010). In the absence of face-to-face mediation, most mediation of environmental knowledge in the workplace occurs indirectly through the form and content of the actual text. Professional knowledge is commonly contained in the mediating tools of workplace and course activity systems and must thus be recognised as "sociohistorically evolved descriptions and explanations of events" (Wertsch, 1997, p. 228). Daniels (2010, p. 106) notes that "… institutional structures themselves are cultural products that serve as mediators in their own right… . When we talk in institutions, history enters the flow of communication through the invisible or implicit mediation of institutional structures". The organisational and course texts, such as those analysed in this study, are carriers of the values and ethics inherent in the organisation, or at least of their authors who write on behalf of the organisation.

This study has shown that many of the learner-practitioners' knowledge-sources (across workplace and course) contained discourses that advanced particular environmental values and ethical stances. Data also showed that interactions with colleagues were a significant source of knowledge, but that such knowledge was almost always ethically framed. The CCT workplace, for example, took up its strong concern for people-environment interactions via a sustainable development, environmental management and service delivery trajectory which was evident across written texts, professional interactions such as staff meetings, and in their professional practices. Many of Paul and Faaiz's accounts of their own environmental ethics concerns were influenced by these discourses, suggesting that the environmental values and ethics positions in circulation in the CCT workplace have influenced Paul and Faaiz's ethics-oriented reflexive deliberations, just as those in MMAEP influenced Nkanyiso's.

8.5.6 Finding 7

Ethics-oriented reflexive deliberations are strongest when they are situated in authentic contexts and are natural extensions of ongoing conversations across multiple activity systems.

Archer (2003; 2007) explains that it is through reflexive deliberation *about our ultimate concerns* that we become who we are, and emerge as autonomous social agents. Archer (2003) claims that our reflexive deliberations have intrinsic and extrinsic causal powers, enabling us both to monitor and modify ourselves *and* to mediate and modify our society.

In line with Archerian social realism, activity theory understands context as the historically-constituted relation between people engaged in socioculturally constructed activity and the world they engage by doing so. "Meaning is not created through individual intentions; it is mutually constituted in relations between activity systems and persons acting, and has a relational character" (Lave, 1996, p. 18). Engeström (1996, p. 67) explains that, within activity theory: "… contexts are neither containers nor situationally created experiential spaces. Contexts are activity systems. An activity system integrates the subject, the object, and the instrument (material tools as well as signs and symbols) into a unified whole".

The value of contextual situatedness in enhancing ethics-oriented reflexive deliberations was evidenced across the three case studies. The depth of ethics-oriented reflexive deliberation during my numerous long and open-ended interviews with Paul, Faaiz and Nkanyiso far exceeded that of their written EETDP assignments. While the academic barrier of completing written tasks may be one influencing factor, it is evident from analysis of the *content* of their discussions and texts that reflexive deliberations were almost always stronger in relation to personal or immediate contextual concerns. During interviews, each learner-practitioner talked about environmental ethics in relation to his 'ultimate concerns' (Archer, 2003), in particular family, religion and culture. It would be untrue to claim that these concerns were totally excluded or silenced in the EETDP Course; there was, for example, an assessment task in Module One that specifically called for links to be made between ethics and personal lifestyle choices. Overall, however, (and possibly driven by the explicit workplace emphasis of the Learnership model) the three learner-practitioners mostly kept their 'ultimate concerns' out of course interactions and assessment tasks. In the latter, more conventional 'field-specific' discourses (such as 'sustainable development') were drawn upon.

This raises an interesting challenge for the field of EETDP regarding its uptake of context-based learning since the mid-1990s. In the light of the tendencies just described of learner-practitioners marginalising their own 'ultimate concerns' in favour of more abstracted accounts of ethical concerns during the course, and recognition that the course understanding of context appears to be primarily in terms of social-ecological context and workplace

context, questions are raised about how the scope and depth of ‘adult learning context’ is understood by course developers and tutors, especially in relation to the mediation of ethics-oriented learning. How might professional development courses in the environmental sector work more inclusively and effectively with diverse, immediate context and individual ‘ultimate concerns’ of learner-practitioners without reverting to overly individualising, introspective methodologies?

CHAPTER NINE

CONCLUSION, RECOMMENDATIONS AND CRITICAL REFLECTIONS

9.1 SOME CONCLUDING THOUGHTS

Working with Margaret Archer's view of reflexivity as the mental ability to consider ourselves in relation to our social contexts and vice versa, this study set out to investigate how ethics-oriented reflexive deliberation occurs in, and at the interface of, the interacting activity systems of course-supported EETDP workplaces.

In this study, I have developed an understanding of ethics-oriented reflexive deliberations as processes of learning and change, albeit internal. I have worked collectively with Archerian social realism (and critical realism with which it aligns), CHAT, and learning theories such as Wals' (2007) perspectives on social learning in environmental education contexts, as each contributes insights at different levels and from different perspectives, but towards the same research interest. Wals' (2007) work on the role of deframing, reframing and dissonance in environmental learning and change resonates with Engeström's (1999) account of structural contradictions within and across activity systems which can be catalysts of learning, development and change. These concepts and analytical tools are underlaboured by Archer's (1995) social realist morphogenetic theory which is concerned with the interplay of social and cultural structures and human agency towards social transformation (morphogenesis).

The cases presented in this study have provided an authentic and nuanced platform from which to think through and experiment with diverse propositions regarding ethical thought and action in the context of our current social-ecological crisis. Although I started working with critical realism with the interests of a social science researcher in mind, I have additionally started to see (or at least catch glimpse of) the profound implications of critical realism for this study's intersecting concerns for environmental ethics and workplace learning in the field of environmental education; something which I note in Section 9.4.1 when I discuss some prospects for further research.

The study, through in-depth analysis of three cases, has shown how ethics-oriented reflexive deliberations occur at the untidy, unpredictable intersection of workplace, course-based and personal contexts (Finding 1), and are strongest when they are situated in authentic contexts that resonate with learner-practitioners' 'ultimate concerns' (Finding 7). The study has also shown that the ethical positions circulating in those contexts are diverse, uneven and dynamic, influenced by discursive and practical tensions and contradictions in the interacting activity systems of workplace and course (Findings 2 and 3). Some ethical positions in these contexts are more explicit than others (Finding 6) but, in the EETDP Course especially, a form of ethical relativism (seemingly associated with poor understandings of pragmatism) predominates and has a limiting effect on ethics-oriented reflexive deliberations (Finding 5). The scope and depth of social-ecological knowledge was also identified as a key factor influencing such deliberations (Finding 4) but numerous challenges arise in the mediation of such knowledge (Finding 2).

In Section 2.4.2, I introduced Archer's (1995, p. 142) metaphor of society as being:

> … a garment handed down through the human family, showing the wear and tear accumulated on the way, the patching and over-patching, the letting out and taking in done for different purposes, the refurbishing done at different times, until the current garment now contains little of the original material.

I noted how Archer's metaphor not only highlights that the garment [society] is something *practical* being modified constantly through use, but that it can only be fully appreciated by understanding its users' needs and aspirations over time, that is, understanding *the need or motivation for* the 'patching and overpatching' or the reasons for the 'wear and tear' [causality]. I now borrow this metaphor to give a summative account of the nature of ethics-oriented reflexive deliberations as described in this study; the synergies are not surprising considering the socially-embedded nature of ethical deliberations (also as shown in this study). The ethical positions now held by Paul, Faaiz and Nkanyiso are not the same as they were in the past, but they are not entirely unrecognisable either. Like a garment handed down from generation to generation, and modified along the way to serve different purposes, the environmental values and ethics positions held by the three learner-practitioners has been 'patched' and 'refurbished' in response to the dynamic and interacting socially and historically-emergent contexts in which their deliberations occur.

9.2 RECOMMENDATIONS

This study has made evident the extent to which individuals' ethical reflexivity occurs in relation to their (socially and individually constituted)'ultimate concerns' (Archer, 2003) at the complex intersection of their workplace, course and personal contexts. This has many implications for course-based and workplace learning processes and, as this study highlights, for the learning processes that occur across and beyond course and workplace. Taking this as my starting point, I now make some recommendations that may be helpful for workplace mentors, and the developers, tutors and assessors of workplace-based professional development courses.

9.2.1 Recommendation 1: Re-personalise and contextualise ethical deliberation (but in non-individualising ways)

For environmental ethics, as a field of *applied* ethics, the challenge is to consider how the 'application' of ethical thought can go beyond the use of, for example, illustrative case studies, to also engage with the 'ultimate concerns' of learner-practitioners.

I am *not* suggesting that case studies (including field trips, readings, videos and so on) be rejected methodologically in professional development courses. They form a vital starting point for ethical deliberation. However, this study has shown how difficult it can be – especially within tight time frames – to make depth connections between the course's conceptual-philosophical capital and the contextual specificity of each case. Case studies are laden with contextual nuance which can seldom be described, let alone ethically mediated, within the (conventional) 60 to 120 minute sessions allocated within a course's programme. Learner-practitioners do indeed learn about and are challenged by the case studies, but their ability to reflect critically on them in terms of environmental values and ethics is generally weak. The challenge is for the 'raw material' of the course's case studies and the workplace's practices, and the more 'abstracted propositions' of the field of environmental ethics to be brought closer together. Working more closely with these things *in relation to* learner-practitioners' 'ultimate concerns' might provide a unifying element.

This study's data has led me to make this proposition, yet the data does not equip me to suggest *how* workplace and course-based learning processes can work more closely with learner-practitioners' 'ultimate concerns'. Furthermore, I am cautious in advocating such an approach due to the risk it poses of being falsely taken up as a call to individualise ethics, that

is, to promote a potentially relativistic, unreflexive approach of 'I think this; I feel that' or 'It's all about me and my world and you just have to accept that'. My proposition is closer in intention to Bauman's (1993) call to put morality back into ethics. Bauman, who highlighted the inadequacy and futility of externalised, static ethical codes within the fluid complexity of a postmodern world, calls for 'moral proximity' and a relational 'ethics of caress', an ethics characterised by its "gnawing sense of unfulfilledness, by its endemic dissatisfaction with itself" (Bauman, 1993, p. 80). By way of substantiating my proposition that environmental education courses need to seek ways of engaging more deeply with people's 'ultimate concerns', I share an extract from Bauman's (2003, pp. 34 – 35) seminal work, *Postmodern Ethics*:

> To let morality out of the stiff armour of the artificially constructed ethical codes (or abandoning the ambition to keep it there), means to *re-personalize* it. Human passions used to be considered too errant and fickle, and the task to make human cohabitation secure too serious, to entrust the fate of human co-existence to moral capacities of human persons. What we come to understand now is that that fate can be entrusted to little else; or, rather, that that fate may not be taken proper care of (that is, all the care offered or contemplated would prove unrealistic or, worse still, counter-productive) unless the fashion in which we go about caring takes cognizance of personal morality and its stubborn presence. What we are learning, and learning the hard way, is that it is the personal morality that makes ethical negotiation [deliberation] possible, not the other way round… Re-personalizing morality means returning moral responsibility from the finishing line (to which it was exiled) to the starting point (where it is at home) of the ethical process.

Bauman (1993) explains that personal morality was discredited and marginalised by the Modernist project which regarded structures and codes (but not individual relations of care), as the foundations of a flourishing human society. However, as those structures and codes have now fallen into redundancy, disuse or complete abandonment in postmodernity, the marginalised moral codes from previous generations, when called up for further service, have proven grossly inadequate in the light of our current powers in an industrialised, technologised, globalised world. The human moral impulse remains viewed with suspicion with philosophers and practitioners alike concluding that "selves cannot be left to their own resources, that they have no adequate resources to which they can be, conceivably, left" (Bauman, 1993, p. 63).

Commenting critically on the postmodern influence on ethics, according to Sayer (2011, p. 24), we find that: "In social science, it is common to regard values in emotivist or subjectivist terms, as not being anything, except perhaps the holder's emotional state of mind". Echoes of

this are found in South African environmental education's uneasy relationship with articulating the moral impulse in relation to the natural environment, and the security it currently finds (in my general experience) in the concreteness (and authentic urgency) of contextualised action-taking, away from the risk of moral imposition that has wrecked relations in many other spheres of South African life.

But now, from the vantage point of this study's findings, my unanticipated proposition is that we need to venture back out into that terrain of personal moral engagement, to make explicit our multi-dimensioned ethical struggles, and to engage whole-heartedly, courageously, honestly, respectfully and meticulously at the interface of our respective 'ultimate concerns', environmental values and ethical responses. This need not (must not) mean a return to previous ideologically-driven environmental education methodologies. I believe that through our lived socio-*political* moral and ethical struggles as South African citizens, learners and educators, we have acquired sufficient experience of Wals' (2007) 'de-framing and reframing' and of Stetsenko's (2008, p. 477) "… mutual co-construction, co-evolution, continuous dialogue, belonging, participation and the like" to similarly engage now with the ethical dimensions of our ever-deepening social-ecological struggles.

Does this mean a reduction of environmental ethics thought and action to contextualised complexity, individualism and relativism? Sayer (2011, p. 56) adopts a critical realist response to suggest that it does not. An approach that "integrates social influences [structures] and scope for reflexivity and responsibility [agency]" is, he argues, better and more "practically adequate" (Sayer, 2000) (see Section 3.3.6) than either the socially deterministic view or the wholly individualistic view. Values and the moral impulse (our 'ultimate concerns') are fundamental to our reflexivity as human agents, but they need to be *worked with* in conjunction with depth knowledge and explanatory accounts of social and cultural conditions.

This leads me, then, to the second recommendation: that curriculum developers, tutors and workplace mentors need to enable learner-practitioners to develop depth understandings of social-ecological concerns in order to deliberate them and respond in ways that are practically adequate.

9.2.2 Recommendation 2: Pursue depth knowledge as the foundation of ethical deliberation

This study has highlighted the significance, not only of *access* to knowledge, but also of how such knowledge is *mediated.* It has shown how, in the absence of depth knowledge, ethical deliberations at individual and collective levels are hindered by superficiality and unintended relativism or poorly constituted forms of pragmatism.

Here, I do not wish to make detailed recommendations regarding course pedagogy (such as advising on how to construct activities or develop course materials that facilitate better access to knowledge). Rather, my intention is to draw attention to the broad areas of workplace and course-based learning where knowledge is mediated so that educators can (in their own contexts) consider what the practical methodological implications might be.

Paul, Faaiz and Nkanyiso's case studies indicated that the workplace is the primary site of knowledge access and mediation, and that ethical deliberations are substantially deepened when this knowledge (and its ethical underpinnings) are engaged with directly, collectively, critically and regularly. I therefore recommend that workplace mentors review the extent to which, and the ways in which environmental knowledge is currently mediated with novice environmental educators in the workplace, and to seek ways of extending and refining such processes.

I recommend that the developers and tutors of professional development EETDP courses reduce the number of case studies and contexts in relation to which they require learner-practitioners to extend their ethical deliberations. Fewer cases understood in greater depth and with more careful reflection are likely to enable more reality congruent, in-depth deliberations than a series of superficial and disjointed cases. This recommendation is especially pertinent in contexts (such as the EETDP Course) where the majority of learner-practitioners are learning in an additional language, come from disadvantaged educational backgrounds, and have not yet developed sophisticated reading skills that enable them to review and reflect critically on lengthy written texts under time constraints.

9.2.3 Recommendation 3: Develop an accessible, everyday language of ethical engagement

We (that is, the field of EETDP, and perhaps more widely the field of environmentalism, in South Africa) need to develop an accessible, everyday language to engage more meaningfully

and equitably with the ethical dimension of social-ecological concerns. This study has shown the extent to which language has been a barrier to ethics-oriented reflexive deliberations, and the ways in which this has resulted in learner-practitioners devaluing their own ethical engagement in relation to what they perceive to be an external (and more valid) body of philosophical insight. By language, I am referring to more than the barriers experienced when learning in an additional language. I use the term broadly to refer to the patterns of communicating ideas with others which may be socially and culturally embedded and/ or power-laden.

Jickling et al. (2006), seeking to produce a more accessible way of engaging with ethics-oriented deliberations through a 'Workbook for Educators', reflect that our value-language in relation to environment has become increasingly narrowed and one-dimensional, with ethical concerns being reduced to economics or managerialism. The challenge they put forward is:

> to reclaim the language. Or is it to reinvent a language to express (and to make more precise, to allow the progressive development and unfolding of) the kinds of values we sense in the larger living world, perhaps, but have not yet found (or are being denied) the terms for. (Jickling et al., 2006, p. 29)

I suggest that Recommendations One and Two above would be prerequisite processes in responding to this challenge. Consider, for example, the difference between Nkanyiso's level of ethical engagement with immediate concerns within his sphere of influence (such as making environmentally responsible consumer choices) and more remote accounts of communities utilising wetland resources in unsustainable ways (as discussed in Section 7.5.4). Or Paul's inclination to substantiate his Marine Week programme in terms of sustainable development and environmental resource management. What might a more (socially and ecologically) contextualised and re-personalised approach to environmental ethics deliberations mean for the ways in which Paul and Nkanyiso are able to speak about such concerns? And how might the form and content of such dialogue be altered if deliberations arose from a starting point of depth knowledge?

Some practical starting points for course developers and tutors might be to seek alternative ways of working with the language of environmental philosophy (which this study has indicated can be a barrier to ethics-oriented learning). Jargon and concept-laden readings and presentations need more careful mediation – preferably in relation to authentic contexts, and supported by reliable and comprehensive knowledge.

Parker (2010, p. 211), a critical realist, draws attention to the importance of using language responsibly (and perhaps more creatively) in framing the ways we engage not only with other people, but with the biosphere:

> In caring for other humans there is an assumption of dialogue in that they can let us know what, in their view, constitutes caring for the, and we can take this into account and adjust our behaviour accordingly. In this respect we have a duty to pay attention to their voice as part of a commitment to care. With regard to animals and living systems, *we have to take responsibility for the construction of an account of what constitutes their flourishing*. (my emphasis)

Parker's (2010) point resonates with Jickling et al.'s (2006, p. 29) appeal cited above to seek ways of expressing "the kinds of values we sense in the larger living world … but have not yet found (or are being denied) the terms for". Even though they may be tentative and clumsy, such dialogues in workplaces and in professional development courses can provide important openings for the development of more contextualised, personally-resonant reflexivity in terms of people's relationship with the natural world.

9.2.4 Recommendation 4: Adopt a carefully constituted and well theorised pragmatic and relational approach to ethics in EETDP contexts

Weston (1992; 2001) and Hattingh (1999) have argued for a pragmatic approach to environmental ethics, both proposing that the diversity of environmental ethics perspectives be regarded as a 'toolkit' to stimulate careful thought about people-environment relationships. This study has shown, however, that in the absence of depth social-ecological knowledge, and in the presence of language barriers and time constraints, the intended pragmatism may slip into relativism or poorly constituted concepts of pragmatism and ultimately hinder ethics-oriented reflexive deliberation. My recommendation, therefore, to adopt a more carefully theorised and constituted pragmatic approach to environmental ethics in workplace and course-based learning is a cautious one due to the risks of perpetuating further dislocation from the original intent of pragmatism in the EETDP Course. Re-personalisation of ethics, supported by depth knowledge, contextual resonance and a 'language' of ethical deliberation that situates in learner-practitioners' lived experience (as put forward in Recommendations One to Three above) may support the kinds of engagement required within a pragmatic orientation.

I believe that an equivalent emphasis on a relational approach to ethics (as discussed in Section 3.3.8) might provide a 'meta-orientation' or lens to help learner-practitioners (and

their tutors) evaluate the various environmental ethics concepts, propositions and tools at their disposal from the perspective of our relations with others. This would immediately resonate with the already strongly felt social justice, human-centred moral impulse expressed by all three learner-practitioners in this study, but might also have the potential to prompt deeper consideration of the existence and status of *other* relations (human and more-than-human). Such propositions to widen the sphere of moral considerability might contribute to a deepening of ethics-oriented reflexive deliberations as the individual's 'ultimate concerns' would need to be re-evaluated in the light of other elements hitherto unexamined. A relational ethics approach may also offer a way of framing personal morality as *embedded in a wider collective*, thereby reducing the potential for individualising or sentimentalising responses.

9. 3 SOME STRENGTHS AND WEAKNESSES OF THE STUDY

This project has worked at the interface of the sub-fields of environmental education and training, environmental ethics, and workplace learning. It has taken a sociocultural-historical approach to learning, development and social change, working in particular with CHAT, and been underlaboured by a relational social realist ontology. The intellectual project at the complex intersection of these philosophical, theoretical, educational and environmental fields has been intriguing and generative, inspiring me, for example, to pursue the implications of social realism for environmental ethics and learning beyond this study. It has also helped me to develop a coherent philosophical-theoretical position within/ from which I aim to pursue further related research. The relationalism inherent in sociocultural-historical approaches to learning and development is enhanced by social realism's pursuit of ontological depth and causal explanation; and a perspective on ethics that favours judgemental rationality and practical adequacy. This provides enhanced perspectives on how to work within a critical realist pragmatic orientation to ethics, where the pragmatism involves recognition of depth ontology; the possibility to make judgements based on the best available knowledge, and the criteria of 'practical adequacy' (Sayer, 2000). This challenges ethical relativism, at least as it has been practised under the influence of postmodern theorising, and calls for greater situational reflexivity. The combination of these philosophical and theoretical tools seem to provide a coherent and practical framework to respond to educational questions associated with ethical deliberation in complex and contested social-ecological contexts.

However, in exploring this new territory, my focus has needed to be on integrating and working in and across diverse bodies of work and this has at times curbed the depth to which I have been able to pursue each aspect. For example, I am aware of the need to explore ethical pragmatism in greater depth as I believe it can advance this project substantially, especially in light of the relativist risks identified in this study. Some openings to this end, have, however, been identified, as articulated in the paragraphs above. Taking these to their full conclusion in relation to environmental education in workplace learning contexts will require further study. Similarly, there is scope to pursue the analytical potential of CHAT more than I have done in this study, especially its propositions regarding structural tensions and contradictions, and the possibilities that these may open up for expansive learning in relation to the notions of ethical pragmatism and practical adequacy as opened up in the final phases of the study.

This study is, and I believe can only be, fundamentally incomplete. While the chapters of this report do justice to the rich data of its three case studies, the bigger project to understand the nature of people's ethics-oriented reflexive deliberations in relation to environmental education and training in post-apartheid South Africa, has far to go. In the hopes of mapping a way forward beyond this study, I now outline some areas for further research.

9.4 OPENINGS FOR FURTHER RESEARCH

9.4.1 Critical Realism and Environmental Ethics

Critical realism was employed as a philosophical underlabourer in this study which investigated the nature of ethics-oriented reflexive deliberations through a qualitative case study. In the latter stages of the study it became apparent that a complementary and potentially fruitful parallel study would investigate the implications of critical realism for theorising environmental ethics and conceptualising ethics-oriented learning processes. To what extent is ethical pragmatism compatible with critical realism? What might a stratified, depth ontology, emergence and causal explanation offer the field of environmental ethics? These are some of the questions I hope to pursue in the months and years ahead through my academic and teaching practices at the Rhodes University Environmental Learning Research Centre, and hope that aspects of this research interest can be taken up by other postgraduate researchers and members of the wider environmental education community of practice.

Some openings include, firstly, the implications of a depth, stratified ontology. Human agency is understood as occurring within a laminated system that contains relations of emergence and dependence, captured for example, in Parker's (2010) description of human cultural systems as nested and emergent within human social systems, human material systems, life support systems and cosmological systems. Deliberating ethical concerns from a starting point that acknowledges these extensive relations of emergence and dependence may enhance learner-practitioners' "situatedness in ecological space [and provide] the foundation for an ecological humanism" (Parker, 2010, p. 209).

Secondly, the contribution of Sayer's (2000) notion of 'practical adequacy' provides an alternative to relativism that will be interesting to pursue in environmental education contexts. Although critical realists caution against the epistemic fallacy (that is, noting that the status of reality cannot be reduced to what is perceived or known about it), Sayer (2000) argues that some knowledge *is* more practically adequate than others because of its material and causal significance. In deliberative situations of uncertainty about what constitutes a 'good' way to live with others in changing social-ecological contexts, attention to causality (which implies depth knowledge and recognition of relational) may enable people to identify some knowledge (and some philosophical and ethical propositions in relation to that knowledge) as more adequate than others.

9.4.2 Environmental and Ethical Discourses

This study has shown that environmental and ethical discourses are intertwined with, and influential in, ethics-oriented reflexive deliberations. However, more extensive, detailed work is needed that specifically investigates the relationship between environmental and ethical discourses and workplace learning.

9.4.3 A Language of Ethical Engagement

Recommendation Three outlines the need for a contextualised and accessible everyday language to engage with the ethical dimensions of social-ecological concerns. I believe it might be helpful to take an 'action research' approach to future research in this area; by this I mean the research should be action-oriented and strongly reflexive. For example, I would like to experiment with different ways of enabling knowledge-based, quality dialogue about the ethical dimensions of our relationship with the natural world not only with environmental educators on professional development and post-graduate courses, but with the wider

community of Grahamstown where I live and work. As suggested above in Recommendation Three, one starting point might be to mediate the often estranging language of environmental philosophy in more careful ways that become not only linguistically accessible, but more socially and culturally accessible too.

9.4.4 CHAT's Structural Tensions and Contradictions

In this study, CHAT proved to be a practical theoretical tool in identifying and describing the dynamics of the interacting activity systems. Through a CHAT-based analysis of the data, I noticed, however, that the theory tends to foreground tensions and contradictions as drivers of learning and change but it does not pay equal attention to resonances. Analytically, this creates a risk that 'differences' and 'tensions' may be given more primacy than resonances and synergies, at least in the way that I understood and used CHAT in this study. It would be interesting and perhaps beneficial to explore the potential of introducing a less difference-oriented approach to a CHAT methodology in future research, considering the *interplay of continuities and discontinuities* as revealed in and through the dialectical processes employed in CHAT.

9.5 CONCLUSION

In 2006, when I was starting to develop a research interest in environmental ethics and education, my initial concern was a pedagogical one: 'How can we teach environmental ethics more effectively on our professional development and post-graduate courses?' I soon retreated from that question when I realised how little we understand of the sociocultural 'space' in which ethics-oriented learning occurs, and from there I developed the research question of this study: 'How do ethics-oriented reflexive deliberations take place in, and at the interface of, the interacting activity systems of course-supported workplaces?'. This study has not/ cannot answer that question fully, but – as the preceding chapters demonstrate – it has provided me with enough experiences, insights and conceptual and theoretical tools to feel ready now to revisit my 2006 question.

In conclusion, I summarise what I consider to be the study's contribution to new knowledge in the field of environmental education. Ethics-oriented reflexive deliberations have been seen to emerge in complex, indeterminate ways at the interface of sociocultural and social-ecological contexts. The ethics-oriented reflexive deliberations of novice environmental

educators occur in relation to their ‘ultimate concerns’ and are advanced or hindered by the historically emergent practices, discourses and material realities of their workplace, personal and educational contexts. These insights require that the complex interplay of intersecting contexts and concerns that shape ethics-oriented reflexive deliberations be acknowledged and carefully mediated in both workplace-based and course-based professional development processes.

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PERSONAL COMMUNICATIONS

Lotz-Sisitka, H. (2010, August 04). Murray & Roberts Chair of Environmental Education. Rhodes University Environmental Learning Research Centre, Grahamstown.

Lotz-Sisitka, H. (2011, November 24). Murray & Roberts Chair of Environmental Education. Rhodes University Environmental Learning Research Centre, Grahamstown.

APPENDICES

1	Transcript of semi-structured Interview (Case Study 1)
2	Extract from Research Journal (J1)
3	Letter outlining research intention (Case Study 1)
4	Emails from research participants confirming support (Case Study 1)
5	Transcript of semi-structured Interview (Case Study 2)
6	O'Regan (2011) /Kronlid and Öhman (in press) Analytical Tool
7	SAQA descriptor of the EETDP National Certificate Qualification showing outcomes and unit standards
8	EETDP Learnership information sheet produced by WESSA
9	Journal Article: 'Ethics-oriented learning in environmental education workplaces: An activity theory approach' (Olvitt, 2010)
10	Environmental Ethics section in the 2008 Module One EETDP Course Handbook
11	Environmental Ethics section in the 2009 Module One EETDP Course Handbook
12	A reading about ethical orientations appended in Module 3 Learner Handbook (2009/2010 version)
13	Slides of a PowerPoint presentation produced by WESSA-SustainEd about environmental values and ethics
14	Slides of a PowerPoint presentation produced by WESSA-SustainEd about environmental philosophies and conservation
15	Statistical Summary Indicating Environment & Development Challenges in the City of Cape Town
16	TACO Analysis of Smart Living Handbook Introductory section
17	Analysis of Paul's Marine Week Lesson dialogue
18	Analysis of extract from Paul's EETDP Course assignment on sharks
19	Analysis of Faaiz's Smart Living presentation at Bellville Civic Hall
20	3-page Course Handout on African and Western approaches to conservation etc.
21	Analysis of extract from Mondi Wetlands Programme 2009 Evaluation Report

APPENDIX 1:

TRANSCRIPT OF SEMI-STRUCTURED INTERVIEW (CASE STUDY 1)

Paul Interview Heritage and Power Station
07 Sept 2009

I conducted this interview after a morning of workplace observations with Paul when he took a group of high school learners to visit various museums in Cape Town as part of Heritage Week.
The 1st section pertains to that school visit but this transcription focuses on the 2nd part about Paul's previous work at the Athlone Power Station, and his current interest etc. in his EE work.

start: 23'35"

Lausanne:	And then... I'm gonna take you in a time machine back to your previous work... Were you at the power station? Or the abattoir before this?
Paul:	Power station.
Lausanne:	Power station, ok, so I'm gonna ask you some questions about the work that you did there and the working environment so that I can kind of see the kind of changes that have happened in your own work. Can you describe the work that you did at the power station?
Paul	(Phffff...) From the start... do you want it from the first year that I started there or ...?
Lausanne	Did it change a lot? How many years were you there for?
Paul	I was there for 11 years!
Lausanne	Oh goodness!
Paul	11 years....
Lausanne	And your profile changed while you were there and you got more experience...
Paul	ja.... not really... Just as I.... Ja, one it's experience and also, two, I took opportunities that came my way. The first day when I worked into Athlone Power Station I was given a broom, a mop, rags, papers, safety boots and an overall, to go and wash windows and clean toilets.
Lausanne	Eisch.
Paul	So I was employed as a labourer. And then a couple of years later I saw the opportunity to – 'cause I had the necessary qualification – to go into the operating room of the boilers and so on, the boilers and the turbines.
Lausanne	And what was the... you say you had the right qualification. What was it?
Paul	Ag, you only needed basically a Matric to....
Lausanne	ok. Which a lot of people in factories and that don't have.
Paul	Ja. And from there I basically just worked my way up from operator to senior to charge hand operator. Charge hand operator being one that ... ummm...
Lausanne	A what operator?
Paul	A charge hand operator.
Lausanne	Charge hand? Which is what you were doing before you came here?
Paul	Before I came, ja. Your basic duty was basically that you could run the plant on your own. With assistance from the chief, the chief operator, that is there. Ja, so, generating electricity, keeping the boilers burning. Normally joke and said this is the right job if you want to go and work for the devil permanently in Hell.
Lausanne	Why, 'cause it's so hot in there?
Paul	Ja. The other part of my responsibility was making defects.
Lausanne	Making?
Paul	Defects. Job card's out like that thing is broken and needs to be fixed.
Lausanne	Oh I see, ok.
Paul	And then you make out a defect job card. Writing reports on an 8 – 10 hour shift. But you were normally just told what to do and how to do it. There wasn't really a leeway.
Lausanne	Ja, 'cause I suppose in a place like that there's not a lot of space for creativity, is there! Like to keep the plant going, this has to happen: tjik-tjik-tjik.
Paul	Mmmmm.

Lausanne	So was it hierarchical?
Paul	Ja. You must wait until the guy in the main seat dies before.... But lucky for myself and the guys who work on the shift, we had a chief operator who said, even if all of us are chiefs it doesn't matter, just so long as you know I'm in charge. So he didn't worry even if you earned the same money. He was just one to see people go forward.
Lausanne	Mmmm. That's a nice supportive environment to feel that you can do stuff.
Paul	Ja, unlike , I mean, I was only '99, and the year 2006. So it's '99... (pauses)... so it's 7 years, say 6, 7 years, that I was in that operating environment and there was guys that worked there 20 years as a normal operator, or as a main operator. Some guys that are still labourers.
Lausanne	Sjoe. Just the same job everyday for 20 years.
Paul	Ja, same job. 20, 25 years.
Lausanne	Ah, that must be so demoralising.
Paul	And then I came hear....
Lausanne	No hang on, before you get here.... I'm interested because I've never been into a power station. So if you were to take me on a mental visual tour now, what was it like working there, like what did it feel like, like the 5 senses, what were the shifts like, interactions with other people...?
Paul	It was very dirty work because it's a coal-fired power station. You had 2 sides of the plant: you had a boiler operating side and then you had the turbine operating side. And I should probably throw in a 3rd: then you had the coal plant where the coal comes basically from the coal plant into the bunkers, fill up the bunkers on the boiler side, and we would...
Lausanne	So the coal comes in...?
Paul	Comes in ja, from a conveyor belt say about 300- 400 meters away. Maybe more.
Lausanne	Where did that coal come from?
Paul	Umm, that coal normally came in that way....
Lausanne	from?..... Cause there's no coal in the Western Cape is there?
Paul	No. I think what is it? Up Jo'burg...
Lausanne	Gauteng way.
Paul	Ja.
Lausanne	So it was brought in by train in these big coal trucks.
Paul	Coal trucks, and dumped there in the bunkers, in the coal bunkers there at the back, and then it's kept there even as staked heaps outside. But ok, I didn't really need to have any knowledge of that because that the coal plant.
Lausanne	Mmm, and you weren't involved.
Paul	It's just on the boiler operating side, and see that your steam is the right temperature, that it's dry, it's normally operating at about, what's it, about 600 degrees Celsius.
Lausanne	Sjaw, that's hot. So when you say dry...?
Paul	Ja, the steam must be dry. It mustn't be wet.
Lausanne	How can steam, cause steam is... ?
Paul	At a certain temperature it becomes like, like dry ice, you know?
Lausanne	Oh really. So you don't see it like water vapour in the air even.
Paul	No, no. And that steam goes over into the turbine side and it turns the turbine.
Lausanne	And you say it was about 600 degrees?
Paul	Between 500 and 600.... 500. It's actually 500 because 600, the pressure of the boiler was at about 600 psi, 620, 640 psi.
Lausanne	That's pressure!
Paul	That's pressure. And if it goes beyond that – Booof, you flip a safety valve and you're in trouble.
Lausanne	Did that ever happen?
Paul	To me, no. But it happened on a shift, but ag, if it doesn't happen... we normally say, look here, that is there to protect us and to protect the....
Lausanne	Ja.
Paul	But it's just the inconvenience to the neighbouring suburbs that's right on the border, on the periphery of the power station. It makes a hell of a noise!
Lausanne	Oh, when it blows.

Paul	Ja. A hell of a noise.
Lausanne	And then they think it's a bomb.
Paul	The thing is, what it's, it lifts the, it leaks the excess steam out and – boom – it seats it again. But you have the guarantee that the seat is going to be proper again.
Lausanne	Oh, ok, ja.
Paul	If it doesn't, you must bring down the boiler and that must be fixed. Otherwise you're gonna have pressure leaking out. And the boiler's not gonna operate at its optimum.
Lausanne	Sjow, so alright, how many people were around and what was going on?
Paul	You normally had 8 boilers on the plant, you normally had one guy working in the basement, and the basement is just to check your compressors. And you check your coal that's falling from the top, from the grid, that's burnt already. It falls down into a hopper, onto a belt then it goes back to the ash bunkers. There you're responsible when the trucks come in, when the coal plant is gone, especially in the afternoon shift or the night shift, trucks come in, they make bricks from that ash.
Lausanne	Oh, that fine stuff.
Paul	Yes, so when the trucks come in, your responsibility is to load the trucks. But it's all sort of mechanically – just open the slide and then it falls down and onto the trucks; fill up, sign the dockets over and {tare?} the truck for how much the weight that they came for. It's normally truckloads and truckloads that are needed. So that is the basement and you've also got that one labourer also working and seeing that everything, that the ash that falls off the bunker need to be hosed, and the dust, obviously because of the coal, and then on your operating floor you have the 8 boilers and normally, like we were, like there's the chief, 1, 2, 3 – we were 3. Three operators on top and one at the bottom. Plus the chief operator. So ja.
Lausanne	And you were one of those operators?
Paul	Ja. And every hour you must take a reading and you make random checks on your fires itselves in the peepholes, to see that your fire's burnt clean.
Lausanne	Now is this where the coal comes in?
Paul	Ja, the coal comes in from the top. You grate must be a certain speed, the coal bed must be a certain thickness, and your fuel to air mixture must be right.
Lausanne	And you regulate that with vents and ...
Paul	Ja, with vents and big ID fans and FD fans – forward draught fans. ID fans being the extractor fans that takes the air out. And that goes through a grit collector, taking out most of the grit before it goes out into the atmosphere.
Lausanne	Mmmm.
Paul	Cause normally that was also monitored, the smoke goes out by the stacks and you get measured according to that from the control room, and you can say, look here, your smoke going out of this stack is not white it's black.
Lausanne	And that means that it ...?
Paul	That the coal is not burning....
Lausanne	fast enough...?
Paul	It's not burning clean. Because normally it burns out just half of your coal so that is also a loss to the, so called, to the company. Because ...
Lausanne	because it's not getting the maximum production out of it, ja. Ok, so am I right in getting the impression than that it's not the kind of work environment where you'd be chatting to people, and that kind of thing, cause it's not really kind of....
Paul	Yes you can, you can. If the boiler runs, it runs. You just need to monitor that boiler.
Lausanne	And be there to check.
Paul	And be there to... and the distance, if I look at the floor it's probably about 100 metres in length so sometimes you're working at number 1, and the other one is working at number 8 right down at the bottom.
Lausanne	And you've gotta walk all the way down.
Paul	Ja, you gotta walk all the way but sometimes when you're there, you're just 2, 3 minutes, or maybe just make a cup of coffee, come back and everything is fine. Sometimes you come to the boiler and see look, now half your fire's running off, and there's no coal because the coal is blocked in the

	hopper. Things like that, so you need to constantly monitor.
Lausanne	Oh, ok, ja.
Paul	Bring down, and drop the coal again, then you must make the fire again, all these kind of things. But also, it's a very dangerous working environment because at the power station when I was till in Maintenance, I used to work a lot with... It's also for me, when I reflect back on, yes, I got my first working experience in Athlone Power Station but also I contracted a very deadly disease at Athlone – asbestosis.
Lausanne	Yes, I heard about that with the Learnership; you guys talked about it.
Paul	Ja, and in June this year I was diagnosed as having asbestosis so ja, it was quite something to deal with.
Lausanne	Now what are the implications? What does it mean?
Paul	It actually means I have a disease that's killing me at the moment.
Lausanne	Geez.
Paul	So, you can live to a hundred.
Lausanne	So long as it kills you slowly then!
Paul	But actually it's like slow poison, ja.
Lausanne	So what is the disease?
Paul	It's like fibres.
Lausanne	From the...?
Paul	Fibres from the asbestos fibres.
Lausanne	But why...? Sorry, but I don't understand these things. Why asbestos if you were in a coal plant?
Paul	Ok, asbestos is used for insulation. Your boiler wall need to retain heat....
Lausanne	Oh, yes. And...
Paul	And your wall is about a metre, 2 metres think before the metal sheet comes on. So on the inside you have a brick wall, you have the asbestos on the outside. That's also about 300 – 400 thick, or 30cm thick on the outside, and then you get a fibreglass thingie and a whatever, and then you get a plate against that. and sometimes when there's a pipe burst, a certain section you would isolate and I'd go inside and see that is the... and then you get exposed to this. And in the past some of the guys had basically, in the early years, it was mostly coloured and black people who dealt with the removal of that, and it was just thrown at the back, they used it with their hands, there was no safety procedures, nothing.
Lausanne	And was that just out of lack of care or was it due to the ignorance in those days around the dangers of the stuff.
Paul	Ok, because of the ignorance and because, ok you do what I tell you, you don't need a mask for this, you don't need safety protective clothing for this.
Lausanne	Ja, ja.... And did you not wear safety protection?
Paul	No, no, no. Yes, yes.
Lausanne	By the time you were doing....
Paul	Yes, by the time I came at Athlone, it was 1995, so there was certain safety measures put in place already. But the dust will always be, in the dust and because of the boilers burning the dust becomes very light and it goes out by the [?] collectors, sometimes you crawl inside the boilers and things.
Lausanne	Hmmm, hmmm.
Paul	So you're exposed to it, and working on the operating floor, that dust normally settles on you....
Lausanne	... and just gets in everywhere.
Paul	They had monitoring systems on the station itself, but
Lausanne	What, with the smoke stacks?
Paul	Ja, no it was little thingies that was randomly on the outside.
Lausanne	Oh.
Paul	And they would say, look here, there's no asbestosis, it's fine, it's fine. Until sort of with insurance they say look here. What's this there now?
Lausanne	Mmmm, sjoe. So have they compensated you for that, cause normally these things go to court....
Paul	at the moment, yes, they're busy with a WCA claim form.
Lausanne	WCA?

Paul	Workman's compensation. And some of my colleagues don't want to tell me how much they got for asbestosis money. Né Sydney? [raises voice for Sydney to respond from nearby desk; but no response]. No, he doesn't hear me. 'Cause he's also a couple of years ago when he was at Athlone, diagnosed with it.
Lausanne	And there's nothing you can do about it?
Paul	Nothing, nothing. It's like little fibres but it's got claws...
Lausanne	Ja, and it sticks into the lung tissue.
Paul	It sticks into the lung and then it sort of hardens the area around it. It kills that area right there and then it just hardens.
Lausanne	Yeah.
Paul	Excessive exposure afterwards, after contracting it, is where it will just worsen and worsen and worsen. But with me being out of that environment, look that is what the profession and the doctor said, the chance of it spreading is minimal.
Lausanne	Minimal, ok. Ja.
Paul	But the percentage, I think I have 01, but if it's like 2 or 3, then it's sort of dangerous. But 001 is I think ok.
Lausanne	Ok, sjow, I think that's quite a heavy thing to have to live with.
Paul	Ja, especially if my baby's 5 years old. [10 second interruption by Sydney re a work related question]
Lausanne	Ok, and is there anything else? Just to wrap up what's been a very interesting description of this power station? Is there anything else that kind of stands out in your memory that you think would be useful for me to try and understand your work there?
Paul	Athlone?
Lausanne	Ja.
Paul	Probably the only thing with Athlone is it introduced me into the work environment but it's a place I don't want to set my foot in ever again. To be honest, never again. Even if people paid me for it, I won't be going back.
Lausanne	And why's that? Only because of the asbestosis thing, or ...?
Paul	Ja. [pause]. Thought was to sort of take it a bit further and write to the city manager and the mayor....
Lausanne	Mmmm.
Paul	.... my director and say, look here, this is what's in front of you, I'm not looking.... but at the moment I'm more concerned of still old colleagues and friends who are still working at the power station.
Lausanne	Geez. But I thought it had been closed down.
Paul	It is closed down but there's some guys that don't want to leave. So I just, just want to write to the city manager and say, look, this is what is there. Take the people out there and give them something else.
Lausanne	Ja, ja.
Paul	Because that's a death trap. A death trap.
Lausanne	Ja... But now I'm confused Paul, because if it's closed down, how come there's still people there?
Paul	There's certain – how can I put it? – certain things that's still operational at the plant, like your switching station and there's some maintenance that also needs to be done there. So, there's just a sort of a skeleton crew, to sort of conclude things.
Lausanne	Oh, ok.
Paul	But things that I don't... There's some still who say look here, I don't want to go away. Because Athlone Power Station has become in the last couple of years it's like a holiday resort. You go to work and you sit and you don't do anything. That is probably part of my decision coming here. One thing else: because the decision was for coming here when I got the opportunity, I took it with both hands. Because I don't need to work shifts. I can be like a normal person, come to work, work my 8 hours and go home. Yes, there's times when i would
Lausanne	Mmmm, would come in over the weekends...
Paul	come in over weekends....
Lausanne	but it's especially rare.
Paul	But it's fine, that is fine, I can deal with that, I can live with that. But otherwise, what is the other

	thing? Umm, we did actually do nothing in the power station.
Lausanne	After it had mainly closed down?
Paul	Ja. But I also took part in a Learnership at the power station, I did fitting and turning at the power station. And so before I could really finish off that, I could, umm, I came here.
Lausanne	When was that, that you did that Learnership?
Paul	I think it was 2000 and? I came here March 2005. 2005- 2006.
Lausanne	That you did that learnership?
Paul	Ja. But it was never completed because I moved over.
Lausanne	So you came here in 2006?
Paul	March 2006, ja. I don't know what I've let myself into, but I can tell you I love every minute of it.
Lausanne	Is it? So how did you come to make the decision because I got the impression before, I think from talking to Lindie, that people were given different options to say where they wanted to be redeployed.
Paul	Ja, so that was one of the things. They said, if you come over we'll re-skill you. Re-train you and you sort of make up your mind where you want to be. You find your niche and ja, with Lindie's guidance and Kobie's guidance, I thought ag, head for EE. And ja, with sort of part of my previous, not my previous, did I say previous? Still! At church I was involved with Sunday school, teaching the children, and now more like at a management level in Church, so I sort of still have the steering of all the relevant groups in the congregation.
Lausanne	Mmmm.
Paul	To see that things happen, organising programmes. Whatever the case may be.
Lausanne	So did you see a link?
Paul	I saw that link there and from there I just sort of made my decision. But it's also mainly to, but do you know what, I was prepared to venture into the unknown.
Lausanne	Mmmm.
Paul	I was prepared to do that, and normally seeing, when you think of environment you see the birds and the bees and the trees and the fish in the ocean, and me loving that sort of outdoor life.
Lausanne	Ja.
Paul	I said ok, I'll give it a try and to my amazement it's a whole new world that's opened up for me. 'Cause I can today also expose my own children to this and their thinking, and link it up with that.
Lausanne	Yes. So they get a chance to understand those things from, ja...
Paul	You think today with environment as part of the curriculum, my 10-year old daughter, whenever she does projects and stuff, there's always an environmental links and stuff and I can help with that. Not just sort of physically help, but also I can...
Lausanne	... understand the ideas...
Paul	understand, ok, the teacher's thinking like that, so I need to implement that. Especially after taking part in the Learnership. That sort of Boof! So now I exactly know what the unit standards is, what other needs is you have to have that to be successful. And I can help her in that.
Lausanne	Ja.
Paul	And of course, I have all the resource material around me.
Lausanne	Ja! There's no shortage of resources here hey! [laughter]
Paul	And even if I don't have much, I just pick up the phone and say look here, my daughter needs this and this.
Lausanne	Phone-a-friend!
Paul	Ja, and there it is. And not just for her. If I look at a managerial point of view, the church that I belong to, the New Apostolic Church, we sort of, for the past couple of years, having – if I can put it that way – environmental themes. The first one we ever had was about all things bright and beautiful, all creatures great and small. Speaking about the trees and the birds and whatever. And then after that, was it last year, we linked it up with Arbour Day and gave each child a seedling to care for for the whole year.
Lausanne	Oh, ok. Nice.
Paul	And then after that everyone planted into a community, either at a school, or at the crèche or whatever the case may be. I think we, it's in the Guinness Book of Records at the moment for the

	most trees planted by any organisation.
Lausanne	Really? Wow, that's awesome!
Paul	There's that. And then this year we did a recycle for life, where we recycle to link it up with the trees that we planted, saying, look, you mustn't cut down the trees now, we're gonna recycle the paper. All papers that came in, we gathered from the members, we recycled the papers and from that point of view I could also be a forerunner and say look here, I've got this knowledge, I can come do a presentation.
Lausanne	Mmmm, and you know how the system operates with recycling.
Paul	Ja I do, like who to speak to, and link them up with the people and then sort of the top dogs, they speak, they negotiate and say look here, this is what we can do....
Lausanne	But you can support that.
Paul	Yes, I can support it from my side. And also working, doing my bit in the community also.
Lausanne	Yes. So it looks as if the Learnership has had ripple effects beyond just like what you've been doing.
Paul	Yes, very much so.
Lausanne	And that's something I'll talk to you about one day when you've got more time and we can focus more on that kind of stuff. How're we doing for time Paul, cause I know you need to go.... What is the time?
Paul	Seven minutes past 4.
Lausanne	And you need to go at...? 4?
Paul	No, I'm only leaving at half past.
Lausanne	Umm, just getting back to this workplace thing, I think we've covered my question about how did you feel about working there....
Paul	.... Mmmmm.
Lausanne	Unless there's anything you want to add.
Paul	Hmm, no.
Lausanne	I mean you've said you really don't want to go back there, but at the time it wasn;t like an awful ... dragging your feet everyday.
Paul	No! I enjoyed what I did, but always looking for something new, always, always tried to apply for other positions within the city. Not necessarily at Athlone Power Station itself. And also tried to sort of broaden my skills. Around, ok, I've always wanted to go into management.
Lausanne	Uh-ha. Mmmm.
Paul	And that's why I did computer courses and took short courses.
Lausanne	Oh, ok.
Paul	And then I got into that, but now I have everything so I must do sort of... what do they say? All trades....
Lausanne	[laughs] Ja, like in EE it's management, education, logistics, psychology!
Paul	So that's why I like what I do. I always said I'll sit in an office where I had a desk. That is what I said.
Lausanne	Ja, and you are now.
Paul	I always wanted to be a lawyer.
Lausanne	Oh really?
Paul	Mmmm, but uh....
Lausanne	But would you now? If you like still had the chance? Blank slate.
Paul	Umm, yes I would, but a lawyer with a little slant to it. Rather to environmental law.
Lausanne	An environmental lawyer. Ja.
Paul	That's it, and I won't pass any EIAs. [laughs]
Lausanne	Some of them are probably worth passing, hey? [laughs]
Paul	I'll give the developers a hard time.
Lausanne	Alright, so I think that's it for today. Thank you.
Paul	Ok, thank you, thank you.
Lausanne	But I'll be back! [laughs] Thanks very much Paul.
Paul	Pleasure.

APPENDIX 2:

EXTRACT FROM RESEARCH JOURNAL (J1)

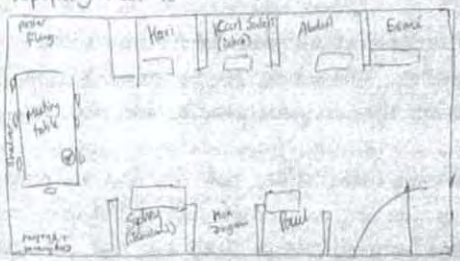
Two-page Extract from Research Journal (J1) for Case Study 1

WORKPLACE OBSERVATIONS
15 – 23 August

DAY 1

Monday 15 August

Arrived at CCT offices in Wale St at ± 08h15, found Joanne + Fouzi who knew I'd be around this week. Took me to Lindie's office. Lindie showed me around, introduced others in the workplace, got Paul to accompany me to Christchurch Women Hospital parkade for safer parking. Allocated a table for me at back of EE team's open plan office on 6th Floor. Lindie, Joanne, Naomi + Fouzi on 7th floor. Lindie says ~~there are~~ changes are being made re. office allocations as more sections of building will be taken over by them 'cause other sections are moving to Civic centre, but for now space is tight. Lindie has 5 meetings today but will hopefully meet tomorrow with me.



08h30 – 09h30: Much of this time was spent greeting the L/Ship guys and being introduced to other staff. The YES Co-ordinator Esmé, turns out to be a former GF p/pant (from 2003 I think!), and she chatted to me for a ~~bit~~ few minutes re wanting to do M.Ed(EE) at EU but wants to skip Hons etc. Hari, seated closest to me, on some phone calls re logistal arrangements for YES activities, phoning schools, partners etc. Jacques came to his desk to look at photos

on Hari's computer, selecting pics for something. As he left another phone call from a primary school confirming what time the bus will arrive. ~~Then there~~

Tea trolley arrived in the passage at 09h30 (Paul arranged for two spare mugs to be allocated to me for the week).

09h30-10h30 Hari phoned Allerton Primary to confirm details re their attendance. Frustrated that principal and deputy are away. "Mmm, this is a crisis situation. Who can I speak to? I'll tell you why, today is the last day for hiring buses and we're awaiting your confirmation". It will be an hour-long programme on Lion's Hill, need 50 kids with 3/4 teachers, 5th Sept. He was put onto someone else who heard the story and agreed to phone back, but she didn't seem to know the background as 'Mrs Taylor' was the one previously involved.

Paul hasn't been at his desk ~~for~~ since around 9am, apparently at a meeting. Others are moving furniture with Naomi as part of office re-arrangements down the passage.

I popped into Glen's office, next door down the passage. He says he was out on a cruise all of last week and is now dealing with all sorts of chaos now that he's back. I asked if there are any meetings or activities that I can accompany him on; and he says there's a meeting at 11h00 on Green Procurement planning which he's involved with.

Back in the main office, I asked Paul the same. He says there'll be staff meetings on Thurs + Fri.

Sidney called for ~~the~~ Carl to help again with furniture moving. Carl started leaving, grumbling that he'll not be ready for his presentations tomorrow, so Esmé called him back and said he

Letter Introducing Research Project to Cape Town EETDP Students

RHODES UNIVERSITY
Where leaders learn

RHODES UNIVERSITY ENVIRONMENTAL EDUCATION AND SUSTAINABILITY UNIT
Rhodes University Department of Education, PO Box 94, Grahamstown, 6140
Tel: +27 (0) 46 603 8389 • Fax: +27 (0) 86 515 2787 • L.Olvitt@ru.ac.za

09 May 2008

Dear Student

Support for doctoral research in environmental education and ethics:

I am a lecturer in the Education Department of Rhodes University, Grahamstown and have just started doctoral research in the area of Environmental Education. My interest lies in adult education and how environmental educators learn about environmental values and ethics, and apply these in their own work. By "environmental values and ethics" I mean: *how we decide what is right and wrong for the environment, and how we act upon those ideas*.

This course (the EETDP Learnership through WESSA) is a good opportunity for me to work with a group of adult learners who are also employed as environmental educators. I hope to learn from and with you about how you decide what is right and wrong for the environment, especially as it affects the way you do your work.

I would like to work in a general way with the whole group during these course sessions with Patrick Dowling from WESSA, and also hope to work much more closely with a smaller group in follow-up meetings in your workplace. The small group that I will work with more closely should ideally be:

- all from the same workplace
- between 2 and 5 learners in size
- willing and able to interact with me on a regular basis in your workplace over the next 12 months.

During this first contact session, I hope to identify a group that meets the above mentioned criteria. I will then approach those concerned, as well as your mentors, and make plans to meet again in the workplace.

As I will be around quite regularly during this course to collect data for my research, I would like us all to be clear about what I am doing, why and how such information will/will not be used:

- I am doing this research to learn more about how environmental values and ethics influences the way you do your work as environmental educators. This will hopefully help us to develop better environmental education courses in future.
- I am NOT a tutor on this course.
- I am NOT evaluating the WESSA Learnership in any way.

APPENDIX 3:

LETTER OUTLINING RESEARCH INTENTION (CASE STUDY 1)

- I am NOT assessing you, your assignments or your progress on this course.
- I will not provide information about your progress on this course or your opinions about this course to the course tutors or to other WESSA staff without your consent.
- I will not provide information about your performance at work or your opinions about work to your employer and/or workplace mentor without your consent.

I seek your permission to:

- **take photographs** during the teaching sessions of this course;
- **record discussions** on a voice recorder during the teaching sessions of this course;
- **make notes** about what is discussed and what activities take place during the teaching sessions of this course;
- **look at your assignments and other course-related material.**
- **conduct interviews** with various members of the group.

This will be done so that I can collect good quality data and a record of events for my research. Data that I collect may be used in the write up of my research report (PhD thesis) and I may use some data during lectures or conference presentations. Your real name will be withheld in any such presentations. I agree not to publish any recordings or photographs in a public forum (such as on the internet, or in magazines etc.) unless I have gained your direct prior consent.

Whenever possible, I would like to share these photographs, notes and tape recordings back to you and talk more about them, especially with the small group that I'll work with later.

Through all of this, my hope and expectation is that you will:

- always be honest in your responses;
- respect this research and do your best to help me collect the best quality data;
- come and speak to me if ever there is anything about this research that troubles you.

Please note:
In this research project, I do NOT want to be the mysterious quiet person sitting in the back of the room taking secret notes!! Instead, I would like to interact with you all in a natural way, get to know you and your work as environmental educators better. Please feel free to talk to me, ask questions, request feedback, make suggestions, share stories etc. My wish is that all of our interactions will lead to two-way learning.

Yours sincerely

Lausanne Olvitt
Environmental Education lecturer
Rhodes University Education Dept
046 – 603 8389
L.Olvitt@ru.ac.za

APPENDIX 4:

EMAILS FROM RESEARCH PARTICIPANTS CONFIRMING SUPPORT (CASE STUDY 1)

RE: Reseach formalities

Paul [redacted]

You replied to this message on 29/07/2011 13:14.

Fri 29/07/2011 08:56
Lausanne Olvitt

Dear Lausanne

I am honoured that you have chosen my case study and I am happy with the points given below. You said that you are thankful for my interest but is I that must thank you for the wonderful guidance that you have given me during the time of the learnership and beyond.

I have also decided to do my diploma in Environmental Education but don't know where to start and run into a dead end

Could you give me some guidance on this, I even looked on the Rhodes University wed site.

Your help in this regard will be highly appreciated

Regards

Paul Arends
Environmental Education Officer
[redacted]
Tel : [redacted]
Fax: [redacted]
Cell: [redacted]
"Life isn't about how to survive the storm, But how to dance in the rain."

RE: Reseach formalities

Mohammed Faaiz [redacted]

You replied to this message on 02/08/2011 12:30.

Fri 29/07/2011 08:22
Lausanne Olvitt
Linde [redacted]

Hi Lausanne
I am so happy to hear from you again and also glad for you that you are reaching the conclusion of your thesis.
I am still amazed with the house you built and I know that your thesis will be just as fantastic.

I have read through the point below and I have no objection in you completing your case studies with me as indicated in the listed point. I hope that your visit is not in the month of August (1st -31st) because I will be fasting then for the whole month of Ramadan.
See you soon
Regards from a very chilly Cape Town

Thank you
Faithfully yours.
Mohammed Faaiz [redacted]
Tel: [redacted]
Fax: [redacted]
Email: [redacted]

APPENDIX 5:

TRANSCRIPT OF SEMI-STRUCTURED INTERVIEW (CASE STUDY 2)

Interview with Nkhanyiso
October 2009
Pilanesburg Game Reserve, North West Province

I conducted this interview immediately after the final day (Friday) of the Module 2 session which was held in Pilanesburg Game Reserve. My intention was to find out from Nkhanyiso how he felt he was progressing with the ideas and concepts in the course, how he'd fared in the PoE assessment from Module 1 and the extent to which the course ideas about environmental values and ethics were being received.
The recording is a bit noisy as we were sitting outside in the resort area, near to the swimming pool and information office. The interview was cut short as my lift back to Johannesburg was leaving.

L: Ok Nkhanyiso, I haven't developed any formal questions and that. I just thought we could have a loose conversation. Because I just wanted to get your reflections on two things: the one is the feedback you got on your module 1, just to hear how it's going, what you've learned and what your thoughts are on that, and then the other is, in terms of this week, I'm particularly interested in the ethics side of it, but we'll get to that...

N: Oh, ok.

L: So, I haven't even had a chance to look at your portfolio, so...

N: Mmmm. The last one, Module 1?

L: The last one, Module 1. So how did it go with your assessor, your assessor was Liz wasn't it?

N: Yes, it was Liz.

L: And?

N: Module 1. It was like, it was because it was the first time. So I found it very interesting and at the time I saw it as like, it's challenging, and then doing those researches it was, it was quite interesting. And even the response of people at Mpophomeni, they were very nice and they gave me the right information, walking in the stream. I've got proof I went there, I didn't get helped by somebody else, I did the practical thing, so it helped me, that research helped me to develop my research skills and now I have a better understanding about researching.

L: Ok, and in terms of the feedback that you got from Elizabeth, with your assignment, with your things, I mean how...?

N: You mean Liz?

L: Ja. How did it go?

N: Ja, it just that it was a matter of time. About our PoEs. But. Ummm...

L: What do you mean by it was a matter of time?

N: There was some activities that I didn't like explain broadly.

L: Oh, so it was a bit brief.

N: Ja, it was a bit brief and so where she commented that in some activities I was supposed to explain more, explain broadly, ja, in some activities. And there's a... And I didn't bring the log book because there was a ... they didn't tell us exactly. So we were confused. Like when we had the assessors who wanted the log book, and we were confused because we don't know what logbook were they talking about.

L: Oh, ok, so you didn;t realise that it was a requirement for the PoE.

N: Ja.

L: Now that logbook, is that the one that you've shown me with the table, or os that something different?

N: No, it's different....

L: Oh, ok.
N: It was for the last, that first session. So they didn't tell us to bring that logbook.
L: But you've got it have you?
N: No, I haven't got it, but they gave us time that we can come and...
L: Ok.
N: When we're coming for the next session we must bring them.
L: Right. But when I say have you got it, I mean have you got it in Howick?
N: Yes, I've got it!
L: Ok, so it has been done, it's just a case of you not bringing it here?
N: Ja.
L: Ok. And who fills in that log book?
N: Damian and I.
L: Oh Damian. Alright. And then Nkhanyiso, I think what I'll need to do at a later stage is get a copy from you of your portfolio. Have you got it back with you now?
N: Yes. I've got it back.
L: So when I next come to Howick I must photocopy the relevant pieces that I would like to have a look at.
N: Ok.
L: It will just be the questions related to the ethics... I think you had to look at the policy, the environmental values that are in the policies and that kind of thing.
N: Mmmm... Ja, I really liked that part of ethics and justice. Ja, it was quite interesting because it like, sometimes it's like, these things it's like... like a moral belief of individual. So it's interesting to find that someone is doing he or her thing for himself or herself, not minding about someone else. So we've got like different beliefs you see.
L: Mmmm. Like in society or in an organisation or what do you mean?
N: In society. Someone, some people do things without knowing that they are doing wrong things.
L: Uhh, it's just they way they do things.
N: It's just they way they do it. And they believe in it, so it's hard to like tell someone that what you're doing is wrong.
L: So had you thought about those things before or was it something that you've only thought about now with this assignment, and what does it mean for your work now?
N: Ja, I thought about it, and when I can put it into my workplace. Even there are things that are happening and then you'll find that at the end you find that this person, it's her or it's his belief you see, so you can't really, ur, tell someone to stop doing that thing.
L: Yes. Can I put you under pressure now and ask if you can think of an example of that? {06' 15"}
N: Like in my workplace?
L: Mmmm.
N: Uh, I would say like, when it comes to wearing, like in the office. Me, I believe I can wear anything that I like but there are people who don't wear, like, like skirts or no pants, it's their belief, it's coming from their homes you see.
L: Oh, ok. It's like a dress code.
N: Ja, it's like a dress code. And when you ask she will tell you, like, at home we don't wear pants. We only wear skirts, you see.
L: Mmm, ok. And do you think that just like those kinds of ideas about right and wrong, the way they apply to how that lady dresses and that, do you think that it also applies to environmental things? The way people interact with... ummm...
N: with the environment...

L: yes, with the environment, with animals, with the natural resources, and do you think that that would affect Mondi wetlands?
N: So are we talking about, maybe the human impact to the environment?
L: Well... it's related to human impact but like, like, but the question would be like the values and the ethics. Like do you think that different people – like you said just now, they've got different ideas, their ideas about what's right and what wrong, their idea about a good way to do things and a bad way to do things. And there's one example like in an office where somebody might feel that when you come to the office you must wear skirts, not long pants if you're a lady. Now do you think that people have a similar idea, understanding of what's right and wring in terms of how we should behave...
N: into environment?
L: Mmm.
N: Ja, like, I think, I think sometimes, I would say like, you will never know because maybe it's a lack of education, you see. Some people do things without knowing that they're doing the wrong thing. Some people they do things even they know that what they're doing is wrong, but they continue doing it, you see. I mean like for example, like agriculture, I mean farmers, they belief in making money, they don't care about the impacts of the firm or of the industry that they're managing. So they don't care about the impacts to people; they believe in making money. And also to animals, they use animals to make money. They don't care about lives of animals and how they treat them.
L: OK, now what you're describing to me now, is that based on what you learnt this week through the video?
N: Yes, yes.
L: What was that video called? Through Farmers'...
N: Through Farmers' Eyes, yes.
L: Ok.
N: But I've seen that video before.
L: Oh, ok! Have you.
N: Yes.
L: And in real life, have you seen that kind of thing happening in KwaZulu-Natal?
N: Yes. I was living in a village and then in that village there was a chicken factory so I used to go there, my aunty was working there. So I've been there, but at that time I didn't know what they were doing was wrong... not really wring but not really knowing their impact to people.
L: Yes... Ok, so what has helped you understand because now it seems like you see it differently? What helped you to see it differently?
N: Ja, since I've been attending this course, now I know exactly. Although people were trying to explain to me, but now since I've been attending this course now I think I have a better knowledge.
L: Mmmm. and what do you think has helped you get that better knowledge? Like what part of the course? Was there a particular activity or a reading or a tutor, or what do you think it is?
N: Uh... like at the first block in Pretoria, we were divided into groups. Our tutor who is JJ, we were given a piece of paper and then we divide the paper into 4 parts. And then he ask us to write our values and we write them. And then he tell us a story like if your friend is in trouble, like he's about to fall into a cliff...
L: yes...?
N: What value can you give, you see. And we were like quiet and thinking and thinking because I was like having 'love', 'care', 'responsible'. So it was challenging us to think what value can we give because I was giving, like God. [giggles]. So I was like, eish! And then I gave him away! [embarrassed laugh]
L: You gave?
N: I gave God away!

L: [laughs] Ok.
N: Because God was one of my values, but I realised ...
L: Ok, so that was the activity where you had to take one away each time, was it?
N: Ja. So as the story continues, where there's trouble you have to give out one value.
L: So which one, which value did you end up with.
N: I ended up with 'love'! [laughs]
L: OooK! And what made you keep that one, above all the other values?
N: Oh, it's one of my... eish... one of my strong value.
L: And what do you mean with the word 'love'?
N: Love... [pause to think] ... love... love is a very important thing! I don't want to lose it so I'll keep on holding it.
L: Mmmm, but when you say it's important to you, are you talking... because you see people use 'love' in different ways. Like in the Bible love would be like the love God has for his creation, other people talk about love as in "oh, my Valentine!", other people talk about love as in families' love.
N: Mmm, mmmm.
L: Love for your country.... So when you say 'love' as in 'Nkhanyiso', why... what type of love is important?
N: No, like, as he was reading a story about a boy who was on his journey, and meeting troubles. And then love, but, but I gave responsible, all those, even God, but love! I don't know what happened because it was my first time, but at the end I was like eish! I was supposed to at least last with God, but when he was telling the story there was a part where I had to give God... so [laughs]
L: [laughs] Ok!
N: So I ended up holding love.
L: I think it's a good choice!
[laughter]
an I cast your mind back to the PoE activities for Module 1.
N: Ok.
L: There was one activity, where, I think it was number 5, where you had to analyse the policies, the mission statement or something... in your workplace. Did you do that one in your portfolio?
N: Policies?
L: You had to look at like the vision and the mission statement...
N: Yes, yes. Uh, yes, we were asked to, to not really discuss them, we were asked to write them down.
L: Oh, ok.
N: So it was not really a discussion about, even though we did touch, we never spent more time on discussing it.
L: Wasn't there a question where you had to look at what values lie underneath the statement?
N: [hesitation] Uuuh...
L: Or maybe I should interview you about that one when I've managed to have a look at your portfolio...
N: Yes, ja!
L: Because then we can it and remember it...
N: ... and talk about it...
L: remember it more clearly. OK. So ja, Nkhanyiso, thinking about this week then... Do you think there's been, in terms of your passion as an environmentalists, the way you understand caring for the world and behaving as a good person in the world, has there been anything this week that stands out for you as helping you to think about that?

N: Ja, this week, I will start with activities. There were like, kind of like, there were terminologies, you see. And also, they were challenging us to think, not really that it was difficult, but these activities were challenging us to use our minds to think. And then at the end you find that this thing is easy, it's just that I was supposed to think deep to come with the answer. So it was not really easy just to give answers, you see.
L: Mmm.
N: So, like now, because we, we also touched that justice, environmental justice. So now, like, since I've been knowing about ethics and justice, there are parts where now I feel like when I'm doing the wrong thing for environment. Now I have developed this conscious, you see.
L: You mean like you've developed a conscience?
N: Hmmm. So like if I'm eating this sweet or a paper, I mean a sweet, a sweet, then I can't like throw a paper away so I kind of like put it in my pocket. Then I ended up having like...
L: Your pockets are full of paper! [laughs].
N: You see, so I can't just throw it away.
L: But what was it that made you change your behaviour like that?
N: Ay, these issues, there's so many issues in this environment so I know, I know almost all of them now, so...
L: Can you give me examples of them, when you say 'all of these issues'?
N: Ja, like littering. Littering is one of the issues, like waste. Even I'm going to buy something, I always look like, now I'm starting to always look for something that's not in a container because it's ... but if I don't have a choice I buy that thing.
{18' 34"}
L: Ja. And sometimes there isn't a choice.
N: Ja. And also with meat, I've been inspired by so many people and combined those inspirations and my information about environment. I even went to Dove House where they sell the
L: Oh, the organic farm there in Howick.
N: Yes, and then I bought meat there, I bought spinach and vegetables.
L: You got meat at the Dove House?
N: Yes.
L: What type of meat was it? Why would you want to get meat from the Dove House and not somewhere else?
N: Because at Dove House they don't feed, they don't inject chickens.
L: Oh, ok, so it's free range.
N: Ja, it's free range. It does not have these... I mean it's not injected, they are not injected. And I, they even tasted different; it's very different.
L: Mmm.
N: Even the bones inside, they...
L: ... they feel stronger.
N: They feel strong.
L: Ja, ja. So when you say that you've been inspired by lots of different people, people and information, can you recall for me who some of those influencing people are?
N: Yes, since I've been working at the Wildlife at WESSA, I've been working with so many people ... Preven... and also at Midlands Meander, Nikki. Nikki Brighton. Ja. She's always telling me, kept like informing me about, like, about these things you see.
L: Is *she* a vegetarian?
N: Yes, she is a vegetarian.
L: And Charlene is as well.
N: Yes.

L: Ok, so what, did they like go and tell you stuff like "Hey Nkhanyiso, you shouldn't be eating that! Or did you ask them questions? How did it come about that you learned these ideas from them?

N: There approach was like very useful because they didn't like... cause I was new at Midlands Meander. So they [puts on girl voice] 'Ok, so what food do you like, what kind of food do you enjoy? I said, yo, I like meat very much! And they're like 'Oh, ok! What kind of meat?' And then I say I like chicken the most. 'Oh, ok. Good'. And then they didn't rush me.

L: Mmmm.

N: And then as days go by they started telling me: [puts on girl voice] "Do you know the story of meat?" I say no, can you tell me. And then they told me, they gave me CDs,

L: Oh really!

N: Yes, I've got lots.

L: Sjoe!

[Interruption by Jennifer r.e. shuttle departure time]

Nkhanyiso, it looks like the shuttles are all going now so it looks like we're just going to have to end this interview unfortunately! And I haven't spoken to Mdu either.

N: I think he's still around.

L: No, I can see he's over there, but I'm literally getting in the bus now....

N: Oh, ok.

L: So I'll have to link up with you guys when I'm next in Howick.

N: No problem.

APPENDIX 6:

O'REGAN (2011) / KRONLID & ÖHMAN (IN PRESS) ANALYTICAL TOOL

CASE STUDY 2
Extract from MWP Evaluation Report
DOC.02-09

Environmental Ethics Analytical Tool

(Adapted from O'Regan, 2006 and Kronlid & Ohman, 2011)

Relevance of Strategies

NGOs still have an important advocacy and watchdog role to play, particularly in those government and industry sectors with a significant impact on natural resources, but less significant considerations of their environmental impact. However, there has been an increasing shift from lobbying in the form of 'shouting at' government or industry, to NGOs playing a support and partnering role to these key decision-makers and land-users. The MWP has done this well, particularly through the collaborative development and deployment of wetland delineation, assessment and management tools, and tools for planning, assessing and reporting land use in agriculture (SuSFarMS). This strategy or approach has helped them to stay with (and indeed contribute to) the shift in the environmental arena, from awareness (and alarm) raising to the developing better sustainability practices.

The MWP's goal is 'social change' towards better wetland management. The Millennium Ecosystem Assessment states that changes in social systems are not keeping pace with the changes in ecosystems that they need to address. Thus, the MWP is on the right track. But are they making any headway? To answer this, we need to consider what is meant by 'social change'.

The social changes required for greater environmental sustainability and justice involves:

- Changes in society's **perceptions** about natural resources including wetlands (awareness, understandings, values, worldviews).
- Setting up or improving the **structures and systems** with which to take better care of natural resources like wetlands.

- Our **practices and actions** including traditions and development decisions, which directly and indirectly affect natural resources – including wetlands.

Perceptions about wetlands

In the early years of its existence the MWP has focussed strongly on creating awareness and advocating that South Africans consider the value of wetlands more strongly. This work has borne fruit, and it is appropriate that it is no longer a main focus in the programme. There is however a need to keep advocating, particularly among new partners and as new staff join existing partners in government and industry. Increasingly, however, advocacy is focussed on 'what we can do', while 'why it is important' becomes a smaller, although still important, component of awareness and training initiatives. Capacity-development to help government, industry and individual land-users better understand and manage wetlands, is an important dimension of this work, and can take the form of formal courses but also informal learning opportunities, as suggested in the WATER Case Study (Chapter 7).

Sustainability practices and actions to protect & repair wetlands

Much of the MWP's current work is in developing the practical tools and resources with which to protect and repair wetlands or better manage the land use activities in catchments which impact on wetlands. Examples are the SuSFarMS system, the Wise Use guidelines, and the wetland management plans for Mondi. This work (although just one element of the social change required) has great potential for realising actual improvements to South Africa's wetlands. It would therefore be important to build monitoring and evaluation mechanisms into this work, where possible, and to initiate and participate in research which can help us get a better grasp of the impact of all the programme's collaborative work with others, on the condition of wetlands. Such research programmes and monitoring and reporting tools have not yet been developed, or put into use, and should be prioritised.

1. Descriptive Interpretation

1A. What is the frame of the text (i.e. What elements are part of this text)?	written text
1B. What's the genre (e.g. advertisement, news report, narrative, political statement, notice etc.)?	evaluation report
1C. What is the topic?	Mondi Wetlands Programme and its progress towards bringing about social change for better wetlands management.
1D. How is the topic being presented (e.g. formal, informal, persuasive, aggressive, angry, friendly, humorous, comic, etc.)?	Formal; reflective; summative; rational.
1E. What is the preferred reading (the main message of the text; the reading which accords with the way the text seems to want to be read; the reading of minimal consensus)?	MWP's strategy of collaborative co-learning and development for better wetlands management is appropriate and effective, especially in the light of current global socio-ecological insights and concerns. Part of this strategy involves a move away from awareness raising and a focus on environmental values, towards capacity-development, collaborative action, problem-solving and the development of practical tools and resources in support of better wetland management.
1F. Who might be the ideal reader of this text? E.g. A person who ...	Employees or partners of MWP, or anyone with an interest in approaches to managing wetlands and other freshwater systems.

2. Representative Interpretation

2A. How is the text organised visually? For example, does the text use words and pictures? If so, what is the balance between words and pictures?	text only
2B. If the text is a combination of visual and written modes, or is written in a variety of formats, what is on the left (in the given position)? What is on the right (in the new position)? What is located in the upper part of the text (in the ideal position)? What is located in the lower part of the text (in the real position)? (cf. ideational, interpersonal and textual meanings)	N/A
2C. What are the effects of these choices on the text?	N/A
2D. What kind of vocabulary is used in the text? E.g. formal/informal, positive/negative, casual/dramatic, emotional/serious	Formal and serious vocab; academic;
2E. What semantic fields (word families) do vocabulary choices belong to?	?
2F. What vocabulary is associated with the participants in the text? Do these choices create a particular impression of the	Collectively, the formal, academic / professional vocab establishes the MWP and its staff as informed, professional and effective yet reflexive. "MWP is on the right track" ; "important advocacy and watchdog role"; "support and partnering role to these key decision-makers and land-users"; "collaborative development and deployment of wetland delineation,

participants?	assessment and management tools"; "important dimension of this work"; "can help us get a better grasp of the impact of all the programme's collaborative work with others".
2G. Is there any vocabulary which seems very important?	The vocab is very in line with current South African government policy and related discourses: "sustainability" "collaborative development" ; "capacity development"; and also in line with current global socio-ecological discourses: "social systems"; "protect and repair wetlands or better manage the land use activities in catchments which impact on wetlands"; "practices and actions including traditions and development decisions".
2J. What tenses are used in the text? Do any of these seem very important?	Almost entirely present tense – suitable for an evaluation which is looking at its current practices and effectiveness. One or two sentences in future tense as the document considers future prospects and choices.
2K. Does the text use 'we', 'you' or 'I'? When and how does the text use them? (cf. interpersonal meanings)	No. Text is very neutral and refers to the MWP as an entity.
2L. What modal verbs are used (e.g. should, must, could, can, etc.)	Of the text's 546 words, the word "should" appears only once ("Such research programmes and monitoring and reporting tools have not yet been developed, or put into use, and should be prioritised") and the word "must" does not appear at all. The text is evidently not concerned with imperatives but more with reflections and analysis.
2M. When are active and passive constructions used? Are there any common themes attached to the use of these different voices? What is usually foregrounded or backgrounded in these constructions? What types of agents are used – people/things?	Majority are active constructions but I don't feel their use is strategic or influential. No real pattern emerges.
2N. In the text as a whole, which information is put first? What	{As this is an extract from a longer report, this is not relevant here}.

is thematised?	
2O. What are the effects of these choices on the text?	N/A
2P. Is there mixing of genres?	No.
2Q. If there is mixing of genres, what are the effects of these choices on the text?	N/A

3. Social Interpretation

3A. What social frameworks is the text a part of (e.g. gender, race, economy, business, politics, family, class, income, age, sex, property, geography, etc.)?	Legislative and policy framework; Environmental Management framework; Social Change, Learning and Development framework.
3B. What typical kinds of social knowledge do these frameworks suggest?	Basic, underlying knowledge is that NGOs and government have systems in place to manage environmental resources i.e. there are structures through which to act responsibly re environment. Also, recognition that society is changing and striving to be more collaborative and responsible.

			changes in ecosystems that they need to address. (l.10) social changes required for greater environmental sustainability and justice (l.12) Setting up or improving the **structures and systems** with which to take better care of natural resources like wetlands. (l.15) Our **practices and actions** including traditions and development decisions, which directly and indirectly affect natural resources (l.16) advocacy is focussed on 'what we can do' (l.23) developing the practical tools and resources with which to protect and repair wetlands or better manage the land use activities in catchments which impact on wetlands (l.28).	

4. Deconstructive Interpretation

4A. Does any aspect of the text's internal structure (descriptive, representative, social) appear to contradict or undermine the text's preferred reading?	No. But some points are made but not substantiated esp. the claim that "it is appropriate that it [creating awareness and considering the value of wetlands] is no longer a main focus in the programme".

6. Who / what is constituted as moral objects?

NATURE					
Non-human animals able to experience pain and suffering	***Non-human animals with a sense of self***	***Social non-human animals***	***All individual organisms***	***Ecosystems and species***	***Other***
				WETLANDS: • take better care of natural resources like wetlands (l.15) • advocating that South Africans consider the value of wetlands more strongly (l.20) • realising actual improvements to South Africa's wetlands (l.31) • work with others, on the condition of wetlands. (l.33) • to protect and repair	Natural resources (l.3)

				wetlands or better manage the land use activities in catchments which impact on wetlands (I.28)	
HUMAN					
Present human generations	***Present and future human generations***	***Past, present & future human generations***	***Local human generations***	***Global human generations***	***Other***
					Sustainability practices (I.8) 'social change' towards better wetland management (I.9)

7. What kinds of values of nature are constituted?

INTRINSIC VALUE				
Inherent worth (independent of moral agents)	***Inherent value (dependent on moral agents)***	***Systemic or emergent value (dependent on transactional processes between nature and humans)***	***Other***	
INSTRUMENTAL VALUE				
Demand value (nature provides satisfaction for felt preferences)	***Transformative value (nature encounters transform preferences and meaning)***	***Constitutive value (the conception of nature constitutes the conception of humanity)***	***Need value (nature meets human needs)***	***Other***

			land-users (I.5) land use in agriculture (I.6) take better care of natural resources like wetlands (I.15) help government, industry and individual land-users better understand and manage wetlands (I.24) Wise Use guidelines, and the wetland management plans (I.29)	

8. How are the ontological relations of Humans and Nature constituted?

INTEGRATION				
Shared geographical space	***Shared historical space***	***Shared biological features***	***Discursively constructed community***	***Other***
SEPARATION				
Separate geographical space	***Separate historical space***	***Different biological features***	***Nature excluded from discursive community***	***Other***
			important advocacy and watchdog role to play (I.2) changes in social systems are not keeping pace with the	

9. Which relational spaces are touched upon?

A space of individual worldviews	*A political space (institutions for decision-making)*	*A gendered space*	*A discursive space*	*A situated everyday practical space*	*Other: A managerial space*
			Changes in society's **perceptions** about natural resources including wetlands (l.14) a need to keep advocating (l.22)	stay with (and indeed contribute to) the shift in the environmental arena, from awareness (and alarm) raising to the developing better sustainability practices (l.7-8) the programme's collaborative work with others, on the condition of wetlands (l.33)	wetland delineation, assessment and management tools, and tools for planning, assessing and reporting land use in agriculture (l.6)

10. How are solutions to the environmental crisis constituted?

As identifications with Nature and a deeper sense of belonging	*As an egalitarian political system that acknowledges the suffering of humans and non-humans*	*As practices of care, partnership, kinship, love, friendship etc.*	*As local narratives of human-nature integration*	*Treated as an empirical question, a task for open-ended, pluralistic enquiries*	*Other: Improved Environmental Management*
				NGOs playing a support and partnering role to these key decision-makers and land-users (I.4-5) Changes in society's perceptions about natural resources (I.14) creating awareness and advocating (I.20) awareness and training initiatives. Capacity-development (I.24) important to build monitoring and evaluation mechanisms into this work, where possible, and to initiate and participate in research (I.31-32)	collaborative development and deployment of wetland delineation, assessment and management tools (I.6) Setting up or improving the structures and systems with which to take better care of natural resources (I.15) developing the practical tools and resources with which to protect and repair wetlands (I.28)

11. How are the causes of the environmental crisis constituted?

As an inability to identify with nature	*As egalitarian hierarchical institutional relations*	*As patriarchal power relations*	*As discursively constituted disconnected & dominant relationships to nature*	*Treated as an empirical question, a task for open-ended pluralistic enquiries*	*Other*
			government and industry sectors with a significant impact on natural resources, but less significant considerations of their environmental impact (l.2-3) society's perceptions (l.14)	changes in social systems are not keeping pace with the changes in ecosystems that they need to address (l.10) practices and actions including traditions and development decisions (l.16) land use activities in catchments (l.29)	

APPENDIX 7:

SAQA DESCRIPTOR OF THE EETDP NATIONAL CERTIFICATE QUALIFICATION SHOWING OUTCOMES AND UNIT STANDARDS

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SOUTH AFRICAN QUALIFICATIONS AUTHORITY

REGISTERED QUALIFICATION:

National Certificate: Environmental Education, Training and Development Practice

SAQA QUAL ID	QUALIFICATION TITLE
22901	National Certificate: Environmental Education, Training and Development Practice

ORIGINATOR	REGISTERING/RECORDING PROVIDER
SGB Environmental Educators	

QUALITY ASSURING ETQA
ETDP SETA - Education, Training and Development Practices Sector Education and Training Authority

QUALIFICATION TYPE	FIELD	SUBFIELD
National Certificate	Field 05 - Education, Training and Development	Adult Learning

ABET BAND	MINIMUM CREDITS	NQF LEVEL	QUAL CLASS
Undefined	121	Level 5	Regular-Unit Stds Based

REGISTRATION STATUS	SAQA DECISION NUMBER	REGISTRATION START DATE	REGISTRATION END DATE
Reregistered	SAQA 0160/05	2008-10-20	2011-10-20

LAST DATE FOR ENROLMENT	LAST DATE FOR ACHIEVEMENT
2012-10-20	2015-10-20

This qualification does not replace any other qualification and is not replaced by any other qualification.

PURPOSE AND RATIONALE OF THE QUALIFICATION

The National Certificate in Environmental Education, Training and Development Practice (EETDP) (NQF Level 5) will prepare candidates to function as entry-level environmental education practitioners. It will apply in particular to part-time practitioners working in environmental education centres and to people who may be employed primarily in fields other than education, but who may develop an environmental education role in their workplace, e.g. field rangers, outreach officers, interpretive officers, etc.

People qualified with the National Certificate in EETDP (NQF Level 5) will be able to select and adapt existing environmental learning programmes, and justify their choices in terms of principles of environmental education and in response to issues of environmental justice and sustainability. When qualified, they will be able to plan, organise, implement and review a limited selection of environmental learning events using an active learning approach. They will also be able to select, adapt and use learning support materials to enrich the learning experience.

Given regular supervision in a structured environment, people qualified at this level will be able to make a meaningful contribution to environmental change through education. They will be able to work with others to undertake environmental action projects or facilitate environmental learning programmes. They will be able to work in a variety of contexts and workplaces, including environmental education centres, cultural and natural heritage sites (e.g. nature reserves, protected areas, museums, botanical and zoological gardens), and community and industrial settings. They may also be able to function as teachers` aides in formal education settings in, for example, assisting in field trips.

Rationale for the qualification:

Many environmental educators (including volunteers and part-time guides) are already in possession of an FETC or more advanced qualification, but lack a specific environmental education qualification. The NQF provides for a National Certificate of 120 credits at Level 5. This unit standards-based National Certificate in Environmental Education, Training and Development Practice (EETDP) (NQF Level 5) is a flexible and accessible means whereby existing or aspirant environmental education practitioners can obtain a basic qualification in the field.
The arguments put forward in the rationale for separate level 5 qualifications in the ABET sub-field are also relevant here, and include:

- The demand in the Environmental Education, Training and Development sector for a one-year qualification of 120 credits at Level 5
- Cost and logistical obstacles that prevent many people enrolling for a two-year course of study
- The need to accredit completed study, should a learner, because of unforeseen circumstances, have to withdraw from the Diploma course after one year.

Although the Level 5 Certificate may be offered as a full-time course, it is more likely that candidates will complete this qualification through part-time, in-service study. The level 5 unit standards will enable organisations training and employing environmental educators to structure training programmes in accordance with nationally recognised standards, and to provide this training at a level in line with their goals and resources.

LEARNING ASSUMED TO BE IN PLACE AND RECOGNITION OF PRIOR LEARNING

The learning assumed to be in place is an FETC or RPL equivalent.

Other learning assumed to be in place is detailed in specific unit standards. Different combinations of unit standards require different learning to be in place. For example, in the case of in-service training, the particular combination of unit standards will relate to the needs of the particular workplace, e.g. nature reserve, community-based development project, industrial plant.

Recognition of prior learning:

The assessment criteria in the unit standards are, for the most part, performance-based, rather than descriptions of required knowledge. This quaification could therefore be awarded as a result of RPL in the workplace.

Access to the qualification is fairly open. Candidates will be required to demonstrate a Further Education and Training Certificate (FETC) or RPL equivalent. Unit standards, qualificatons and/or experience in fields

such as environment, conservation or development would be an advantage

QUALIFICATION RULES

Elective Unit Standards:

A minimum of 16 credits can be selected from any field of learning relevant to the context or responsibilities of the assistant environmental education officer. These may include:

- Conservation Management
- Natural and cultural resource management
- Environmental Studies
- Information and communications technology

OR

A minimum of 16 credits from Education, Training and Development unit standards:

- Organise a programme of learning (8 credits)
- Facilitate a programme of learning (24 credits)
- Plan and conduct assessment of learning outcomes (15 credits)
- Evaluate a course (8 credits)

EXIT LEVEL OUTCOMES

People who qualify with the National Certificate in Environmental Education, Training and Development Practice (NQF Level 5) will be able to:

- Demonstrate knowledge of environmental education goals, principles and methods and their appropriateness in different contexts
- Select, plan and adapt a contextually-relevant environmental learning programme
- Implement and evaluate an environmental learning programme
- Select, adapt and use existing environmental learning support materials and develop own supplementary learning aids
- Network broadly in order to source information and support around a key environmental issue or risk and recommend possible solutions
- Research and analyse a local environmental issue in terms of principles of environmental justice and sustainability
- Apply appropriate social protocols in the workplace and community
- Apply fundamental knowledge of environmental ethics to a field of work or study
- Demonstrate a general understanding of people-environment relationships and current environmental challenges
- Review a variety of approaches to learning, teaching and evaluation.

The unit standards making up this qualification reflect aspects of all the roles of the professional educator, as defined in the Norms and Standards for Educators:

- Learning mediator
- Interpreter and designer of learning programmes and materials
- Leader, administrator and manager
- Scholar, researcher and lifelong learner
- Community, citizenship and pastoral role
- Assessor
- Learning area / subject / discipline / phase specialist

Furthermore, they also promote the development of the foundational, practical and reflexive components of `applied competence` described in the same document.

ASSOCIATED ASSESSMENT CRITERIA

The exit level outcomes are equivalent to the unit standards for this qualification. Assessment criteria are detailed in each of the unit standards and therefore the SGB did not produce additional assessment criteria for the exit level outcomes.

INTERNATIONAL COMPARABILITY

It appears that environmental education qualifications and unit standards are not included in international qualifications frameworks. Possible reasons for this include:

- Most of the international qualification frameworks are restricted to technical rather than academic qualifications; formal qualifications in environmental education are often educational specialisations at postgraduate level

- Non-degree courses in environmental education are often short courses or workshops, which do not count towards formal qualifications.

- The field of environmental education is a relatively new field internationally. It has received much attention since the 1992 Rio Earth Summit in particular, when more than 100 governments made commitments to the implementation of Agenda 21. UNESCO has described South Africa as being on the `cutting edge` of incorporating environmental education qualifications into national policy systems.

While environmental education qualifications per se, are not registered on other national qualifications frameworks, a number of diploma and degree programmes do exist internationally. However, no formal courses were found at levels below initial teacher education, which is equivalent to a qualification at level 6 or 7 on the NQF. A survey of environmental education courses from the Asia-Pacific region, New Zealand and the United States of America indicated that the unit standards covered in this level 5 qualification reflect, at an preliminary level, the knowledge, understanding, skills and value orientations covered in the international courses.

MODERATION OPTIONS

Moderation must include both internal and external moderation of assessments at exit points of the qualification. Moderation should encompass achievement of the competence described in both individual unit standards as well as the integrated competence described in the qualification. For the purposes of recognising prior learning, providers are required to develop sound and fair means for the assessment of individual learners on a case-by-case bassis.

CRITERIA FOR THE REGISTRATION OF ASSESSORS

Anyone assessing learners against this qualification must be registered as an assessor in Environmental Education, Training and Development Practice by the relevant ETQA. Assessors must have a level 6 qualification in Environmental Education, Training and Development Practice. Universities, colleges of education and organisations with well-established environmental education programmes should apply for accreditation in order to be able to carry out assessment. Co-operation between potential groups of assessors will be required in order to standardise assessment, moderation and the awarding of this qualification.

NOTES

1. The specific outcomes and assessment criteria contained in the unit standards are guidelines for assessors working with practitioners who do not have disabilities or special needs. Special consideration and exemptions should be given to practitioners who cannot fulfil the assessment criteria due to a disability or other special needs.

2. Essential embedded knowledge
The essential embedded knowledge required for this qualification has been built into the unit standards and assessment criteria. It is therefore not detailed in a separate section here.
It is worth mentioning that environmental education, in addition to being a sub-field with its own embedded knowledge, also draws on the embedded knowledge of a number of other fields and sub-fields of learning.

3. Assessment of learners with special needs
The specific outcomes and assessment criteria contained in the unit standards are guidelines for assessors working with practitioners who do not have abilities or special needs. Special consideration and exemptions should be given to practitioners who cannot fulfil the assessment criteria due to a disability or other special needs.

UNIT STANDARDS:

	ID	UNIT STANDARD TITLE	LEVEL	CREDITS
Core	8618	Organise oneself in the workplace	Level 2	3
Core	13662	Fulfil administrative requirements of an environmental learning programme or action project	Level 4	3
Core	13674	Identify and support learners with special needs	Level 4	4
Core	13667	Reflect on own facilitation performance as an environmental education practitioner	Level 4	5
Core	13668	Work ethically and professionally as an environmental education practitioner	Level 4	3
Core	13648	Apply appropriate social protocols in the workplace and community	Level 5	4
Core	13649	Apply fundamental knowledge of environmental ethics to a field of work or study	Level 5	6
Core	13650	Demonstrate a general understanding of people-environment relationships and current environmental challenges	Level 5	16
Core	13632	Demonstrate knowledge of environmental education goals, principles and methods and their appropriateness in different contexts	Level 5	4
Core	13635	Implement and evaluate an environmental learning	Level 5	6

		programme		
Core	13637	Network broadly in order to source information and support around a key environmental issue or risk	Level 5	4
Core	13640	Research and analyse an environmental issue in terms of principles of environmental justice and sustainability and recommend possible solutions	Level 5	8
Core	13651	Review a variety of approaches to learning, teaching and evaluation	Level 5	4
Core	13636	Select, adapt and use existing environmental learning support materials and develop own supplementary learning aids	Level 5	4
Core	13634	Select, plan and adapt a contextually-relevant environmental learning programme	Level 5	6
Fundamental	8662	Analyse and communicate workplace data	Level 5	5
Fundamental	8647	Apply workplace communication skills	Level 5	10
Fundamental	12376	Assess and control pollution	Level 5	2
Fundamental	8385	Facilitate conservation understanding	Level 5	4
Fundamental	8367	Understand and develop conservation ethics	Level 5	4
Elective	9937	Evaluate a course	Level 4	8
Elective	13661	Participate actively in a local environmental action project	Level 4	8
Elective	123372	Use appropriate tools and information systems to manage own information and communication	Level 4	4
Elective	123397	Evaluate a learning intervention using given evaluation instruments	Level 5	10
Elective	10289	Facilitate a programme of learning	Level 5	24
Elective	10288	Organise a programme of learning	Level 5	8
Elective	7978	Plan and conduct assessment of learning outcomes	Level 5	15

PROVIDERS CURRENTLY ACCREDITED TO OFFER THIS QUALIFICATION:

1. SPS Consulting cc
2. The Grace Institute For Leadership Development
3. Wildlife and Environment Society of South Africa

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APPENDIX 8

EETDP LEARNERSHIP INFORMATION SHEET PRODUCED BY WESSA

"Working together for excellence in environmental learning"

Learnership Information

Environmental Education Training and Development Practices (level 5)

This information leaflet contains information on administrative and logistical aspects of the learnership as well as a brief overview of the learnership modules – for details of the EETDP qualification and the types of learners that should apply please see the learnership brochure.

Rationale

A need to strengthen the field of EETDP (and related fields):

In the context of a deepening environmental crisis, greater awareness of the associated challenges, and governmental commitment through policy and legislation to respond appropriately, increasing attention is paid to improving environmental management and related practices. However, much of the activity in these fields requires educational competence (DEAT, 2004). For example, many institutions are conducting in-house training of employees whilst, in more rural contexts, extension officers are required to support community leaders, project staff and volunteers. It is becoming increasingly apparent that practitioners tasked with education and training in these (and other) development contexts require specific skills such as developing learning programmes, developing educational materials, working with teaching methodologies in complex social contexts, assessing learners' competence etc. The Level 5 EETDP Learnership provides an opportunity for practitioners to (a) strengthen their practice as educators / trainers and (b) deepen their understandings of contemporary environmental issues and risks.

Duration

The learnership is run over a full year with tuition starting in February.

Mode of delivery

There are two main components to the learnership:

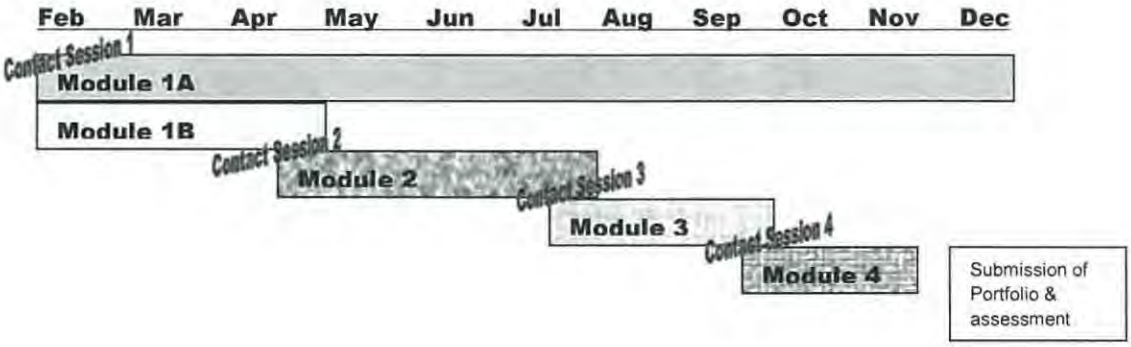
1) Contact Tutorials:

Four contact tutorials of five days each are held over the one year period. Depending on where applications come from and the number of applications, these will most likely be held at a central location in the following provinces: Western Cape (Cape Town), Eastern Cape (Grahamstown), KwaZulu Natal (Howick), Gauteng (Johannesburg).

Specific dates for the contact tutorials have not yet been set but are likely to be in February, April, July and September.

Please note: Tailor-made modes of delivery and locations for the learnership will be considered for institutions that have ten or more learners on the learnership.

The contact tutorials will consist of lectures as well as a range of active learning methods including field-trips, case studies, research, investigations, issues-based learning, group projects, seminars, etc.



2) Workplace and/or Community Learning

Learners are expected to be based in a workplace or community work context for the duration of the learnership. During the contact tutorials, learners are given a workplace assignment that they complete as part of their everyday work. The assignments are designed to strengthen and support work that the learners would be doing anyway in the normal course of their work duties. The assignments provide guidelines and activities to deepen and strengthen the learners thinking and practice in their work and are well supported through the learner manuals for each module and additional readings and case studies relevant to the learners work context.

The training provider will ensure that the workplace learning is well supported through:

- An orientation/induction workshop for workplace mentors and coaches from the employer organisation to be held at the beginning of the year
- A mentors guide that each workplace mentor will receive at the orientation workshop
- Telephonic and email support of the learner throughout the duration of the learnership
- At least one site visit by one of the learnership facilitators to each learner's workplace during the year
- The development of well structured and supported portfolios of evidence of learning

The learnership has been very carefully designed so that although there is a fair amount of generic content covered in terms of environmental issues and education theory, the learner will focus mainly on specific environment and sustainability issues within their work context. As such, the workplace institutional structures, cultures and needs are paid very careful attention so that the learner develops appropriate education or action projects within their workplace to respond to the environment and sustainability concerns of that work context e.g. compliance with environmental legislation (in an industry or local government context) or an environmental education programme (in conservation or education contexts).

However, together with this emphasis on locally relevant and situated learning it is important to recognise the importance of learners contextualising their learning within regional, national and international perspectives too. The EETDP learnership curriculum thus seeks a balance between developing practitioners' competence to engage directly with their *local* context whilst understanding the influences and implications of wider national and global trends.

Who is the Provider?

Members of the Environmental Learning Forum (ELF), including at this stage the Wildlife and Environment Society of South Africa (WESSA) and the Rhodes University Environmental Education and Sustainability Unit will be establishing a consortium for the provision of the EETDP Learnership. Memoranda of Understanding are currently being drafted for this purpose and additional ELF members are considering joining the consortium that will be finalised by November 2005. (see www.envirolearningforum.co.za for member profiles)

How much does it cost?

The cost per learner is R12 300-00 excluding VAT.

This includes:

- All learning materials including learner manuals, readings, case studies, portfolio templates and guidelines, formative assessment worksheets and activities
- All field-trips and excursions during contact sessions
- Time at the four contact tutorials including lunches and teas, venue and equipment
- Telephone and email support by the learnership facilitator throughout the year
- Orientation/induction workshop (1/2 day) for workplace mentors and coaches
- At least one workplace visit by one of the learnership facilitators
- Final assessment and moderation and issuing of the National Certificate: EETDP (level 5)

The cost excludes:

- Travel costs of learners to get to the contact tutorials
- Accommodation, supper and breakfast during the contact tutorials

Venues with a range of accommodation options will be used e.g. chalets, dormitories, self-catering facilities, etc.

Overview of the Modules

Table 1 below gives an overview of the modules and what each entails:

Cross-cutting module **"Developing workplace skills"**	**Module 1** **"The Context of Environmental Education & Training"**	**Module 2** **"Planning a Contextually-Relevant Learning Programme or action project"**	**Module 3** **"Planning and Implementing an Environmental Learning Programme or action project"** **+ Electives**	**Module 4** **"Implementing & Evaluating a Learning Programme or action project"** **+ Electives**
Purpose: to develop general workplace skills that cut across all modules e.g. the "administrative" unit standards and those requiring long-term reflection.	*Purpose: To give the practitioner a background in environmental concerns, education and ethics and begins to enable the practitioner critically analyse the context of their workplace or community, using a specific example of pollution.*	*Purpose: This module develops the critical analysis skill developed in Module 1. It requires the practitioner to go deeper into the nuances of their socio-ecological context, and determine the implications for developing an appropriate learning programme.*	*Purpose: To assess a learning programme prior to implementation by reflecting how the methods and materials used articulate with the broad goals and principles of EE. The practitioner then refines the learning programme for implementation.*	*Purpose: Practitioners continue to implement the learning programme developed in Module 3, but the emphasis is on reflection – learning the appropriate ways to evaluate their own learning programme.*
• Core 8618~ **organise oneself in the workplace** (3) • Fundamental 8647~ **apply workplace communication skills** (10) • Fundamental 8662~ **Analyse and communicate workplace data** (5) • Core 13648~ **apply appropriate social protocols in the workplace and community** (4) • Core 13662~ **fulfil administrative requirements of an environmental learning programme or action project** (3) • Core 13668~ **work ethically and professionally as an ee practitioner** (3) • Core 13667~ **Reflect on own facilitation performance as an ee practitioner** (5) TOTAL CREDITS: 33	• Core 13637~ **Network broadly to source information & support around a key environmental issue or risk** (4) • Fundamental 12376~ **Assess and control pollution** (2) • Core 13651~ **Review a variety of approaches to teaching and learning** (4) • Core 13649~ **Apply fundamental knowledge of environmental ethics to a field of work or study** (6) • Fundamental 8367~ **Understand and develop conservation ethics** (4) TOTAL CREDITS: 20	• Core 13650~ **Demonstrate a general understanding of people-environment relationships and current environmental challenges** (16) • Core 13640~ **Research and analyse an environmental issue in terms of principles of environmental justice and sustainability and recommend possible solutions** (8) • Core 13634~ **Select, plan and adapt a contextually relevant environmental learning programme** (6) TOTAL CREDITS: 30	• Core 13632~ **Demonstrate knowledge of EE goals, principles and methods and their appropriateness in different contexts** (4) • Core 13636~ **Select, adapt and use existing environmental LSMs and develop own supplementary learning aids** (4) • Core 13674~ **Identify and support learners with special needs** (4) • Fundamental 8385~ **facilitate conservation understanding** (4) TOTAL CREDITS: 16	• Core 13635~ **Implement and evaluate an environmental learning programme** (6) • Elective~ • Elective~ • Elective~ • Elective~ • Elective~ • Elective~ • Elective~

				TOTAL CREDITS: 6
This module is carried over all the course modules and, although started at the 1st contact session, is only completed by the end. *Learners then plot / record progress made towards achieving these unit standards as they work through the course, guided by specific assessment tasks, in a Portfolio of Evidence. Other modules will also cross-reference these assessment tasks e.g. while setting up a learning programme, keep a record of all telephone conversations and faxes and file them as evidence of achieving part of Core 8618.*	*This Module is essentially the starting point of the course although at the 1st contact session it will be introduced along with the Cross-cutting Module.* *Learners will arrive for Module 1 with certain details of their organization, to allow them to begin workplace-based learning immediately.*	*This module focuses the skills behind planning and developing a learning programme in a specific context. The context will be workplace-specific, and will be decided on jointly by the practitioner, their mentor, and the facilitator. Emphasis thus falls on planning a programme that is relevant and appropriate to specific context.*	*A possible elective in this module is Elective 10288 "Organise a programme of learning" ~ 8 credits from the OD-ETDP qualification.*	*As this module is a short unit standard by itself, the rest of the contact time is allocated to clarifying portfolio requirements, self evaluation, trouble-shooting etc. Learners will not meet together again as a whole group with their tutor and the next significant step is the submission of their portfolios.* *An optional elective in this module is Elective 9937: "Evaluate a course" ~ 8 credits from the OD-ETDP qualification.*

The above modules total 105 credits. This allows for the minimum of 16 credits for electives. For practitioners working in NQF contexts that will be developing, facilitating or assessing accredited courses in the future, the OD-ETDP electives should be compulsory. For others, a range of sector-specific electives will be available to choose from.

Contact tutorials will run from a Monday to Friday, and the format is as follows (alternative options such as weekend contact tutorials can be negotiated if this suits the majority of learners/employers):

Contact Tutorial 1:

Learners arrive with basic material from their workplace or community, such as mission statements, workplace training initiatives, environmental policies, etc. The first day is an introduction to the learnership programme, including an introduction to OBE, NQF, workplace learning, etc., and to begin work on the cross-cutting module. The second, third and fourth days will analyze the three focus areas in Module 1: **environment**, **education** and **ethics**, also relating to the context-specific materials the practitioners brought with them, and deepen their understanding of environmental issues and risks in their own workplace or community environments. On the fifth day will work on their understanding of their workplace-based assignments in the three focus areas in Module 1.

Contact Tutorial 2:

Day 1 will be used to go over the workplace assignments and Portfolios of Evidence, and to continue with those aspects of the cross-cutting module not covered in other sections. Days 2 to 4 will be used to develop the practitioners understanding of the material in Module 2. This module is similar in scope to Module 1, but emphasises **critical** understanding, and deeper knowledge. Day 5 will be used for assessment and to prepare for the workplace based assignments

Contact Tutorial 3:

Module 3 - Planning and implementing the learning programme. (under development)

Contact Tutorial 4:

Module 4 - Implementing and evaluating the learning programme. (under development)

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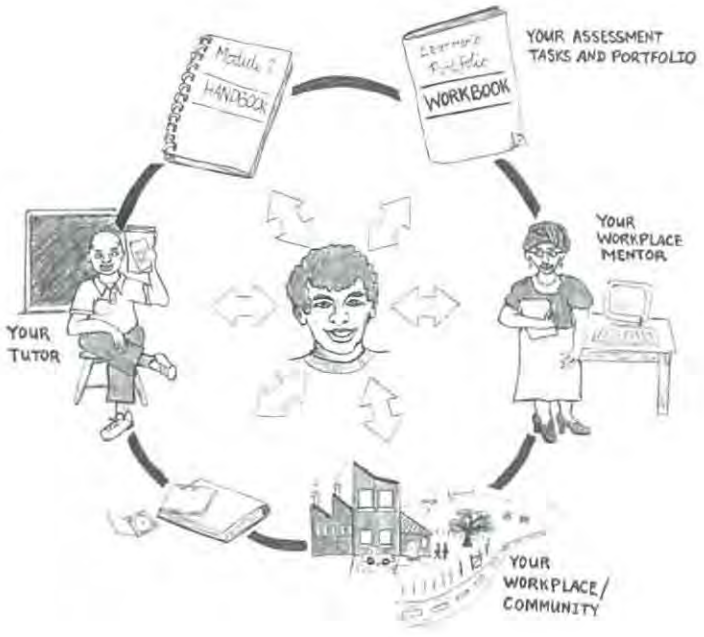

APPENDIX 9

JOURNAL ARTICLE: 'ETHICS-ORIENTED LEARNING IN ENVIRONMENTAL EDUCATION WORKPLACES: AN ACTIVITY THEORY APPROACH' (OLVITT, 2010)

Southern African Journal of Environmental Education, Vol. 27, 2010

Ethics-oriented Learning in Environmental Education Workplaces: An activity theory approach

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Abstract

In the context of increasing national and global environmental challenges and their implications for the working world, new ethics and practices are being introduced into workplaces that take better account of socio-ecological relations. Little is understood, however, about the nature of ethics-oriented workplace learning. Drawing on Cultural Historical Activity Theory (CHAT), which enables historically and contextually situated relational perspectives to emerge, this paper explores contradictions in the activity systems of two young environmental education learner-practitioners struggling to engage with the ethical dimensions of their professional work and the professional development course they are studying. The study focuses in particular on the environmental values and ethics component of their course – a year-long Learnership in Environmental Education, Training and Development Practices (EETDP). The paper reflects how tensions and contradictions within and between the interacting activity systems of the workplace, the course, and its regulating qualifications authority influence the teaching and learning of the environmental ethics component of the course. Ethics-oriented teaching and learning processes are found to be strongly influenced by the 'rules' and 'mediating tools' of these interacting systems, but these are often at odds with the ethical perspectives, socio-cultural context and skills of the 'subject' and 'community'. These systemic contradictions can be more fully understood when their cultural and historical origins are made explicit. The analytical process has led to a more nuanced understanding of ethics-oriented teaching and learning in a workplace-based course, and has revealed several areas needing more careful research (particularly the area of environmental discourses) and the explicit and implicit language of ethics.

Introduction

Using a third generation Cultural Historical Activity Theory (CHAT) framework (after Engeström, 2001), this paper examines how contradictions within and between interacting activity systems influence learning processes of the ethics component of an environmental education course. Contradictions, the 'historically accumulating structural tensions within and between activity systems' (Engeström, 2001:137), are seen as having generative potential, as being the drivers of learning, change and development in activity systems. It is through identifying and grappling with contradictions that transformation is mediated; when, according to Engeström (2001:137), 'the object and motive of the activity are reconceptualised to embrace a radically wider horizon of possibilities than in the previous mode of the activity'. This study works backwards from that aspiration to find new and better ways of working in

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change-oriented, workplace learning settings. It recognises that for expansive transformation to occur, the systemic contradictions must first be identified and described, because such scrutiny might generate new visions and opportunities for change-oriented learning. This paper shares empirical work in progress conducted under the auspices of the Rhodes University/South African Qualifications Authority (SAQA) research programme into change-oriented learning and sustainability practices (Lotz-Sisitka, 2008), and in so doing, contributes to an emergent body of research that focuses on work and learning, a new focus for SAQA research.

The primary unit of analysis is the activity system of two learner-practitioners engaging with the ethical dimensions of environmental education practice. The term 'learner-practitioner' is used to denote the integrated nature of their identities and practices simultaneously as 'learners' doing a course and as 'practitioners' in a professional workplace. Various tensions and contradictions related to ethics-oriented learning occur in this activity system, but, as shall be shown later, most are traceable to more systemic contradictions between this and the other activity systems with which it interacts. The interacting activity systems are: (1) the National Certificate in Environmental Education, Training and Development Practices (EETDP), which is a 12-month professional development course (a learnership) offered by a non-governmental environmental organisation (NGO) in South Africa; (2) the Wetlands Conservation Project[1] (WCP), where the two learner-practitioners are placed for the duration of the EETDP course; and (3) the South African Qualifications Authority (SAQA) and the National Qualifications Framework (NQF) within which the EETDP course curriculum was developed and is currently being offered.

This paper reflects on how tensions and contradictions between the interacting activity systems of the workplace, the course, and its regulating authority influence the teaching and learning of the environmental ethics component of the course.

Sustainability Practices and Changing Work Ethics

Through international and national policy initiatives and rising public concern, organisations (including those providing and creating work) are slowly realising the need for change towards a more sustainable way of living amongst people and within planetary limitations. New ethics and practices are being introduced into workplaces that take better account of socio-ecological relations. Various new sustainability practices which reflect a new work ethic at play are being introduced. These include practices such as environmental impact assessment, sustainable agriculture, energy conservation, water resource management, pollution control, environmental education, design and use of new (green) technologies and energy systems, cleaner production, biodiversity conservation, improved social conditions in the workplace, design of new economic models (e.g. green taxes), and waste recycling (Lotz-Sisitka, 2008). These sustainability practices are permeating workplaces everywhere and introduce a change-oriented learning environment, at the heart of which lies the creation of a new work ethic.

Modern work ethics and practices were originally constituted through the expansion of industrialisation, colonialism and capitalism. In this process, the modernist 'work ethic' purposefully separated workers from wider concerns in the world, including socio-ecological

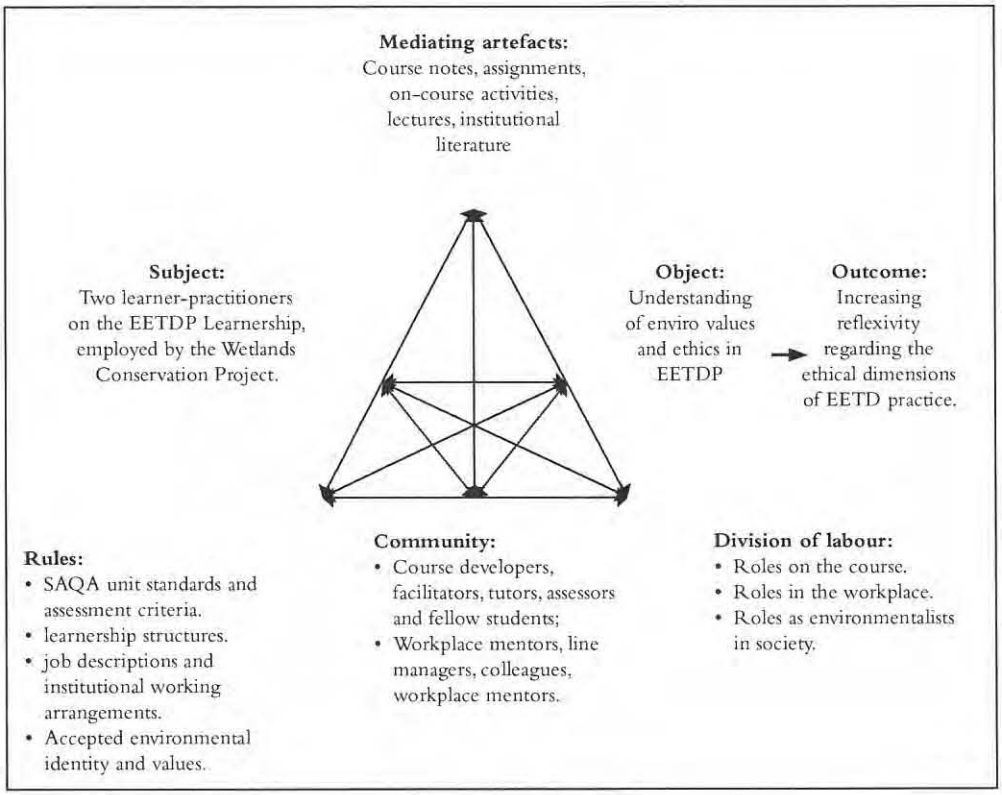
relations (Bauman, 1998). Today these development approaches are marred by unsustainable practices such as the production of pollution and waste and economic activities that appear to be allowing inequalities to thrive despite unprecedented economic growth and development. Such concerns are fundamental to all sectors of South African society. They are thus central to most education and training processes because they are both the bearers of culturally and historically situated values *and* the potential catalysts of ethically situated action and socio-ecological change. Environmental education processes imply an ethic of caring for the planet and recognising and acting upon areas where responsible human decision-making is required.

However, the nature of ethics-oriented learning remains poorly understood. Observations and experiences in environmental education in South and southern Africa suggest that the values associated with environmental practices are commonly taken for granted, under-examined or contradictory. Furthermore, course curricula, themselves values-based and conceptually laden, introduce adult learners to new discourses which may be taken up superficially or iconically, sometimes at odds with the deeply embedded history, culture and practices of the learner, and with the less deeply embedded but equally influential history, culture and practices of their workplaces.

Methodology: Third Generation CHAT

CHAT emerged from Lev Vygotsky's work in the 1920s and 1930s on the cultural mediation of actions. His renowned mediational triangle (Vygotsky, 1978) showed how a child's action in relation to an object or motive was mediated by culturally inscribed tools (language, concepts and material artefacts). This first generation of activity theory was advanced by Leont'ev (1978) who described how individual action is not only culturally mediated but also 'always situated in the context of a historically developed collective praxis, an activity system' (Virkkunen & Kuutti, 2000). This was articulated by Engeström, Miettenen & Punamäki (1999) as 'second generation activity theory' (Figure 1) which shows how individual meaning-making and action can only be understood in relation to its socio-cultural context, and how society is in turn acted upon and transformed by individual agency. CHAT's holistic view of learning and action thus disrupts the Cartesian divide between individual and society through its proposition that 'mind is revealed in action on the world' (Edwards, 2005:53), while its dialectical unit of analysis 'allows for an embodied mind, itself an aspect of the material world, stretching across social and material environments' (Roth & Lee, 2007:189).

Figure 1. Second generation CHAT 'activity triangle' commonly used by activity theorists to analyse human activity systems (Engeström, 1987). Here, the activity system is exemplified using the environmental values and ethics component of the National Certificate in EETDP.

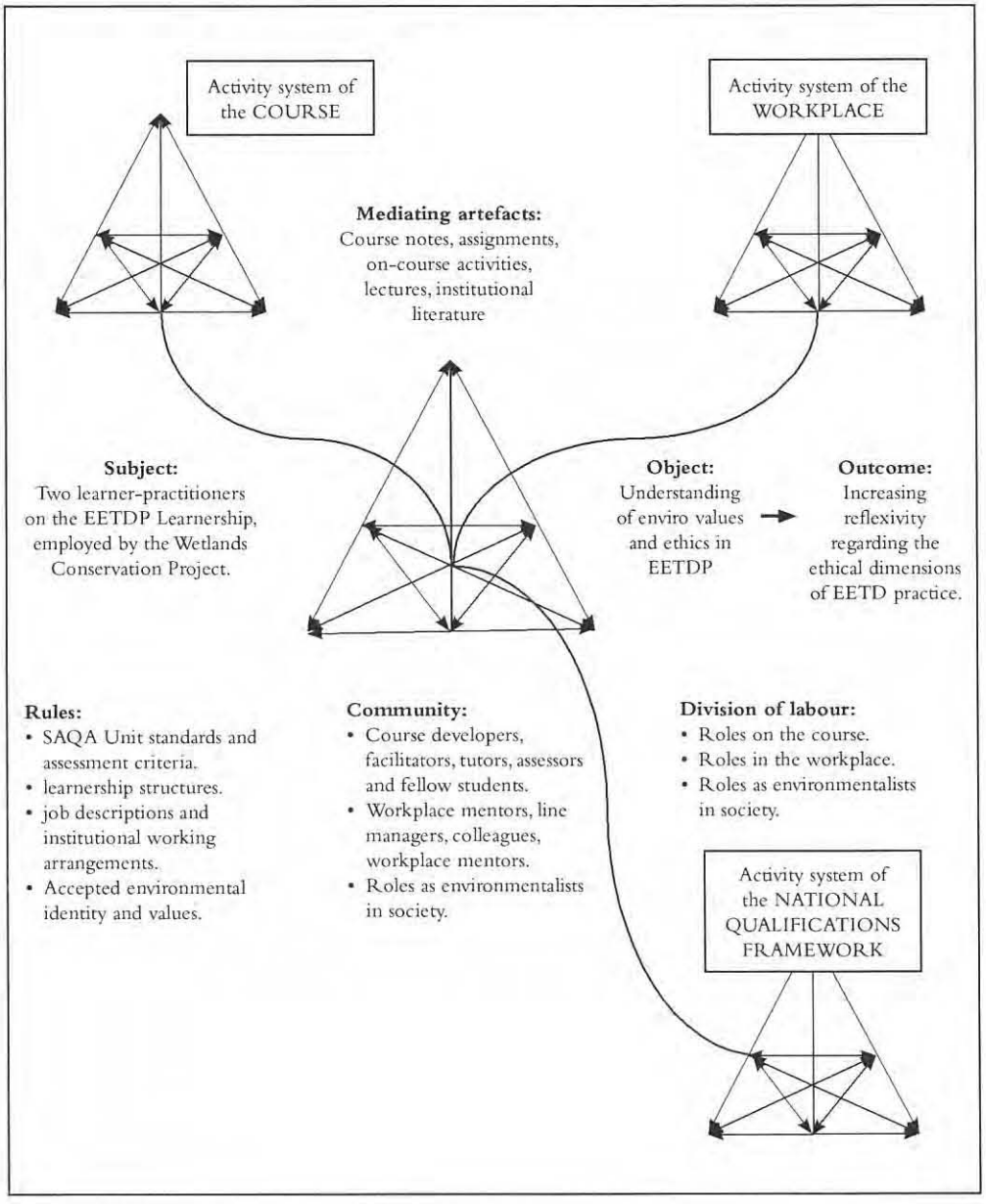


Engeström's subsequent development of third generation CHAT and expansive learning makes its transformative potential more explicit. Where Vygotsky's and Leont'ev's emphasis lay on understanding play and learning among children, more recent work by Engeström (1987, 2000, 2001) and others (see for example: Chaiklin, Hedegaard & Jensen, 1999; Engeström *et al.*, 1999; Virkkunen & Kuutti, 2000; Warmington *et al.*; 2004; Roth & Lee, 2007; Edwards, 2007; Mukute, 2009) explore the implications of the Vygotskian legacy for organisational and workplace theorising.

Third generation CHAT foregrounds the networked and interactive nature of activity systems. Engeström (2001:136) identifies the prime unit of analysis as a 'collective, artefact-mediated and object-oriented activity system, seen in its network relations to other activity systems'. This paper takes as its prime unit of analysis the activity system of two young, black, male learner-practitioners engaging with the ethical dimensions of their environmental education practice within a nature conservation agency. It examines how their activities and progress towards achieving their objectives are bound up in networked interactions with other activity systems, namely: (1) the national qualifications authority and its associated frameworks

and regulations; (2) the environmental education course; and (3) the conservation workplace where the learners are placed for the duration of the course (see Figure 2).

Figure 2. Third generation CHAT 'activity triangle' representing how activity systems occur in relation to other networked activity systems (Engeström, 2001). In this case, the activity system of learner-practitioners engaging with the ethics-oriented dimensions of their work interacts strongly with those of the course, the workplace and the National Qualifications Framework.



Identifying Contradictions Within and Between Activity Systems

Contradictions are 'fundamental tensions and misalignments in the structure that typically manifest themselves as problems, ruptures, and breakdowns in the functioning of the activity system' (Virkkunen & Kuutti, 2000:302), and these give rise to disturbances which Engeström (2000:964) calls 'deviations from standard scripts'. Contradictions are recognised as the main drivers of learning and change because actors respond to the disturbances; for instance, course facilitators might change their pedagogy or develop new meditational tools in response to learners' poor performance. But Virkkunen and Kuutti (2000) caution that an accumulation of contradictions can lead to a loss of direction in the activity system and the production of even more disturbances and ruptures. This paradoxically creates the need for, but simultaneously reduces the prospect of, more learning and change. Seeking an understanding of how to achieve a balance of contradictions sufficient to catalyse learning and change without compromising the activity system's overall focus and value is a primary concern of this paper. Especially in change-oriented learning processes (and this paper focuses on ethics-oriented teaching and learning as one example), careful, open-ended interactions are needed to create spaces for deliberation and change. Wals (2009:43) explains:

> Moving towards sustainability or sustainable living, inevitably involves diverging norms, values, interests and constructions of reality. A key premise of social learning is that such differences need to be explicated rather than concealed. By explicating and deconstructing the oftentimes diverging norms, values, interests and constructions of reality people bring to a sustainability challenge, it not only becomes possible to analyse and understand their roots and their persistence, but also to begin a collaborative change process in which shared meanings and joint actions emerge.

Engeström (1987) identifies four types of contradictions:[2] (1) those occurring within the elements of an activity system (e.g. within the rules of an activity system); (2) those occurring between the elements (e.g. a contradiction between a rule and the division of labour of an activity system); (3) those occurring between the old and new way of doing things (assuming that expansive learning and transformation within the activity system occurs); and (4) between separate activity systems (e.g. the activity system of a course and that of a workplace).

CHAT provides an analytical vantage point and a language to probe such tensions and contradictions, particularly in understanding how the histories and cultures of the various groups have jointly given rise to the current status quo. The activity system under review is thus not seen as a static snapshot, but as a dynamic, historically-constituted process.

The activity systems

The following sections describe the activity systems of the qualifications authority, the course and the workplace before providing a more detailed account of some of the contradictions identified in those systems. These insights are based on workplace observations, document analysis and extensive interviews.

The activity system of SAQA and the NQF

The South African Qualifications Authority Act (RSA, 1995) and the NQF influenced the origination of unit standards – specific outcomes and assessment criteria around which the EETD course curriculum was developed, and in relation to which learner-practitioners' engagement with environmental ethics is assessed. Through its various structures and mechanisms – such as the Education, Training and Development Practices Sector Education and Training Authority (ETDP SETA) – SAQA had responsibility for regulating and quality assuring curriculum design and the assessment of learning, a function which made it influential in all accredited education and training in the country.

The object of the SAQA/NQF activity system is strongly influenced by South Africa's history of inequity and racial discrimination, and by its legislated intention to contribute to post-apartheid education system transformation. In line with the SAQA Act of 1995 (since superseded by the NQF Act No. 67 of 2008 [RSA, 2008]), the objective of the NQF is to create a cohesive national framework for education and training that facilitates articulation and progression within career paths, that enhances the quality of education and training, and that accelerates the redress of apartheid's legacy of an inequitable, discriminatory education, training and employment system (SAQA, 2006). The mediating tools and artefacts of this activity system (for example unit standards, specific outcomes, assessment criteria, embedded knowledge, assessment frameworks, guiding documents, strategies, and so on that were in place at the time of this research) exist for the realisation of these objectives. The 'community' of the SAQA/NQF activity system is extensive, including, for example, the national Department of Education (DoE), the Department of Labour (DoL) (since superseded by the Department of Higher Education and Training), the standards generating bodies (SGBs), sector education and training authorities (SETAs), learners, and accredited education and training providers (such as the Wildlife and Environment Society of South Africa [WESSA] whose activity system in relation to the course is described below). A while ago the study team on the implementation of the NQF (DoE & DoL, 2002) noted, however, that the size, composition, nature and capacity of these numerous groups, and the complexity of their relationships, was hindering NQF progress.

Walters and Isaacs's (2009:25) account of the failings of the NQF reveals several disruptions and contradictions within the activity system of the NQF. They state the following:

> Key amongst external factors was an underestimation of the weaknesses of institutions and the lack of competent educators and trainers inherited from Apartheid. Key amongst the internal factors were conceptual confusions and contestations over what was meant by competences and outcomes (and forms of learning underpinning their achievement) and how they might be best described in qualification statements and used for quality assurance. Central to both sets of factors was a lack of clarity about the purposes of the NQF with stakeholders having very different perspectives and objectives ranging from the state's perspective of an administratively driven quality management system that could steer the education and training system towards its economic and political objectives to organised labour's view of the NQF as a portal to lifelong learning with strong emancipatory and empowering objectives.

From a vantage point provided by CHAT, one can identify in the above statement disruptions between the 'object' of the activity system and its 'community' and the numerous other activity systems with which it interacts ('weaknesses of institutions and the lack of competent educators and trainers'). These disruptions can be traced to systemic contradictions, in this case historically derived through the Apartheid legacy. Also evident are disruptions between the NQF activity system's own 'mediating tools' and its 'community' in the form of 'conceptual confusions and contestations' which, as we shall discuss later, has significant implications for the 'rules' and 'mediating tools' of other interacting activity systems. Finally, they allude to disruptions between the 'rules' of the NQF activity system, and its 'subject,' object' and 'community' ('a lack of clarity about the purposes of the NQF with stakeholders'). These and the preceding disruptions may arise from the more complex systemic contradictions in the overall conceptualisation of the NQF associated with conflicting neo-liberal economic and democratic agendas (Allais, 2003).

Environmental ethics within the activity system of the EETDP course

Aspects of the complexity of the SAQA/NQF activity system outlined above manifested in the curriculum development process of the National Certificate Course in EETDP, as experienced by WESSA and other role-players. In late 2003, WESSA prompted the establishment of the Environmental Learning Forum (ELF)[3] to enable more cooperative responses to environmental education and training opportunities arising out of the NQF, and to function as the interface between ELF member providers, the relevant SETAs, and employers seeking environmental education and training. The forum's founding document notes that:

> ... the current engagement with the NQF and accredited education and training by the environmental community is limited and ad hoc. The reasons for this are many and include the complex bureaucracy and administrative burden surrounding the accreditation process, the fact that many environmental organisations are small NGOs and CBOs. (ELF, 2004:3)

Between 2003 and 2006, the needs analysis, collaborative curriculum development, course accreditation and pilot implementation of the National Certificate Course in EETDP were characterised by conflicting advice and directives provided by SETAs, private consultants and members of the environmental education community who had some prior experience with the NQF.

The 'rules' regulating the course's activity system are mostly derived directly from the SAQA/NQF activity system. For example, the qualification is offered in the form of a year-long learnership and is registered as a 121-credit course at Level 5 on the NQF. Similar to the apprenticeship model, the South African 'learnership' model inducts adult learners into a particular type of work through a curriculum that is required to be 70% workplace-based and 30% formal instruction. As all qualifications through the NQF are unit standards-based,[4] the curricula of learnerships are more formalised than the traditional apprenticeship model of learning, having more formally constituted assessment requirements and delineated course-based and workplace-based components. Learners are placed in relevant workplaces for the

duration of the course where they compile a highly structured 'portfolio of evidence' of their learning, supported by an appointed course tutor and workplace mentor.

The stated purpose of the qualification is to:

> ... prepare candidates to function as entry-level environmental education practitioners. It will apply in particular to part-time practitioners working in environmental education centres and to people who may be employed primarily in fields other than education, but who may develop an environmental education role in their workplace, e.g. field rangers, outreach officers, interpretive officers, etc. (SAQA, 2005b).

One of the qualification's ten exit-level outcomes requires learners to: 'Apply fundamental knowledge of environmental ethics to a field of work or study.' The content, scope and depth of this broad outcome is determined by four unit standards, each with a particular emphasis or application. Table 1 lists the qualification's four ethics-oriented unit standards and their credit value; while Table 2 provides the detail of one of these unit standard's Specific Outcomes (SO) and Assessment Criteria (AC).

Table 1. Ethics-oriented unit standards within the National Certificate: EETDP

Unit standard title	Credits
13668: Work ethically and professionally as an environmental education practitioner	3
13649: Apply fundamental knowledge of environmental ethics to a field of work or study	6
13640: Research and analyse an environmental issue in terms of principles of environmental justice and sustainability and recommend possible solutions	8
8367: Understand and develop conservation ethics	4

Course developers, facilitators, tutors, learner-practitioners, mentors and assessors agree (albeit citing different reasons) that the environmental ethics dimension of the course is very challenging, to the point of being problematic. Ethics-related questions in the assignments were simply left blank by many learners, course facilitators and tutors expressed uncertainty around the pedagogy associated with the ethics component of the course, and assessors expressed concern about their own competence to assess others' ethical engagement, and whether ethics can be assessed at all.

Due to the structure of the learnership, 70% of learning is required to take place in the workplace. The assumption in the course curriculum was that time spent on the ethics component of the course during contact tutorials (30%) would be extended and enriched by 70% through workplace mentorship and experience. In practice, however, the formal teaching time dedicated to environmental ethics and values was reduced and as explained below, little or no elaboration occurred in the workplace.

Table 2. Detail of unit standard 13649, including specific outcomes and assessment criteria

Unit standard 13649: Apply fundamental knowledge of environmental ethics to a field of work or study	
Specific outcome (SO)	**Assessment criteria (AC)**
SO 1: Demonstrate fundamental knowledge and understanding of environmental ethics	AC 1: Demonstrate broad knowledge and understanding of key concepts related to environmental ethics. AC 2: Demonstrate some depth of understanding of different perspectives in environmental ethics and associated value positions. AC 3: Demonstrate an understanding of the practical implications of the contested and ambivalent nature of environmental values
SO 2: Analyse a range of environmental practices and problems and develop a synthesis	AC 1: Analyse a range of environmental and development practices in the light of a fundamental knowledge of environmental ethics. AC 2: Analyse a range of environmental problems in the light of a fundamental knowledge of environmental ethics. AC 3: Describe the variety of environmental value positions held by stakeholders associated with these environmental practices and problems. AC 4: Summarise and describe the ethical dilemmas reflected in the scenarios analysed. AC 5: Recommend ethically responsible alternatives or solutions to these practices and problems.
SO 3: Demonstrate an understanding of the environmental value positions	AC 1: Demonstrate knowledge of key international and South African environmental policies and legislation that have a bearing on the learner's field of work or study. AC 2: Where relevant, demonstrate knowledge of workplace-based environmental policies and procedures. AC 3: Analyse selected policies and procedures and identify environmental value positions reflected in these. AC 4: Compare the environmental value positions reflected in environmental policies and procedures.
SO 4: Develop a code of environmental ethics guiding practice within the field of work or study	AC 1: Describe the learner's current or future work context. AC 2: Identify responsibilities, procedures or practices that may have an impact on the environment. AC 3: Identify characteristics of environmental best practice in the field. AC 4: Draw up a code of environmental ethics to guide workplace practice. AC 5: Critically evaluate own performance against these criteria.

Environmental ethics within the activity system of the workplace

The Wetlands Conservation Project (WCP) is a long-term, donor-funded project within a national environmental NGO. Its focus is on capacity development with key stakeholder groups to achieve the rehabilitation and wise use of wetland systems, training, community management, lobbying and government cooperation. As part of its strategy to build capacity of young, black conservation leaders within the project and the sector more broadly within the transformation objectives in South Africa, the WCP trialled an internship programme

to mentor young black professionals in wetland conservation practices. Initially, the WCP appointed degreed young professionals, but in two consecutive cases lost them to better paying jobs once they had accumulated reasonable work experience with the WCP. Thereafter, the project appointed two young, unqualified and inexperienced interns in a part-time capacity with the goal of supporting them to develop their capacity and careers within the project. The candidates were, prior to their appointment, working mostly in a volunteer capacity for two small, local NGOs. They were identified by a senior colleague and selected on the grounds of their potential to develop successful careers within the EETDP or conservation sector. In the absence of a structured internship programme, it was decided to register the two new interns for the National Certificate Course in EETDP and to use that course's curriculum process to direct their workplace learning processes. The WCP employs only two other full time staff (both young white males who have each worked for the WCP for nearly a decade) at the level of project manager. They were both assigned to the two part-time interns as their workplace mentors.

The main focus of the WCP is to work with stakeholders (e.g. farmers and other landowners) to delineate, conserve or rehabilitate wetlands and related freshwater systems. When asked in an interview to describe the ethical orientation inherent in their work, one of the project managers explained:

> Fundamentally, as a programme, our primary and perhaps unwritten motivation is working with people to manage their wetlands better. We don't come to people saying listen, we're the wetland experts, we've got the answers. We kind of ask what is the problem that we have here, and we share our take on the problem and how do we now solve this problem, how do we work together on it? ... It's not our job to really push a particular set of environmental values because people create their own value systems, their own ethical systems.

The same project manager, who is also the workplace mentor to one of the learner-practitioners, recognises that he and the WCP bring a specific set of environmental values, but it is not his place to dictate or otherwise impose such values on those with whom he works, such as farmers, foresters, and the learner-practitioner to whom he is assigned as workplace mentor.

Both the learner-practitioners and the project managers struggled to identify sites of ethical tension in their work with the WCP. One of the project managers referred to the tension between their organisation's environmental values and national government's legal and policy frameworks regarding freshwater management. One learner-practitioner referred to the tensions between rural communities who traditionally cut reeds and graze their cattle in wetlands and conservationists who aim to protect wetlands from degradation.

But due to the nature of their work (e.g. project managers accustomed to working alone on specific projects, many of which require sophisticated reporting and knowledge specialisation) and the nature of workplace interactions (e.g. interactions were reduced to weekly management meetings, in the absence of other common work), there were minimal opportunities to engage directly with such environmental values and ethics-based concerns. Environmental values and

ethics appear to be under-examined and taken-for-granted in the workplace practices of the WCP, whereas professional ethics such as honesty in the workplace, transparency, openness between colleagues, punctuality and so on appear to be much more explicitly framed and discussed.

Consequently, both workplace mentors reported very little evidence of either learner-practitioner having engaged actively with the ethical aspects of their professional work during the learnership. Additionally, the learner-practitioners appeared to rely almost exclusively on tutor and assessor feedback to guide their responses in the ethics-related workplace assignment tasks.

This does not mean that no opportunities existed for such interactions, nor that ethical deliberation did not occur. It is, however, an indication that dialogue and other forms of learningful interaction around environmental values and ethics in professional practice were sparse in the workplace, despite it being integral to the course content and assessment framework which seems to have assumed that EETDP workplaces would provide such opportunities.

Guided by this section's emphasis on historicity and structure, the following section reviews a range of contradictions within and between activity systems as the two learner-practitioners engage with the ethical dimensions of their work.

Identification of contradictions

Contradiction 1: The scope and complexity of the qualification's unit standards, outcomes, assessment criteria and essential embedded knowledge [RULES] exceed the scope and depth of the stated purpose of the qualification [RULE] and are untenable in relation to the credit-weighting of some unit standards [RULE].

This first contradiction is what Engeström (1987) describes as a level one contradiction, occurring *within* the same element of an activity system. In this case, there is a mismatch between the qualification's stated purpose and the requirements and credit weighting of its unit standards.

This is illustrated through the case of Unit Standard 8367 ('Understand and develop conservation ethics') (SAQA, 2001). The unit standard is worth four credits (of the qualification's overall 121) which equates to a recommended 40 notional hours, 70% of which should be workplace-based. The unit standard contains of five specific outcomes: (1) Identify values, situations and behaviours which have caused global environmental crises; (2) Develop a personal set of extrinsic and intrinsic values of ecosystems; (3) Distinguish differing interests and values underlying current practices in 'Conservation'; (4) Interact with people to address issues of conflict of a bioregional context; and (5) Explain differing interests and values underlying local environmental conflict.

Over and above the achievement of these specific outcomes, learners must be assessed in terms of the unit standard's essential embedded knowledge (EEK)[5] which is listed as follows:

The qualifying learner is able to demonstrate a basic knowledge and understanding of:	
1. Broad ethics	10. Emotion and science
2. A 'value'	11. Principle of sufficiency
3. Empathetic skills	12. Conflict management.
4. Risk and decision-taking	13. Conservation and preservation philosophy
5. Parallel thinking	14. Sustainability (some practical intergenerational examples)
6. African and western approaches to conservation	15. Bio and cultural diversity issues
7. Wilderness (extrinsic, intrinsic)	16. Negotiation skills
8. Man-Earth-God relationships (spirituality values)	17. Feminism (eco)
9. Politico-ethics (capitalistic-socialistic – green and brown issues)	

This EETDP qualification was developed to: 'prepare candidates to function as entry-level environmental education practitioners' (SAQA, 2005) and the only learning assumed to be in place is a Grade 12 school-leaving certificate. The scope and complexity of the specific outcomes and essential embedded knowledge listed above is incongruous with the stated purpose and starting point of the qualification.

Additionally, the amount of time required to support entry-level practitioners (who have little or no background in environmentalism or philosophy) to achieve the listed specific outcomes and EEKs within the study time associated with four credits, is unrealistic.

This disjuncture between various 'rules' within the SAQA/NQF activity system is traceable to an earlier contradiction in 2001 between the rules and community of that same system. In the formative years of the NQF, standards generating bodies (SGBs) were formed. These consisted of specialists from various fields commissioned to develop qualifications and their associated unit standards. The unit standards for the National Certificate in EETDP were developed by the Environmental Education SGB. However, after the SBG had finalised the qualification, the qualification was amended internally within SAQA to provide specific credit bearing electives (which the SGB thought would be the choice of providers), so that the qualification adhered to a certain number of credits. It was amended to include Unit Standards 8367 ('Understand and develop conservation ethics') and 8385 ('Facilitate conservation understanding'), both of which originated in the Nature Conservation SGB and disrupted the coherence of the ethics-oriented unit standards already in place in the education qualification.

It becomes possible to trace how various occurrences in the historical emergence of the unit standards within the SAQA/NQF activity system determined the nature of the 'rules' that currently direct the activity system of the EETDP course and consequently influence the form and quality of the learner-practitioners' experiences of workplace learning. Contradictions that exist between the activity system of the course and the design of standards therefore need to be brought to the fore and critically engaged with to ensure a stronger and more effective

relationship between these two activity systems. To date, education and training providers have not been adequately empowered to fully understand the historicity of the issues they are dealing with, and thus consequently continue to make more efforts to work with the unit standards in the qualification, rather than requesting a revision or review of the originating problem. If learning is to be more successful, then these contradictions need to be raised and addressed, and education and training providers need to be more fully empowered to understand and critically engage with the construction of the standards that shape their practice.

Contradiction 2: The course's written materials and assessment tasks [MEDIATING TOOLS] are experienced by some learners [SUBJECT] as inaccessible, even alienating.

There is ample evidence to suggest that both learner-practitioners in this case study engage actively with the ethical dimensions of their personal lives and feel strongly about certain socio-ecological issues. For example, the older and more experienced of the two is actively involved in local initiatives supporting orphans and vulnerable children living on the streets, while the younger has recently become involved with a 'dog school' initiative which offers free training in dog care and handling to schoolboys and their dogs in the local township.

The learner-practitioners, however, appear to lack the shared language skills and cultural capital to, firstly, bridge the course materials with their own experiences and, secondly, articulate this within the specifications of the course's assessment framework and tasks, as articulated and expected in and through the course and its discourse and language. Both learner-practitioners can engage well in informal conversations in English, as well as with a number of accessible English texts such as newspapers and magazines. However, interactions involving more advanced field-based discourse and more complex sentence construction appear to disrupt the fluency of their responses. The following is an extract from one learner-practitioner's ethics-oriented assignment response, illustrating challenges associated with articulating sophisticated ideas in an additional language:

> *I would say sustainable development is a process where we have to look after what we have for the next generation, in order to survive. And I can also say it is a demanded thing by the environmental issues which gives us a challenge to Act.* (Student Portfolio of Evidence, p.11)

Both of the workplace mentors (who are proficient in the discourse of the field, and in English as their first language) expressed concern over the learner-practitioners' levels of literacy, noting that they were unable to write professional reports at the required level or engage constructively with most written texts used in the professional context of the workplace. This is an issue reported on more widely in the environmental sector (DEA, 2010), and is an issue that has been discussed in great depth by sociologists such as Bourdieu and Passeron (1977) and Bernstein (2000) (amongst others), who explain the cultural power of language and its exclusions in educational settings.

The EETDP course materials reflect little sensitivity to learners' language proficiency, and to issues of access to new professionalised discourses, as evidenced in the following two extracts from the student handbooks:

> Humanity has been steadily broadening its ethical obligations from members of the same race, to a nation, to the whole of humanity. However we have also seen a steady rise of other concerns since 1960 with rise of animal rights and now we even include inanimate objects (sea, rocks, rivers) into this broadening ethical boundary. (WESSA SustainEd, 2006/2009a, p.35)

and...

> The relatively new philosophy of environmental pragmatism has its foundation in the American pragmatism, which was developed at the end of the 19th century. The main thought of environmental pragmatism lies in the importance of the environment, as it provides humans with experience, which facilitates in developing modifying and changing ethics and values as time goes by. Understanding that it is impossible of finding [sic] one ethic that will completely and accurately solve all conflicts of right and wrong is pragmatism's lead word.
>
> The environment is seen as an important source in the search for a mixture of ethics that will, not solve, but ease many of the problems in the world today. Attempts to dominate nature are, according to environmental pragmatism, not recommendable, as this will annihilate parts of nature that might have served as sources of experience to humans. The exclusion of any environmental ethic (anthropocentrism, eco-centrism, bio-centrism) is also not supported by this philosophy since denying one ethic for another might prevent us from reaching a good value system that can relive [sic] some of our life's burdens. (WESSA SustainEd, 2006/2009b Appendix 2)

Different explanations for the complexity of the course text and mediation languages have been put forward by the community of the course's activity system. Some suggest that it is traceable to the course developer during the course's inception who was finalising a postgraduate degree in environmental education at the time of drafting the materials for the pilot phase of the course. Others suggest that it is not so much the academic intensity of one individual, but rather the general paucity of philosophically and pedagogically robust environmental ethics texts across the course's community of practice that necessitated such a heavy reliance on postgraduate-level texts. The course has, however, been offered six times since its inception and, although time and resources for reviewing and rewriting of materials has been limited, certain revisions have been made. However, these revisions have not extended to the complex texts of the ethics component of the course. Again various reasons exist for this, most notably the tight controls placed on the course designers by the sector education and training authority who use 'tick box' approaches to quality assurance.

It was not only at the linguistic and professional language level that the course's mediating tools were experienced as uninviting. Discourses typical of environmental ethics typologies and philosophy textbooks dominate the course manuals. As noted above in Contradiction 1, their dominance is traceable to the rules regulating the activity system of the EETDP course.

This exploration of a second contradiction enables a tracing of the consequences of those national prescriptions through to the experiences of a learner-practitioner engaging with ethics discourse from his own starting point. When one learner-practitioner was asked if he had encountered these terms before, or had found them useful in the course, he responded:

> *I have not encountered them before and they just don't exist in my lifestyle and in my language. ... [W]hen we want to segregate someone from a discussion, so then you can use these words. Eco-centrism! [laughs]. And then people start to say 'I don't belong here', you know, whereas we need collective effort in terms of alleviating what we are doing on our environment and relating it to what the environment does to us.... I can only use these words to meet the requirement of the qualification, but not really at my workplace or at my professional life ... Because our communities don't need these words. They only need action that would save their lives. (Interview with anonymous participant)*

From this quotation it is evident that the learner has a clear and nuanced understanding of the development needs of the disadvantaged community where he lives, as well as the power gradients that affect how role-players engage with such processes. His response also shows sophisticated understandings of ethical issues, and while he does not appear to fully grasp the technical ethical discourses as presented in the course, he astutely recognises that he needs to use these typologies and terms in his assignments if he is to be assessed as 'competent' against the relevant unit standards.

The second learner-practitioner noted that he found the course materials interesting and helpful, but also acknowledged that he struggled to complete the readings because the vocabulary was difficult and the texts were long. Beyond such comments in an interview, however, it is difficult to gauge the extent of the readings' usefulness to him because he did not refer to them at all in his responses to the ethics-oriented assignment tasks.

The value of being able to identify and probe this contradiction between the mediating tools and subject of the activity system is that it begins to reveal other existing or potential contradictions. For example, as noted earlier, ethics-oriented interactions in the workplace were sparse, with few if any written texts in circulation. Consequently, almost all tools to mediate ethics-oriented learning were accessed via the formal course teaching sessions and materials. An area for review or change towards better supporting workplace learning processes through a learnership might be to provide more accessible, contextually adaptable course materials that form a more explicit bridge between course content and the dynamics, practices and languages of the workplace, bearing in mind that new professional discourses may also need to be learned in the workplaces. It is not, therefore, simply a matter of simplifying language, but rather a matter of mediating professional discourses more effectively through different iterative teaching and learning strategies.

Conclusion

While only two contradictions have been elaborated upon in this paper, numerous other contradictions can be identified, such as: a contradiction between the 'community' and 'mediating tools' of an activity system, reflected in uneven understandings of environmental values and ethics by course developers, tutors, assessors, workplace mentors and learners, and their limited experience and guidance on how to teach and assess the ethics-oriented component of the course.

This paper has focused in detail on two systemic contradictions that influence the quality of ethics-oriented teaching and learning on the EETDP course. The first was a level one contradiction occurring within the same element of an activity system (in this case, the activity system of SAQA and the NQF), which has implications for effective practice in the related activity systems of the course and learner. The second was a level three contradiction occurring between the mediating tools of the course (language and discourse), and the mediating tools (language and experiences) of the two learner-practitioners registered for an EETDP learnership and placed in the activity system of a wetlands conservation workplace. Cultural historical activity theory has provided an analytical vantage point to probe these contradictions further, in particular to understand how the histories and cultures of the various groups have jointly given rise to the current status quo.

A shortcoming of writing a paper focused on systemic contradictions is that the emphasis lies on (and lays bare) tensions, disruptions and problematic areas which are not balanced here with the strengths, synergies and successes of the EETDP course – of which there are also many. This special focus on the ethics component of the course has forced the creation of a reflective space in relation to it, and this is potentially generative, particularly if the openings provided by the analysis of the contradictions and tensions provide the course designers with tools and insights to improve the learning opportunities for the learner practitioners. The course developers may want to pursue this methodology to review other components of the course, such as how environmental issues are framed in the course, how educational theories are being taught, and so on.

The wider benefit of these analytical tools is the generative potential that their sharpened analysis provides. At the start of this paper it was noted that contradictions are potentially the drivers of learning, change and development in activity systems. Through CHAT and the identification of systemic contradictions, the researcher has been able to probe the ethics-oriented learning processes of the EETDP course in more depth. There is evidence of how the historical development of 'rules' and 'mediating tools' in interacting activity systems influences ethics-oriented teaching and learning in the present. Misalignment between various rules that direct ethics-oriented learning, together with diverse discourses around environmental values and ethics in the course and the workplace activity systems, have created numerous anomalies and tensions, which are openings for new engagement and learning. The process has led to a more nuanced understanding of ethics-oriented teaching and learning processes in a workplace-based course, and has revealed several areas needing more careful research, especially in the area of environmental discourses, and the explicit and implicit language of ethics.

Notes on the Contributor

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Endnotes

1. The name of the organisation has been changed but the pseudonym is adequately descriptive to reflect the focus of its work.
2. Engeström (1987) refers to these four orders of contradictions as phases within an expansive or transformative learning cycle. In this paper, I use them in a more limited way as analytical tools to identify contradictions, while noting that the very act of sharing these insights may be indirectly transformative in relation to the interacting activity systems of SAQA, accredited education and training providers and employers.
3. The following organisations were founding members of the ELF: Department of Environment Affairs and Tourism, WESSA, Rhodes University Environmental Education and Sustainability Unit (RUEESU), Environmental Justice Networking Forum (EJNF), Earthlife Africa, Heinrich Boell Stiftung, South African NGO Coalition, KZN Department of Agriculture and Environment Affairs, Zero Waste Institute of South Africa, Green Network and the SADC Regional Environmental Education Centre (DEAT, 2009).
4. Unit standards are the 'smallest unit of educational achievement that can be credited for certification' (Allais, 2003). According to the NQF Network (1997, p. 2), unit standards: 'describe the result of learning, not the process' and are the 'meaningful end-point of learning that is worth formally recognising'. As these are nationally prescribed standards, their influence on course curricula and hence teaching and learning processes is thus significant and will be considered in this paper in more depth in the later section on the Rules of the course's activity system.
5. See Vorwerk (2004) for some critical perspectives on EEK.

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APPENDIX 10:

ENVIRONMENTAL ETHICS SECTION OF THE 2008/ 2009 EETDP COURSE MODULE ONE LEARNER HANDBOOK

Focus area 2: Environmental values and ethics

In this section we cover:

- *investigating, understanding and analysing environmental ethics and values in local and global environmental issues;*
- *identifying ethics and values in environmental legislation and policy;*
- *identifying and developing environmental ethics and values in yourself, your workplace and your community; and*
- *the role of environmental ethics and values in environmental education.*

2.1. An introduction to ethics and values

As an environmental education and training practitioner, it is not only essential for you to recognise the range and complexity of environmental issues around you, but also to identify appropriate reactions to a particular issue. This is true at a personal level, as well as for your workplace, organisation or community. How you respond to and understand an environmental issue will to a large extent be shaped by your moral values. The moral values of individuals and groups in society play a large role in determining our actions and what we see as acceptable or unacceptable practice or actions. Values are very subjective and are not always easy to define. To make things even more complicated, we often have conflicting values that may lead to ethical dilemmas when a certain set of values conflicts with another set in a particular action or event.

A very simple example to demonstrate what we mean by an ethical dilemma is the situation you might face in terms of a decision to buy a car. Let's look at some of the things you might consider in this situation:

- You want a car that is safe with features such as airbags, ABS brakes, etc. This is because you want the safest mode of transport for you and your loved ones. (Moral Value: respect/reverence for your own and others' lives)

A definition of 'ethics':

An ethic is a set of principles of right conduct or a theory or a system of moral values. Ethics is the study of the general nature of morals and of the specific moral choices to be made by a person or a moral philosophy.
"Ethics is about relationships between individual and group interests – human or otherwise – and some idea about the common good." (Jickling et al. *2005)*

Here are some additional definitions taken from the Rhodes University M.Ed. course in Environmental Education (Lotz-Sisitka 2002): -

- ***Ethics** – the study of values and morals, often from a philosophical perspective*

You want a car that will make you feel good and will impress others. Although you don't really need one, you feel that a luxury 4x4 will certainly be the vehicle to be seen in and all your friends and colleagues will be suitably impressed. (Moral Value: economic wealth = status and respect in modern society)

- As an environmentalist you know that a smaller car will meet your transport needs and have much less impact on the environment. (Moral Value: respect and care for all forms of life and for future generations)
- You know that if you buy the more expensive 4x4 it will mean going into bigger debt and mean less money available for holidays with your family, university fees for your children when they grow up, etc, and more pressure to work longer hours to pay off the car, (Moral value: quality of life depends not only on material things but includes love, quality time with family, good education, etc.)

What this example shows is that there are many conflicting values that influence us as we make a decision about what car to buy. Which car we do eventually buy will depend on which of the above values is strongest. For example, if we really need to feel affirmed by our peers and society and having a large, expensive 4x4 is going to make us feel more important and accepted, then, if we can afford it, that is likely to be the car we buy. However, if we are very concerned about global warming and the other negative effects of a large 4x4 on the environment, then we are more likely to be influenced by this value and may decide to buy a smaller car or even have no car at all and rely on public transport (as many environmentalists do). The feeling of uncertainty that comes with having conflicting values is called ***ambivalence***.

Can you think of an example in your own life where you have conflicting values that lead to ethical dilemmas? How have you resolved this?

The point of discussing ethics in relation to education is that we need to ask how we, as educators, grapple with values in our teaching and learning activities. What do you think the role of ethics in education is?

- ***An ethic*** – *a code of moral conduct, a set of principles by which to live (as in 'an environmental ethic').*

- ***Environmental ethics*** – *the field of enquiry that addresses the ethical responsibilities of human beings for the natural environment. The field is not confined to ethical enquiry, but embedded in a larger matrix of cultural, aesthetic, religious, scientific, economic and political considerations.*

- ***Moral*** – *pertaining to what we believe we ought to do/what is good, and the grounds for those beliefs*

- ***Values*** – *deeply-held beliefs and dispositions; our principles for judging the worth or good of some thing or action; strongly shaped by culture and upbringing but open to change*

- ***Attitudes*** – *more superficial dispositions*

A starting point may be to encourage and assist our learners to think more carefully and critically about the values that underpin many of our daily actions and decisions. If we think about our own lives, we don't tend to go around analysing every choice or decision we make. Nor do we always consciously think about our values and how a certain action might relate to our values. Most often, our values are subconscious and affect us in ways we don't really think about. We also seldom take the time to think very deeply about the impacts of our decisions and actions. This is not necessarily related to ignorance of the possible impacts but rather to the complexity and uncertainty about what those impacts are and what possible difference we can make as individuals in a very large and complicated world. It could become overwhelming and even lead to 'action paralysis' if we were to analyse every single action we took from buying a T-shirt to deciding what food we should eat. So how then do educators grapple with ethics?

As you go through the contact session activities and readings related to this focus area, use the readings and activities as ***guidelines*** for deepening and clarifying your understanding of ethics and how it relates to your work. In a fast-changing and complex world, the role of ethics and values in guiding our decision-making is becoming ever more important. Even a simple set of values can have huge effects on our decisions and actions.

READINGS

- *Reading 4 – Ryan, J. C. & A. T. Durning, 1997.* Stuff: The Secret Lives of Everyday Things. *Northwest Environment Watch, Washington.*
  - ➔ ***Chapter 3 – Newspaper. Pages 13 – 19;***
  - ➔ ***Chapter 4 – T-shirt. Pages 21 - 25***

2.2. *Ethical orientations*

We will shortly be looking at analysing workplace documents such as policies and/or education programmes or materials to gain a better understanding of the ethics and values that shape practices in your workplace or community. Before we do this, you are provided with an overview of certain ethical orientations or value positions. It is important to think carefully about what we mean by an ethical orientation. We could probably safely say that there are as many different ethical orientations or value positions as there are people on this earth. Each person is unique and has his/her own experiences and worldviews that shape their values in ways that are different to anyone else. When we talk about a particular ethical orientation, it is usually a set of values that have been grouped together and given a label.

It is important to understand that these groupings and labels are not natural – they are simply an artificial construct to help us generalise in order to simplify a situation and make it easier to communicate with others about it. This effectively is what all language does. Think about the word 'tree' for example. The word has been created to help us communicate with others about a general thing: a plant with certain shapes and characteristics. We all have a certain mental image that comes to mind when we say or hear the word 'tree'. However, out there in the physical world, there is not one single tree that is the same as any other. Even the cloned trees planted in plantations, although genetically identical, have different growth forms and shapes.

One way of classifying an ethical position is to look at where humans fit into the situation – ethics after all is about human action and many people would argue that there is no pre-determined universal set of ethics that is separate from humans. Of course there are also many people who believe in an external, pre-determined set of values that we as humans should subscribe to. This falls within the realm of the various religions of the world and their beliefs or faith systems. There are different ways to go about classifying ethical orientations.

One example of a continuum of ethical positions/orientations with respect to the natural environment is the following:

- ***Anthropocentric*** *("human-centred") – the focus of environmentalism here is on the value humans can gain from the environment. Anthropocentric orientations can range from extremely anthropocentric to only slightly anthropocentric.*

  → ***Extremely anthropocentric*** *orientations are concerned only with what can be extracted from nature for economic and other gains. An example of an extremely anthropocentric orientation is that of the "ruthless" developer – who is only concerned with economic wealth, as opposed to any other type of wealth.*

  → ***Slightly anthropocentric*** *orientations are still concerned with the value that humans can gain from the natural environment – but recognise that the natural environment in itself is a form of wealth. An example of a slightly anthropocentric orientation would be wilderness preservation, where areas of great natural beauty are preserved so that people may gain certain benefits (other than economic) from visiting those areas.*

- ***Non-anthropocentric*** *– an ethical orientation that is not centred on humans and human values. Non-anthropocentric ethical orientations argue that non-human nature has value in and of itself, entirely independent of the value that humans ascribe to it. Thus a strong respect for fellow members in the biotic community, and also a respect for the community itself, is engendered.*

One way is to ask opposing questions so that those who would answer one option would be in one 'ethical group' and those who answer the other would be in another 'ethical group'. These two positions could then be seen as two opposites or extremes on opposite ends of a continuum with a range of more moderate groupings in between. For example, one could ask the question:

> *Is the world around us (including nature, other forms of life, natural resources, etc.) something that only exists to serve the needs of humans,* ***or*** *is everything in nature/the world important and valuable in its own right with humans as only a small part of the environment, neither more nor less important than any other part?*

Most ethical positions are somewhere between these two extremes, sometimes called ***anthropocentric*** and ***ecocentric***. As an example of how these terms can be used, see the explanations on the right which have been adapted from the Rhodes University M.Ed. course in Environmental Education (Lotz-Sisitka 2002).

It is important to point out that the question one starts with will determine the types of categories of ethical positions that emerge. In the example given above, the question results in categories that relate to the relationship between people and nature. Some argue that this is not a useful way to categorise ethical positions or orientations because the question itself is based on an ethical orientation that separates humans and nature and creates a false dichotomy on the one hand and on the other, can result in human-to-human ethical considerations such as social or economical justice being ignored.

With these arguments in mind, the idea then is not to try and categorise ethical positions along a continuum with opposite extremes but to rather describe a range of possible orientations that reflect values in relation to humans and humans, and humans and nature. Some examples are provided in the right-hand column.

The above ethical continuum is one that is often used to define an approach towards environmentalism. Another ethical continuum towards the environment, defined by Timothy O'Riordan (notes taken from a lecture given by O'Riordan for the LUMES Programme, Lund University, Sweden, November, 2005).

- ***Ecocentric*** *– recognises the interconnected nature of ecological interactions. Ecocentrism thus argues for a more holistic approach to goverance, society and the economy. Ecocentrism thus promotes communalism (i.e. ways of living which are centred upon the community), participatory decision-making and responsibility and care for the natural environment upon which we all depend.*

- ***Technocentric*** *– believes that all environmental problems can be solved using science and technology; and that unlimited economic growth is possible.*

However, there are many more ethical traditions that relate to the environment and environmental ethics. Some of these include the following:

- ***Ethical extensionism*** *– a position that argues for an extension of the boundaries of our moral concern to include at least some animals.*

Can you think of any other ethical orientations? What would you say is your own ethical orientation? Is it possible or desirable to 'box' yourself or anyone into any particular ethical orientation? If not, why do we bother to describe ethical orientations in the first place? Do you change from one ethical orientation to another depending on the issue at hand? These questions lead us onto the next section: the role of ethics in education.

- ***Pragmatic*** *– attempts to find solutions, while not necessarily holding anyone responsible. Approach is often to please everyone, and to appear reasonable. Attempts to change situations by academic research and low-level lobbying. Pragmatists see themselves in the "mainstream" and believe that change can only come from within current practices and structures.*

- ***Conservation*** *– places a high ethical and moral value on the natural environment. See a need to keep certain natural resources safe from negative human development. Do not necessarily see the need for constraints on industrial development, as long as key biodiversity resources are conserved.*

READINGS

- *Reading 5 - Miller, G. T., 2004.* ***Living in the Environment: Principles, Connections, and Solutions*** *(13th edition). Brooks/Cole-Thomson Learning, Belmont, California.* ***Chapter 28 – Environmental worldviews, ethics, and sustainability***

2.3. *Ethics and environmental education*

It is important to be clear about the role of ethics and values in education. Too often, educators make the assumption that their learners are ignorant and unaware and that the role of educators is to make people aware. How often have you heard this: "we need to make them aware..."? The problem with this assumption is that it rests on another even more dubious assumption: that the educator knows the correct knowledge or behaviour that they then need to transfer to the learners. We will discuss this in more detail in focus area 3. For now, let's stick to ethics. Can an educator be in a position to decide what ethical orientations are correct and then design learning programmes and activities that aim to encourage their learners to change their values to be consistent with this ethical orientation? It should be fairly obvious to you that this is not desirable by anyone. Who would decide which ethical orientation is the correct one? One educator might fall within an'extremely anthropocentric' orientation and another within a 'radical' ethical orientation. Would it be right for either of these two educators to design courses that aim to change their learners' values to their position? Of course not – we would call this 'brain-washing' or we could accuse such an educator of ideological teaching.

So how then, does an educator grapple with values? This section provides a few guidelines.

Ethics in policy and legislation

By now you should have started to ask yourself a question along the lines of: *"although some values and ethical orientations are personal, are there not certain key values that are generally accepted by society"*? The answer is yes, there are certain values that are promoted and protected by policy and legislation.

READINGS

- *Reading 6 Jickling, B., Lotz-Sisitka, H., O'Donoghue, R., Ogbuigwe. A., 2005.* ***Environmental education, ethics, and action: getting started.*** *UNEP, Nairobi. (Provides a useful introduction to the problems of ethics in environmental education).*

Think about South Africa's Constitution – there are certain values that are enshrined in the Constitution and that most people would agree with. Legislation also reflects certain values that can are enforced and that again, are a reflection of a consensus in society about what actions are and are not acceptable.

Even so, a value being enshrined through legislation does not mean that educators should blindly promote such a value. We can all think of examples of values that have been enshrined in legislation in the past and that we now would consider to be very unjust. The legislation that underpinned apartheid is one example. Another example is legislation that allowed only men to vote, prevalent in many countries even into the early twentieth century.

What policies and legislation do, from an educational point of view, is provide educators with a set of generally socially accepted values that can be critically analysed and related to practices relevant to the learners' contexts.

More specifically, in terms of the different environmental ethical orientations discussed above, the role of the environmental educator can be to examine critically existing practices and choices made within their and their learners' context in the light of the various ethical orientations. These orientations provide the language for deeper analysis and discussion of our practice that can then lead to more informed and critical decision-making.

Assumptions and bias in the media and other written materials

Any written or illustrated text comes with an immediately obvious bias that reflects certain value positions. To continue with the example of motor vehicles, many car manufacturers place advertisements in magazines that are aimed at people who are both wealthy, and, at least superficially, interested in 'the environment'. These adverts show heavy-duty sports-utility vehicles with high environmental impact in unspoiled 'wild' environments. The text on the advert usually emphasises the 'eco-adventure' aspect, at the same time as 'getting the most out of the environment'.

READINGS

- *Reading 7 – The Constitution of the Republic of South Africa (Act 108 of 1996).* ***Chapter 2 – Bill of Rights***

CD of resources:

- *Millennium Development Goals, 2003. UNDP*
- *Millennium Declaration, 2000. UN*
- *The Earth Charter, 2000. The Earth Charter Commission*

Obviously, these adverts are designed to sell vehicles, especially large, non-commercial and relatively non-practical vehicles, which sell with a high profit margin. So of course they are aimed at people who have enough excess money to spend on 'just having fun' and entertaining themselves. These are the obvious biases in the adverts. However, there are various subtle biases and assumptions made by the advertisers, which they may not even have intended. For instance, there is the fact that this 'eco-adventure vehicle', aimed at people who at least have an interest in 'the environment', is far more likely to have a bigger negative effect on the environment than a small, efficient family car, especially if it is driven in unspoiled, unpolluted environmentally-sensitive areas. Secondly, there is an unforeseen result to this kind of advertising – many people will be persuaded to buy a large 4x4 vehicle because of the lifestyle that the advertising seems to offer – but will then do most of their driving on city streets, in a vehicle that is not designed to be fuel-efficient, or even practical to park.

From another perspective, car manufacturers in developed nations, where there are less 'unspoiled wild areas' for 'having fun', still sell exactly the same kinds of vehicles. There the adverts are completely different, showing delicate young children being protected from 'dangerous urban traffic environments' by the same kinds of large, impractical, 'environmentally-unfriendly' vehicles. The consumers at whom these adverts are directed are similar to those in South Africa, because they have enough extra income to be able to choose the kind of vehicle they want to buy.

The difference here is that they are more interested in 'protecting their children' than 'protecting the environment'. In South Africa, many buyers are more interested in 'having fun in the environment' than 'protecting the environment'.

Developing the skill of critical thinking and being able to identify how advertisers use and promote certain values is a role that environmental educators can play. Depending on their context, this could range from encouraging learners to be more critical of their own personal consumption choices to more critically considering procurement of materials and resources, say in a business or local government context.

*Some would argue that **less bad is still not good**! In other words a car that only uses a little bit of petrol is only slightly better than a car that uses lots of petrol – real change would require a move to bio-diesel or other renewable energy that affects a quantum shift and change from unsustainable reliance on fossil fuels.*

Investigating assumptions and values in environmental education material and curricula

Hidden assumptions are not only to be found in the most obvious examples such as the one above, but in all curricula and material that is written, however much the people who write it feel that they are being objective. If you are going to use material and curricula that other people have developed to aid your environmental education practices, you need to be aware of the biases these materials may have. It may not be possible or even necessary to remove them, but you need to make your learners aware that they are there.

The sorts of questions you would need to ask of the educational materials you use or develop would include: What kinds of assumptions do these curricula represent? Do they encourage us to explore viable alternatives for the future, or do they tend to reinforce what will be, over the long run, untenable beliefs? This discussion suggests that curricula are inevitably value-laden. There will always be values embedded in any teaching materials – some openly stated, others implied through the text, and yet others revealed through strategic omissions.

Before you continue read the section in Jickling *et al.* (2005, p. 10) which explains the three kinds of curricula in more detail than the introduction on the right. Use the information in that section to help you complete the exercise.

Self-validating reduction

Self-validating reduction is another ethical bias that needs to be at least identified when working with environmental education curricula and materials. Here is a typical example of self-validating reduction that is relevant to the environmental field:

"Educators have recognized for some time that no curricula can be value free. For example, curriculum theorist Elliot Eisner (1985) has provided a framework that can be used to critique educational materials. In a chapter called "The three curricula that all schools teach" he argues that there will always be an ***explicit****, an* ***implicit****, and a* ***null*** *curriculum. [...] In revealing these three curricula we are also revealing the beliefs and assumptions which shape learning experiences and educational materials. Eisner's framework, used as a critical tool, can provide a basis for accepting or rejecting curricula, or for using a curriculum in a thoughtful and analytical way—as a vehicle: for revealing and examining social assumptions, as a basis for making more informed judgments, and as a factor in justifying our decisions." (Jickling* et al. *2005)*

Free trade is 'marketed' by the G8, the World Bank, and the IMF as the solution to poverty and development problems. As political support is given to this policy (especially by the richer nations) it is integrated into government policies. As these policies are implemented, other nations are under pressure to comply with the same economic regime; and, the process becomes self-validating. Now many people believe that free trade is the only solution for development.

Can you think of other examples of self-validating reduction – what about simple examples from your everyday life?

"A self-validating reduction is a self-fulfilling prophecy in which one of the main effects of the 'prophecy' is to reduce someone or something in the world. It acts to make that person or thing less than they, or it, are or could be; it, too, diminishes some part of the world's richness and depth and promise. And, this reduction in turn feeds back, not only to justify the original 'prophecy,' but also to perpetuate it." (Jickling et al. 2005)

APPENDIX 11

Environmental Ethics section of the 2009/ 2010 EETDP Course Module One Learner Handbook

2.5. Environmental Ethics

Environmental ethics is a broad field with many gray areas. Environmental ethics is the discipline that studies the moral relationship of human beings to, and also the value and moral status of, the environment and its nonhuman contents. It is a branch of philosophy as it deals with relationships, rights, morality and ethics. In this module we want you to develop a basic understanding of environmental ethics and what is your set of values towards the environment. As we will see everybody has some sort of ethic towards the environment but just don't have the terminology that philosophers love to deal in. And it is important to note here that you should be more concerned with what is your "personal ethic" towards the environment rather than what you can call it. Throughout this course we will help you build on your experiences and thoughts to understand environmental ethics.

Suppose that putting out natural fires, culling feral animals or destroying some individual members of overpopulated indigenous species is necessary for the protection of the integrity of a certain ecosystem. Will these actions be morally permissible or even required? Is it morally acceptable for farmers in non-industrial countries to practice slash and burn techniques to clear areas for agriculture? Consider a mining company which has performed open pit mining in some previously unspoiled area. Does the company have a moral obligation to restore the landform and surface ecology? And what is the value of a humanly restored environment compared with the originally natural environment? It is often said to be morally wrong for human beings to pollute and destroy parts of the natural environment and to consume a huge proportion of the planet's natural resources. If that is wrong, is it simply because a sustainable environment is essential to (present and future) human well-being? Or is such behaviour also wrong because the natural environment and/or its various contents have certain values in their own right so that these values ought to be respected and protected in any case? These are among the questions investigated by environmental ethics. Some of them are specific questions faced by individuals in particular circumstances, while others are more global questions faced by groups and communities. Yet others are more abstract questions concerning the value and moral standing of the natural environment and its nonhuman components.

Taken from The Stanford Encyclopedia of Philosophy online at http://plato.stanford.edu/entries/ethics-environmental/

Humanity has been steadily broadening its ethical obligations from members of the same race, to a nation, to the whole of humanity. However we have also seen a steady rise of other concerns since 1960 with rise of animal rights and now we even include inanimate objects (sea,rocks,rivers) into this broadening ethical boundary. Thus environmental ethics can be broadly categorised as anthropocentric and non-anthropocentric ethics. Anthropocentric is derived from the Greek word "anthropos" meaning human beings and thus an *anthropocentric* environmental ethic is one where the ethic is centred on humans. *Non-anthropocentric* ethics is the opposite of this human centered view of the universe and takes into consideration other species, other living things and even the whole of existence. Non- anthropocentric ethics has many different variations from patho-centrism to biocentrism to holism. This can be illustrated as in Figure 4 on the next page illustrating the "Basic types of environmental ethics". Please note that this is only one way of representing these ethical areas and you should try to view it in your own way.

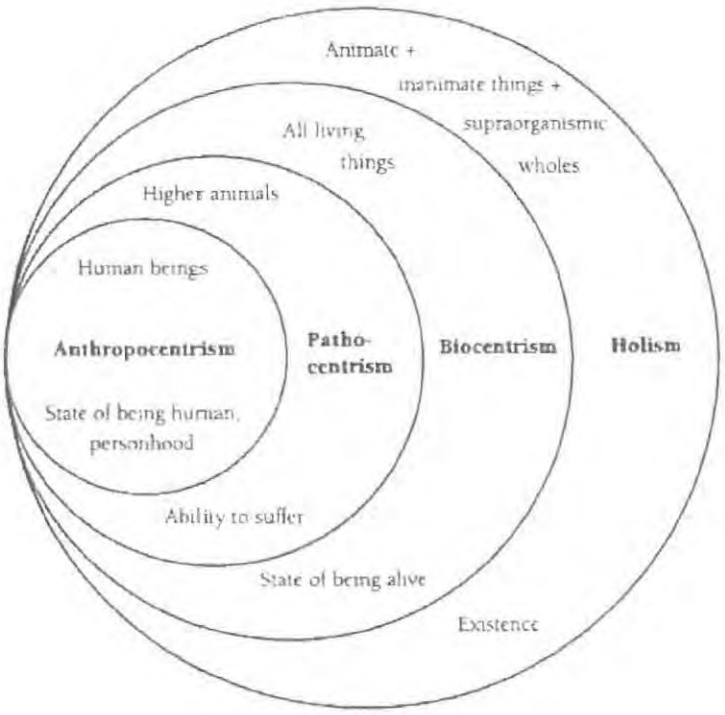

Figure 4 Basic types of environmental ethics and the limits of direct human responsibility they encompass. In the upper part of the drawing the natural objects are listed to which intrinsic value is accorded. The lower section indicates the criteria that are decisive for moral consideration." Figure 2 in Gorke (2003, 123). From *The Death of our Planet's Species* by Martin Gorke. Copyright © 2003 Klett-Cotta and the author. Reproduced by permission of Island Press, Washington D.C.

A definition of 'ethics':

An ethic is a set of principles of right conduct or a theory or a system of moral values. Ethics is the study of the general nature of morals and of the specific moral choices to be made by a person or a moral philosophy.
"Ethics is about relationships between individual and group interests – human or otherwise – and some idea about the common good." (Jickling et al. 2005)

- ***Ethics*** *– the study of values and morals, often from a philosophical perspective*

It is important to be clear about the role of ethics and values in education. Too often, educators make the assumption that their learners are ignorant and unaware and that the role of educators is to make people aware. How often have you heard this: "we need to make them aware..."? The problem with this assumption is that it rests on another even more dubious assumption: that the educator knows the correct knowledge or behaviour that they then need to transfer to the learners. As discussed earlier in section 2.2 under behaviourist approaches to education. For now, let's stick to ethics. Can an educator be in a position to decide what ethical orientations are correct and then design learning programmes and activities that aim to encourage their learners to change their values to be consistent with this ethical

orientation? It should be fairly obvious to you that this is not desirable by anyone. Who would decide which ethical orientation is the correct one? One educator might fall within an' extremely anthropocentric' orientation and another within a 'radical' ethical orientation. Would it be right for either of these two educators to design courses that aim to change their learners' values to their position? Of course not – we would call this 'brain-washing' or we could accuse such an educator of ideological teaching.

- ***An ethic*** *– a code of moral conduct, a set of principles by which to live (as in 'an environmental ethic').*
- ***Environmental ethics*** *– the field of enquiry that addresses the ethical responsibilities of human beings for the natural environment. The field is not confined to ethical enquiry, but embedded in a larger matrix of cultural, aesthetic, religious, scientific, economic and political considerations.*
- ***Moral*** *– pertaining to what we believe we ought to do/what is good, and the grounds for those beliefs*
- ***Values*** *– deeply-held beliefs and dispositions; our principles for judging the worth or good of some thing or action; strongly shaped by culture and upbringing but open to change*
- ***Attitudes*** *– more superficial dispositions*

So how then, does an educator grapple with values? Hopefully your readings (electronic and printed), presentations by your tutors and the section on environmental; education goals and principles will help you on understand these concepts and concerns better. Remember that this is a life-long journey and your ethical concerns and your approach to it in environmental education will grow with you.

Ethics in policy and legislation

By now you should have started to ask yourself a question along the lines of: *"although some values and ethical orientations are personal, are there not certain key values that are generally accepted by society"*? The answer is yes, there are certain values that are promoted and protected by policy and legislation. Can you think of some examples?

Digital documents on environmental legislation: You will find on your set of digital resources a folder called South African Environmental law legislation. You will also be given handout on South African Environmental Laws relating to the environment. This is a good starting point for help with your contextual profile for workplace assignment 1 on environmental legislation pertaining to your issue.

READINGS

- *Reading 12- Environmental Ethics*
- *Reading 13- The Roots of our environmental crisis*
- *Reading 15 – The Constitution of the Republic of South Africa (Act 108 of 1996).* ***Chapter 2 – Bill of Rights***
- *Reading 16- Basic philos*

CD of resources:

- *Millennium Development Goals, 2003. UNDP*
- *Millennium Declaration, 2000. UN*
- *The Earth Charter, 2000. The Earth Charter Commission*

Quick Think Task: Looking at the next section on the Goals and Principles of environmental education try to establish what sort of ethics or values is upheld in these goals and principles. Write down your thoughts in the space provided in your POE book Activity 6

Enrichment Exercise *: This is a pic obtained from The Porter School of Environmental Studies in Tel Aviv online at www.avivaldman.co.il What is it trying to say? Looking back to focus area one in relation to environmental ethics and try to construct a paragraph on what the picture is saying about technology, nature and humanity?*

APPENDIX 12:

READING ABOUT ETHICAL ORIENTATIONS APPENDED IN MODULE 3 LEARNER HANDBOOK (2009/2010 VERSION)

Appendix 2: Ethical Orientations

These notes are designed to help you in the Conservation questionnaire that you will write after Module 3. Your tutors will also provide you with a presentation on different aspects of conservation. These notes were compiled by Albert Larkeson Nowostawski (1978- 2009).

Preservationist

A preservationist can be considered as an environmental protectionist, which strives after keeping the human impact on the environment to an absolute minimum. Many preservationists have a "hands-off" approach to nature, and they feel that human activities should practically be ban from the natural world. In fact, the naturalist, and father of the preservationist movement in America, John Muir, believed in "protecting wild areas and their resources from development forever" (Krech et al. 2004: 1334).

Usually preservationists want to keep the environment/nature in some sort of original natural state. The problem here lies in knowing what the "state of origin" is. For example, the area where Kruger National Park is found today has not always been the wilderness area that the Park is renowned for. Other use of land was practised for centuries before it was decided (probably by preservationists) to establish a national park there (Carruthers 1995).

Conservationist

The conservationist is by tradition usually a resource manager. He/she can accordingly be denoted as something of an environment householder, which wants to tame the wilderness and "household" its resources (i.e. use them in sustainable way). The philosophy of this stance has been to use the natural resources wisely, hence the conservationist movement at the beginning of the 20th century was named the Wise-Use Movement. The supporter of this movement focus also on using the natural resources so that the resources will provide goods and services for the current generation as well as for coming generations.

In recent time the word "conservation" have been adopted by the relatively new branch of natural science; conservation biology. In this discipline the word "conservation" has a different meaning and has little to do with wise-use movements or such alike. Instead "conservation" is refereed to as, loosely described, a scientific process where the aim is to prevent depletion of biodiversity (e.g. prevent species from becoming extinct).

Land ethic

The land ethic is an eco-centric philosophy coined by the naturalist Aldo Leopold. In his ethic intrinsic values are given to other species and "non-organisms" such as rivers, mountains, landscapes, ecosystems etc. Moreover, the ethic focuses on the group (species or organism communities) rather than the individuals.

The land ethic does not only deprive the human race of its unique position of being the only species with value in itself, but moreover it implies that the individual could be scarified for the good of the group. It is these two things that have generated many opponents to this philosophy. Many believe that the values of other species, and moreover whole ecosystems, cannot be compared to the values of humans. Additionally they also believe that a human individual should never be able to be scarified for the survival of, say, a bird species.

Social ecology

Social ecology is a philosophy that looks at the relationship between humans and their environment. The interaction between human societies and their surrounding environment (note: this environment can be on a global scale) have a two-way direction. It means that the human societies have an impact on the environment, as well as the environment have an impact on the societies. Understanding this connection might increase awareness of how every thing in nature, including human societies, are linked to each others.

Anthropomorphism

Anthropomorphism refers to the attribution of human characters onto non-human beings, such as animals, nature or gods. A good example of anthropomorphism is Mickey Mouse, Donald Duck and all the other characters from the world of Disney. Other examples are all the fables that are being told across different cultures, where animals are appointed human-like behaviour. Yet another examples are the appointed characters to different states in time, such as King Winter or Death.

An inverse form of anthropomorphism is when humans are attributed characters from nature, and especially animals. Similes and/or metaphors are examples of this. Many people might have been described as being "cleaver as a fox" and/or "dumb as a rock".

Anthropomorphism is sometimes divided into strong anthropomorphism and weak anthropomorphism. The former refers to the attribution of an almost full set of human characters to the non-human being, physical, behavioural as well as spiritual. The latter refers only to the attribution of "simply" characters, such as "a selfish cat". (Epley et al. 2007).

Environmental pragmatism

The relatively new philosophy of environmental pragmatism has its foundation in the American pragmatism, which was developed at the end of the 19th century. The main thought of environmental pragmatism lies in the importance of the environment, as it provides humans with experience, which facilitates in developing modifying and changing ethics and values as time goes by. Understanding that it is impossible of finding one ethic that will completely and accurately solve all conflicts of right and wrong is pragmatism's lead word.

The environment is seen as an important source in the search for a mixture of ethics that will, not solve, but ease many of the problems in the world today. Attempts to dominate nature are, according to environmental pragmatism, not recommendable, as this will annihilate parts of nature that might have served as sources of experience to humans. The exclusion of any environmental ethic anthropocentrism, eco-centrism, bio-centrism) is also not supported by this philosophy since denying one ethic for another might prevent us from reaching a good value system that can relive some of our life's burdens (Parker 1996).

Wilderness

The definitions of "wilderness" are many and sometimes quite diverse. Simply a word meaning "wild area" could be seen as something quite diverse in different countries, cultures and languages. What might be considered as something wild and chaotic by some could be tame and in order by others. On a historical scale, especially in the Anglo world, wilderness has either been seen as evil and Devilish (the Puritan model) or good and innocence (the Romantic model) (Des Jardin 2001).

The common nominator for the words "wilderness" seems, however, to be an area untouched by man or where man have not left any significant trace, for example an area which have not been cultivated. This quickly raises the question whether or not there still exist any wilderness in the world. Man's influence has nowadays reached even the most remote areas in the world, even if not physical but by globally spread pollutions.

Anthropocentric values

Anthropocentric (or humanistic) values are, as the names imply, human centred. Members of the human race are accordingly given values that are higher than the values of others (other species, ecosystems etc.). The unique position that humans attained according to this value system is based on that humans have qualities/characters/traits that no others have. Commonly, man's ability to separate right from wrong is seen as an example of such a quality.

Eco-centric values

Eco-centric values move away from the notion that some values are only reserved for human beings. Anything that can maintain the integrity, stability and beauty in an ecosystem/biosphere is considered important in this value system. Hence, a river might obtain the same value as humans (and in some cases even higher value). An eco-centric value can basically not be appointed to a single individual, as this value system looks to larger entities. This also shows a clear difference between anthropocentric values, which are given to individuals, and eco-centric values, which are given to groups ("ecological entities" [see Des Jadins 2001]).

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APPENDIX 13:

SLIDES OF A POWERPOINT PRESENTATION USED ON THE 2008/9 AND 2009/10 EETDP COURSE ABOUT ENVIRONMENTAL VALUES AND ETHICS

Introduction to Environmental Values and Ethic

Understanding what ethics is

What is ethics

- Ethics is based on the effects of our actions on others and on the natural environment
- "All ethics rests upon a single premise that the individual is a member of a community of interdependent parts"
  -Aldo Leopold

What is the foundation of ethics

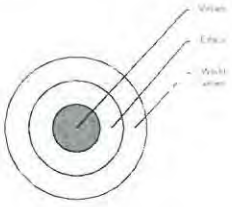
How our actions affect our:

- Relationships
- How it affects the individual
- How it affects others - family, friends, community, etc.
- How it affects our surroundings

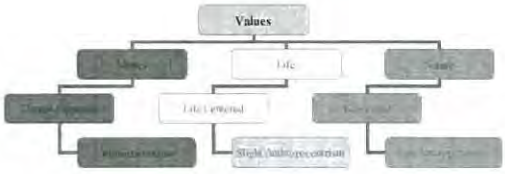
Key Concepts

- **Moral**: pertaining to what we believe in what is good
- **Values**: deeply held beliefs and dispositions; our principles for judging the worth or good of an action; strongly shaped by culture or upbringing but open to change
- **Ethics:** the study of values and morals often from a philosophical perspective

The Core of Worldviews



From Values to Worldviews



Environmental Ethics

- What is your relationship to the environment?
- How will this influence your ethical considerations to the environment?

Environmental Worldviews I

- **Planetary management:** As the planet's most *important species* we are in charge- resources are unlimited- all economic growth is good- our success depends on managing the world's life-support system for our benefit

Environmental Worldviews II

- **Planetary Wisdom:** All species are important and we are not in charge. The *earth resources are limited* and should not be wasted. Some forms of economic growth are environmentally beneficial and some aren't. Our success depends on learning on learning how the earth sustains itself and integrating such knowledge into the ways we think and act.

Environmental Worldviews III

Environmental Worldviews IV

Environmental Worldviews V

Inherent & Instrumental value

- Inherent Value: A thing/person/being has a value in its own right. i.e: We must have nature for natures sake
- Instrumental value: A thing/person/ being only has value in relation to something else: i.e.: a means to an end

What makes us decide on our values/ethics of choice?

- Experience
- Learning from experience of others
- Education
- Social, cultural
- Perception of the impact of our choice
- Awareness of ourselves

Ambivalence?

- The feeling of uncertainty that comes with having conflicting values
- Dilemmas
  - You have to cull elephants to protect the national park and its natural habitats from being destroyed- yet you value life strongly. What do you do?
  - Can you think of other dilemmas?

Levels of ethical concern

APPENDIX 14:

SLIDES OF POWERPOINT PRESENTATION PRODUCED BY WESSA-SUSTAINED ABOUT ENVIRONMENTAL PHILOSOPHIES AND APPROACHES TO CONSERVATION (USED ON THE 2008/9 AND 2009/10 EETDP COURSE)

Conservation, philosophies and more…

Philosophy

"Using the knowledge you have obtained during the last year, please provide proof that the chair you are sitting on does not exist."

"-What chair?"

Preservationist vs Conservationist

- Environmental protectionist
- "Hands-off"
- No development
- Nature back to original state… Problems…

- Environmental householder
- Preserve AND use
- Wise-Use Movement
- Concern for this and coming generations… Problems…

Land ethic

- "Think like a mountain"
- Intrisic value to species, mountains, landscapes, ecosystems etc.
- Focus on the group, rather than the individual

Social ecology

- Interaction between humans and the environment
- Human societies affect the environment…
- …and the environment affects human societies…

Anthropomorphism

- Attribution of human characters to non-human "things".
- Donald Duck, Death, King Winter

Anthropomophism

- Attribution of non-human characters to humans.
- "Clever as a fox"

Anthropomorphism

- Strong anthropomorphism
  -attribution of many/all characters
  -behaviour, spiritual, apperance
- Weak anthropomorphism
  -attribution of one/few characters
  -"a happy stock exchange"

Environmental pragmatism

- "Experience"
- There is not ONE right way
- The environment (nature) provides experiences
- Combination of ethics to solve environmental problems

Wilderness

- Difficult to define
- Nature is Devilish (Puritan model)
- Nature is good (Romantic model)
- Wilderness → ~ untouched by man
- Is anything "untouched by man" in the world today?

Anthropocentric values

- Human centred values
- Only humans can have an intrinsic value
- Humans can seperate right from wrong…

Eco-centric values

- Focus on "ecological entities"
- Populations, species, rivers, landscapes, ecosystems etc. can have intrinsic values
- Groups are more important

APPENDIX 15

STATISTICAL SUMMARY INDICATING ENVIRONMENT & DEVELOPMENT CHALLENGES IN THE CITY OF CAPE TOWN

Compiled by the CCT's Strategic Information, Strategic Development Information and GIS Department (CCT, 2007, http://www.capetown.gov.za/en/stats/Pages/CityStatistic.aspx)

Focus Area	**Statistic**	**Year of statistic**
Unemployment	16.9%	2007
Literacy - % of people aged 20+ with grade 5 education or less	8.4%	2007
Highest level of education for people aged 20+	Below Grade 12: 58.3% Grade 12: 23.6% Tertiary: 16.8%	2007
The prevalence of HIV (as per Antenatal Survey)	18.2%	2006
% households living below the poverty line (<R1600/month)	38.8%	2005
% households with no access to safe drinking water on site	6.7%	2007
% households with no access to adequate sanitation	5.8%	2007
% households with no access to electricity for lighting	2.8%	2007
% households with no access to at least weekly refuse removal	4.4%	2007
Number of parks and reserves	144	2006
Indigenous Plant Species	2,621 (125 endemic & 262 Red Data)	2006
Number of international and domestic tourists per annum (Western Cape)	International: 1,763,631 Domestic: 5.5 Million	2007 2006

APPENDIX 16:

TACO ANALYSIS OF SMART LIVING HANDBOOK INTRODUCTORY SECTION

Environmental Ethics Analytical Tool

(Adapted from O'Regan, 2006 and Kronlid & Ohman, 2011)

CASE STUDY 1B

Textual Analysis: Smart Living Handbook Introduction

CDA.01-02

1. Descriptive Interpretation

1A. What is the frame of the text (i.e. What elements are part of this text)?	Almost entirely written text, with one photograph.
1B. What's the genre (e.g. advertisement, news report, narrative, political statement, notice etc.)?	Introduction to a Handbook / guidebook
1C. What is the topic?	Motivation and practical guidelines for incorporating sustainable environmental practices into CCT's homes.
1D. How is the topic being presented (e.g. formal, informal, persuasive, aggressive, angry, friendly, humorous, comic, etc.)?	Friendly, accessible and practical; Strong elements of persuasiveness but from a helpful position.
1E. What is the preferred reading (the main message of the text; the reading which accords with the way the text seems to want to be read; the reading of minimal consensus)?	Cape Town is a beautiful city, rich in natural and cultural heritage. However, it also faces many challenges regarding natural resource conservation and allocation. Every citizen of Cape Town can make a difference by making small changes in the way they live; these involve using water and energy more carefully, and reducing waste. The CCT calls this Smart Living. Not only is this environmentally beneficial but it saves us money too, so it's a win-win situation. This handbook explains how to achieve the smart living goals.
1F. Who might be the ideal reader of this text? E.g. A person who ...	*Citizens / residents of Cape Town.*

2. Representative Interpretation

2A. How is the text organised visually? For example, does the text use words and pictures? If so, what is the balance between words and pictures?	Predominantly words, with one fairly large photo (33% of page).

2B. If the text is a combination of visual and written modes, or is written in a variety of formats, what is on the left (in the given position)? What is on the right (in the new position)? What is located in the upper part of the text (in the ideal position)? What is located in the lower part of the text (in the real position)? (cf. ideational, interpersonal and textual meanings)	The photo of table mountain, as seen across an open landscape and seascape, appears midway through the text, on page 2 of the 3-page intro. Photo is in landscape format, like a strap across the page.
2C. What are the effects of these choices on the text?	The photo emphasises the scenic and biodiverse value of Cape Town, possibly illustrating the ultimate motivation for smart living. The photo serves as a contextualising backdrop for the text.
2D. What kind of vocabulary is used in the text? E.g. formal/informal, positive/negative, casual/dramatic, emotional/serious	Positive words / phrases / metaphors dominate the first section (sentences 1 – 10) e.g. 'Mother city', 'oldest city', 'legislative capital', 'important centre of trade and tourism', 'best known', 'natural beauty', 'unique plant life', 'renowned for its beauty and biodiversity'. Vocab invokes splendour, uniqueness and pride.
2E. What semantic fields (word families) do vocabulary choices belong to?	?
2F. What vocabulary is associated with the participants in the text? Do these choices create a particular impression of the participants?	Participants in this text are taken to be CCT residents *and* CCT environmental managers. Vocab associated with them is as well-intentioned consumers and decision-makers who use lights, drive cars, generate waste etc. See sentences 14 -25. Inequities and other tensions are also alluded to: 'Some Capetonians use more water, electricity and petrol and generate more waste than the average American, while others live in households with a single tap, still using dangerous fuels such as paraffin for their cooking' (sentence 15) and 'Natural resources – water, coal, oil, land, fresh air – will run out if we use them up at a faster rate than they can replenish themselves' (sentence 18).
2G. Is there any vocabulary which seems very important?	Beyond the discussion in 2D and 2F, the name of the book is noteworthy: Smart Living. The word 'smart' introduces a personal challenge which inevitably becomes an imperative: if I don't do the things suggested in this book, I'm not smart. So to avoid being dumb, I must do these things!
2J. What tenses are used in the text? Do any of these seem very important?	Predominantly present tense. This is in line with establishing an understanding of the current status quo wrt environmental resources, and the way Cape Town citizens are currently using them.
2K. Does the text use 'we', 'you' or 'I'? When and how does the text use them? (cf. interpersonal meanings)	Personal pronouns are used heavily from sentence 21 – 35, but in 2 different ways. The case for conserving water and energy for the sake of environment and future generations makes use of 'we' (e.g. "we can make a difference"), whereas the case for saving money refers consistently to 'you'.

2L. What modal verbs are used (e.g. should, must, could, can, etc.)	(1) "Many of us are aware that we **should** be doing this but are often unsure about what to do and how to do it" (2) "The good news is that we **can** make a difference" 'Must', 'ought', 'could' did not appear, or were used in a minor or irrelevant context wrt ethical deliberation. E.g. "temperatures could rise".
2M. Are there any nominalisations in the text? When are they used?	?
2N. When are active and passive constructions used? Are there any common themes attached to the use of these different voices? What is usually foregrounded or backgrounded in these constructions? What types of agents are used – people/things?	No significant usage.
2O. In the text as a whole which information is put first? What is thematised?	Information about environmental resources in the context of Cape Town is presented first, but the other significant information is related to sustainability practices in the home.
2P. What are the effects of these choices on the text?	The reader's attention is very specifically guided from (a) an appreciation of Cape Town's beauty to (b) concern for the environmental challenges it faces to (c) available actions that are constituted as 'smart'.
2Q. Is there mixing of genres?	Nothing major, but there is a subtle shift from a generalised overview (of Cape Town and its environmental context) to a more conversational, guiding type text which offers practical advice alongside scientific facts.
2R. If there is mixing of genres, what are the effects of these choices on the text?	

3. Social Interpretation

3A. What social frameworks is the text a part of (e.g. gender, race, economy, business, politics, family, class, income, age, sex, property, geography, etc.)?	Explicitly it is geographical – readers are all Cape Town residents. This text has been tailormade for them and the authors make that clear. More implicitly, the text resides within a framework in which people are constituted as responsible, caring agents. The assumption is that people will agree with the text and be motivated to take action.
3B. What typical kinds of social knowledge do these frameworks suggest?	Shared experience of living in Cape Town; ways of doing routine daily practices such as showering, gardening, driving.

4. Deconstructive Interpretation

4A. Does any aspect of the text's internal structure (descriptive, representative, social) appear to contradict or undermine the text's preferred reading?	No.

6. Who / what is constituted as moral objects?

NATURE					
Non-human animals able to experience pain and suffering	***Non-human animals with a sense of self***	***Social non-human animals***	***All individual organisms***	***Ecosystems and species***	***Other***
				protect the environment 3 000 indigenous plant species [of which] 190 ... are found nowhere else in the world. destroyed natural habitats, placing many unique plants and the rare frogs and insects living amongst them under threat. ... where a unique plant life exists.	**1. Geographical space: Cape Town.** "South Africa's Mother City. ... legislative capital of South Africa and an important centre of trade and tourism. ... But Cape Town is probably best known for its natural beauty – Table Mountain, the Cape of Good Hope and the Cape Flats..." **2. Planet Earth:** "Saving the earth"
HUMAN					
Present human generations	***Present and future human generations***	***Past, present & future human generations***	***Local human generations***	***Global human generations***	***Other***
make our homes safer places to live in	enough for everybody now and in the future		make our homes safer places to live in		

			The wonderful thing about saving water and electricity and reducing waste is that it will save you and the City of Cape Town much needed money.		

7. What kinds of values of nature are constituted?

INTRINSIC VALUE				
Inherent worth (independent of moral agents)	***Inherent value (dependent on moral agents)***	***Systemic or emergent value (dependent on transactional processes between nature and humans)***	***Other***	
		Cape Town is renowned for its beauty and biodiversity	**Endemism; inherent value based on rarity or other uniqueness:** Fynbos, or 'fine bush' is a shrubby, evergreen vegetation well known for its characteristic proteas It occurs nowhere else but along the Cape coastal belt, its adjacent mountains and some isolated inland mountain tops.	
INSTRUMENTAL VALUE				
Demand value (nature provides satisfaction for felt preferences)	***Transformative value (nature encounters transform preferences and meaning)***	***Constitutive value (the conception of nature constitutes the conception of humanity)***	***Need value (nature meets human needs)***	***Other***
			Natural resources – water, coal, oil, land, fresh air – will run out if we use them up at a faster rate than they can replenish themselves.	

			make sure that there are enough resources to go around resources are increasingly scarce we need to manage our resources well, using what we have efficiently and fairly.	

8. How are the ontological relations of Humans and Nature constituted?

INTEGRATION				
Shared geographical space	***Shared historical space***	***Shared biological features***	***Discursively constructed community***	***Other***
But Cape Town is probably best known for its natural beauty – Table Mountain, the Cape of Good Hope and the Cape Flats, where a unique plant life exists.	Cape Town - eKapa - Kaapstad - is South Africa's Mother City		Global warming ... will have a severe impact on all life in our city.	
SEPARATION				
Separate geographical space	***Separate historical space***	***Different biological features***	***Nature excluded from discursive community***	***Other***
			enough resources to go around [conceptualising humans as needing to] ... protect the environment	

9. Which relational spaces are touched upon?

A space of individual worldviews	***A political space (institutions for decision-making)***	***A gendered space***	***A discursive space***	***A situated everyday practical space***	***Other***
	Some Capetonians use more water, electricity and petrol and generate more waste		Cape Town - eKapa - Kaapstad ... often unsure about	Every time you switch on a light, drive your car, run water or put out your	**1. An economic space:** Cape Town is also characterised by huge

	than the average American, while others live in households with a single tap, still using dangerous fuels such as paraffin for their cooking. we need to manage our resources well, using what we have efficiently and fairly.		what to do and how to do it	rubbish you're making a decision that affects the environment ... we can make a difference.	differences between people in terms of wealth. Saving the earth and getting paid to do it **2. An historical space:** Nelson Mandela made his first public speech from the balcony of the Cape Town City Hall – heralding the beginning of a new era for South Africa.

10. How are solutions to the environmental crisis constituted?

As identifications with Nature and a deeper sense of belonging	*As an egalitarian political system that acknowledges the suffering of humans and non-humans*	*As practices of care, partnership, kinship, love, friendship etc.*	*As local narratives of human-nature integration*	*Treated as an empirical question, a task for open-ended, pluralistic enquiries*	*Other*
					Improved environmental resource management: we need to manage our resources well Every kilowatt-hour (kWh) of electricity you don't consume, saves over a kilogram of carbon dioxide (CO2) that would otherwise be released into the atmosphere saving water and electricity and reducing waste

11. How are the causes of the environmental crisis constituted?

As an inability to identify with nature	*As egalitarian hierarchical institutional relations*	*As patriarchal power relations*	*As discursively constituted disconnected & dominant relationships to nature*	*Treated as an empirical question, a task for open-ended pluralistic enquiries*	*Other*
				Every time you switch on a light, drive your car, run water or put out your rubbish you're making a decision that affects the environment.	**As consequences of unmoderated human activities to meet human needs:** Global warming, driven by vehicle emissions and power generation will have a severe impact on all life in our city Local development and pollution have destroyed natural habitats, placing many unique plants and the rare frogs and insects living amongst them under threat. Natural resources – water, coal, oil, land, fresh air – will run out if we use them up at a faster rate than they can replenish themselves. ... cumulative impact of households.

APPENDIX 17:

ANALYSIS OF PAUL'S MARINE WEEK LESSON DIALOGUE (CASE STUDY 1)

Environmental Ethics Analytical Tool

(Adapted from O'Regan, 2006 and Kronlid & Ohman, in press)

CASE STUDY 1A

Transcription of Paul's Marine Week Lesson on EduTrain

CDA.01-06

Transcript of Paul's Marine Week EduTrain Lesson

Paul: … to change and to adapt yourself. Now if dinosaurs is about 60 – 65 million years old, how old do you think sharks is?

Learners: *[lots of calling out of answers]*

Paul: 70, 100, more…. more…. more… More than 200… 300… 400 million years.

Now imagine yourself, an animal that has been there for 400 million years and we are killing 100 million sharks a year!

Learner: Yoh!

Paul: Now what's gonna happen?

Learners: *[lots of calling out of answers]*

Paul: It's gonna be extinct, right, but on top of that…? Now sharks, do you know what sharks eat?

Learners: *[lots of calling out of answers]*

Paul: Yes, they eat seals, and I have a little friend here… Now her name is Penny [penguin model]. And Penny is also…one of the things that sharks love to eat. And I'll tell you why. Penguins and seals and big fish, right, and even dolphins, and Great White Sharks will eat other sharks. Now why are we just harping on the Great White Shark? Because the Great White Shark is a killer shark and it's on top of the food chain. It's on top of the food chain. What does it mean when it's on top of the food chain? Huh?

Learner: Hy kan alles eet [*He can eat everything*].

Paul: Hy kan alles eet, ja, hy's a top predator. Nou kom ons terug na iemand met die hond…. van die hond wat daar in die yard is, ja. Nou wat maak die hond? As ek now daarin stap, en ek

Comment [e1]: Appealing to the individual to think about it and work out the severity of the problem.

Comment [e2]: Use of Collective personal pronoun 'we'; personalising the responsibility.

Comment [e3]: Use of massive numbers to add weight to his point.

Comment [e4]: Getting learners to consider consequences; starting a cause and effect scenario.

Comment [e5]: Cumulatively, Paul's opening lines establish sharks are special (they've been on earth so long) but vulnerable to death and ultimately extinctionby humans. This counters conventional introductions of sharks as bloodthirsty killers to be feared.

Comment [e6]: Anthropomorphism. Giving penguin a human name and referring to her a s "a little friend".

Comment [e7]: Usually a negative term, implying nagging. (Inaccurate though, as this is the 1st mention of Great Whites specifically).Building up to show that Great Whites are worth 'harping on about'.

Comment [e8]: Drawing on more conventional representation of sharks.

Comment [e9]: Introducing ecological discourse. (Technically inaccurate; should be 'food pyramid').

Comment [e10]: More use of ecological terminology.

haak so 'n lekker vleis en been heirso, daan loop ek so binne in die yard… Gaan hy my byt? [*Now we come back to somebody with a dog, with a dog there in their yard. Now what does the dog do? If I walk in there, with a lovely hunk of meat on a bone in my pocket, and I walk enter the yard... Is he going to bite me?*]

Learners: Ja-aaa!

Paul: Hy gaan vir my byt. Hy sien die kos en ek behoort nie daar nie. [*He's going to bite me. He sees the food and I don't belong there.*] Now I'm going to tell you a little story. There was a guy, he walked into the veld, in Kruger National Park. Now in the Kruger National Park, what beast is the King of the Beasts?

Learners: The lion.

Paul: The lion. But he was walking and then he saw this big lion coming. And he sat on his knees and he prayed and he said: 'Here, asseblief [God please], help me please!" And then the lion came right next to him and the lion says "Lord, thank you for sending me food." Huh? Two different things. But the lion goes out to hunt, and the man couldn't just walk where *he* wanted. Exactly the same for us. In Cape Town, or in South Africa, in America, in Australia, the Great White Shark is a protected species which means if you kill it, or if you try to kill it, they will take you and they will give you… now it's only a fine… it's only a fine, but we come back to the main thing. The shark is a top, top predator, which means you have your primary food sources…

Learners: *[lots of calling out of answers]*

Paul: secondary… and tertiary… Now we, before that, what do we get?

Learners: *[lots of calling out of answers]*

Paul: Uh-uh… but it also starts with an 's'. Warm, nice and warm…

Learners: *[lots of calling out of answers]*

Paul: The sun, right. And the sun is there, it helps your primary food sources, your producers, right? And your producers, now that's your plankton and all the different things. Now I'm telling you all this so that you take note. Now I'm going to give you some little things, right, that you need to put on the board for me. The food chain. exactly. You've done this. And I just want to show you that all that different steps, if you take the shark away…if you take the shark away. You must tell me what's going to happen. I'll tell you, but first you must tell me what's going to

Comment [e11]: Uses comparison between dog biting someone for food in his yard, and shark biting people who venture into the sea. Implying that people don't 'belong' in the sea; it is the sharks' home.

Comment [e12]: Reinforcing sharks' natural behaviour, laying the blame with humans who intrude in their territory.

Comment [e13]: Iconic national park chosen as the site for his allegorical tale.

Comment [e14]: Here referring to lions but by implication in this context, drawing a parallel between lions and sharks as the 'kings' in the oceans.

Comment [e15]: Reinforcing the same point.

Comment [e16]: Unknown 'they'.

Comment [e17]: Accidental anticlimax, 'only' revealing Paul's view that the penalty should be much more severe.

Comment [e18]: Is this referring to the main point of the lesson, or the most important issue about sharks?

Comment [e19]: emphasising status of sharks. Repetition for emphasis, probably for younger learners.

Comment [e20]: ecological language.

Comment [e21]: ecological language.

Comment [e22]: vague because Paul doesn't know the names or because he wants to keep it simple for the learners?

Comment [e23]: Didactic approach. Implies importance of what he's teaching.

Comment [e24]: The diagram Paul holds up is actually a food pyramid.

Comment [e25]: Keeps emphasis on sharks.

Comment [e26]: Future tense, definite. Not what 'might' happen, but what is going to happen.

happen if you take the shark away out of the whole equation, if we keep on killing our sharks, if we keep on taking away. Now you tell me that they eat… what…?

Comment [e27]: All humans implicated in the killing; not specifiying who does the killing.

Comment [e28]: possessive pronoun emphasises collective responsibility.

Comment [e29]: positions people as thieves or exploiters. Consequences are always implied.

Learners: …seals… penguins…

Paul: yes, and penguins. Now tell me, does sharks have an enemy, if they are a top predator? Do they have a lot of enemies?

Learners: Yes.

Paul: What?

Learners: People.

Paul: Thank you very much. You're the first group that can tell me that we are the biggest enemy of – not just sharks – but of the planet in the whole. Right. of every animal, every living species, in the last 100 years we've caused more damage then all our ancestors before that. But, OK? Come we'll do this quickly... right. Now you must tell me where does each and every thing go, right. *[Holding up a sheet of flip chart paper with a food pyramid and handing out labels and small laminated pictures of various marine organisms]*. Where does it go on the food chain? I will give you that. I will give you that. I will give you that. I will give this, this. Gee maar net vir hulle wat hier voor sit. Dis 'n bietjie moelik om daar deur te kom, so hulle gaan vir julle verteenwoordig [*Just give to those sitting here in the front; it's a bit difficult to get through otherwise. So they can represent you*].

Comment [e30]: Positions people as enemy of the planet.

Comment [e31]: This is a bit of an exaggeration of what the learners actually said.

Comment [e32]: Increases guilt, reinforced by using time frame, but lacking specific facts.

[Some indistinct interactions as train pulls out of station while Paul gives instructions and interacts around the labels, pictures and food pyramid.]

We're going to start with... where do you think I must put the producers, at the top, the middle, the bottom?

Learners: At the top! / At the bottom / In the middle!

Paul: In the middle...?

Learners: At the top! / At the bottom!

Paul: Right! At the bottom, we'll put it at the bottom. We put the producers right at the bottom, yeah. Now the primary consumers?

Learners: *[shouting out answers]*

Paul: In the middle. And now, our secondary ...

Learners: *[shouting out answers]*

Paul: Where? In the middle?

Learners: *[shouting out answers]*

Paul: Right, OK.

Learners: *[shouting out answers]*

Paul: Right, now I want all those with that little stickers to come up.... where is my bag? There. To come up. I'll give you a piece of Prestick and you put the thing where you think it must go. OK? You put that were you think it is. Is it a producer? Is it a consumer? So this is your primary, and this is your secondary, so producers there and secondary there.

[Learners move around noisily and come to stick their pictures on the flip chart. Paul monitors their progress, making occasional affirming or querying comments.]

Nou julle wat sit, ek gaan vir julle a song leer. Daai outjie aan die ander kant, daar waar julle nou gaan, julle kan dit maar sing vir hom. Hy ken dit nie [*Now those of you sitting, I'm going to teach you a song. That guy on the other end, where you're going, he doesn't know it so you can sing it for him*]. Right, *[holding up poster of food pyramid]* dink julle dis reg [*Do you think it's correct*]?

Learners: Ja.

Paul: [indistinct] Dink julle dis in the right place?

Learners: Ja / Nee.

Paul: Why not? Was it on the right place, then come and put it right. And I'll give you something. Come! ... Come! Come guys. Nou help hulle 'n bietjie [*Come on, help them a little*].

[indistinct interactions]

Alright, I think we've got a... Sy is nogal warm... sy is warm [She's getting warmer ... she's warm].

[Animated interaction with learners trying to work it out]

Right, OK, ek gaan gou vir Michaela reg help, ja? Michaela, hulle maak jou nou deurmekaar huh? Kyk daar, nou dié is 'n groot vis. 'n Grote, nie 'n kleintjie nie [I'm going to help Michaela get it right, ok? Michaela, they're confusing you hey? Look here, now this is a big fish. A big one, not a tiny one]. Daardie kleintjie [that tiny one], so he will go there. So the first things that sharks will go for is the big things, the seals, the big fish. Things like that. Now I want to take this away. Now I'm taking the shark away, we're killing the shark. It doesn't matter what kind of shark it is because we get sharks that eat here, and some sharks that will eat everybody down the line, but each one happens [indistinct few words]. Your mommy put you on solids, and then Mommy put a little bit of meat with and a little bit of fish with, and so you go on, and so you grow, until somebody [indistinct] a Kentucky se [?] gooi en dis maar baie lekker [*and it's very nice*]!

[laughter]

Right, this, you take that away and the fish in the sea will increase, right, will increase your seals will increase. Right, when your tummy's full, where do you go?

Learners: To the toilet.

Paul: Right, to the toilet. And that's what's going to happen to the sea, it's going to start smelling. Because there's nothing there to keep the balance, right. Balance means to keep it equal, right? So there's enough for everybody to eat, but there isn't enough for everybody's greed. Right. So do you know what they're doing with the sharks? They take the sharks, they cut off the fins, this one, the back, all the fins, the rest of the body, they take it and throw it back into the water. Right? Huh? They throw it back into the water. And they take the fins and they make some soup. They're making shark fin soup. And out in the East, in China, the Malaysian countries all out there, it's a delicacy for them. And some of the islands, they catch, like for initiation, there the boys must go out and they must kill a shark. There they don't have Great Whites, they have a Tiger Shark. And on the topic of the different kinds of sharks, who can tell me what kinds of sharks we get?

Comment [e33]: Simplified language and ecological concepts.

Comment [e34]: A variation of the slogan "there's enough for everyone's need but not for everyone's greed"

Comment [e35]: Again, undefined 'they'.

Comment [e36]: repeated sentence to emphasise the horror of throwing a maimed shark back into the ocean.

Comment [e37]: "some" diminishes the value of the soup. Sounds like a small amount, and trivial too.

Comment [e38]: introduces its formal name after establishing the emotional reaction to it.

[Learners call out answers]

Great Whites...

[Learners call out answers]

Hammerheads...

[Learners call out answers]

Whale Shark....

[Learners call out answers]

Tiger Shark. What else? You know the kind that flies up out of the water, the rays, sting rays. That is also a shark species. And the different kind of sharks you get, you get about 350 different species of shark. 350 different kinds of sharks, that is what we get. And it is our responsibility to see that it's there for future generations. To come back with a bone that is hanging there, and we're going to walk into, waar's die, waar's die... die Alsation and German Shepherd, Daarsit. You know, seals, when I do surfing, I have on a black suit. A black suit from top to bottom, and I have the board here and I lie on top of the board, and when I do that I look exactly like a seal. Exactly. From the bottom up, for the shark I look exactly like a seal. So, it's just a case of mistaken identity. Then you get guys who do scuba diving, right, or spear fishing, and then they go on the reef and when they find what they looking for, they shoot, and say for argument's sake it's a fish, they shoot the fish, they take the spear out and they hang it here. Now let me tell you something, something quite amazing about the shark. If you take one drop of blood, one drop of blood, if it's human blood or anything, and you drop it here in the water, that shark will be able to smell and taste that blood in his mouth a kilometre away. A kilometre away, and he will come exactly to the point where the blood is and that is where he will make his kill. You get stories on TV about Jaws, right, the Deep Blue, or whatever, I've watched them all. That is just a myth. A myth is just a story. It's just a story. People are trying to capture our imaginations so that they can make money. And it's not true that sharks eat humans. They absolutely despise and hate human flesh. They hate it. Even if they bite a human being, like I said it's a case of mistaken identity. But they will go around the corner and they will actually vomit everything up because there's no nutritional value in human flesh. But with your whales, with your seals, and your other fish and your penguins and stuff, they are rich in nutrients, fats and stuff that will bulk up a shark. And do you know what the size of a shark is? More or less?

Comment [e39]: Moral imperative

[some answers called out]

Six feet. Now how long is six feet? The longest shark that they measured is 6.7 metres big. Now that is long, that is big. Now if that shark 7 metres long, the width of the body will be the size of the train.

1. Descriptive Interpretation

1A. What is the frame of the text (i.e. What elements are part of this text)?	
1B. What's the genre (e.g. advertisement, news report, narrative, political statement, notice etc.)?	*Narrative within a lesson.*
1C. What is the topic?	*Marine Food Pyramids (food chains) and the need for shark conservation.*
1D. How is the topic being presented (e.g. formal, informal, persuasive, aggressive, angry, friendly, humorous, comic, etc.)?	*Didactic, sometimes persuasive; semi-formal; concepts are simplified through analogies etc to make them accessible to children.*
1E. What is the preferred reading (the main	Marine creatures live in balance with one another, as is evident in the food pyramid.

message of the text; the reading which accords with the way the text seems to want to be read; the reading of minimal consensus)?	But this is easily disrupted by humans who can (and do) destroy certain populations such as sharks which function as top predators and keep other populations in balance. Sharks are majestic creatures that are commonly feared because they attack humans, but we need to understand that the sea is *their* habitat and it's not surprising that they bite humans who encroach in their space. They are not the man-eaters we make them out to be. We should respect sharks but some cultures
1F. Who might be the ideal reader of this text? E.g. A person who ...	*Narrative was with Grade 7 learners in Cape Town currently learning about marine ecology and sharks.*

2. Representative Interpretation

2A. How is the text organised visually? For example, does the text use words and pictures? If so, what is the balance between words and pictures?	*{Not applicable here}*
2B. If the text is a combination of visual and written modes, or is written in a variety of formats, what is on the left (in the given position)? What is on the right (in the new position)? What is located in the upper part of the text (in the ideal position)? What is located in the lower part of the text (in the real position)? (cf. ideational,	*{Not applicable here}*

interpersonal and textual meanings)	
2C. What are the effects of these choices on the text?	*{Not applicable here}*
2D. What kind of vocabulary is used in the text? E.g. formal/informal, positive/negative, casual/dramatic, emotional/serious	*Combination of scientific words for ecological concepts (e.g. food pyramid, top predator, producers, consumers) and colloquial expressions, age-appropriate vocabulary and occasional Afrikaans code-switching (e.g. "Your mommy put you on solids, and then Mommy put a little bit of meat with and a little bit of fish with, and so you go on, and so you grow")*
2E. What semantic fields (word families) do vocabulary choices belong to?	?
2F. What vocabulary is associated with the participants in the text? Do these choices create a particular impression of the participants?	Occasional switch to Afrikaans acknowledges that most learners are Afrikaans speakers; explanations and analogies draw on local or domestic or basic physiological knowledge (e.g. "...when your tummy's full, where do you go?"; "Nou kom ons terug na iemand met die hond.... van die hond wat daar in die yard is, ja. Nou wat maak die hond? As ek now daarin stap, en ek haak so 'n lekker vleis en been heirso, daan loop ek so binne in die yard... Gaan hy my byt?" and "There was a guy, he walked into the veld, in Kruger National Park").

2G. Is there any vocabulary which seems very important?	From an environmental perspective it would be the use of basic ecological science vocabulary being introduced or reinforced for the learners e.g primary consumers, top predators, food chain etc.
2H. What words are given capital letters, italicised, underlined, put in inverted commas?	*{Not applicable here}*
2I. What are the effects of these choices on the text?	*{Not applicable here}*
2J. What tenses are used in the text? Do any of these seem very important?	Combination of past, present and future where appropriate. Nothing strikes me as significant about these choices.
2K. Does the text use 'we', 'you' or 'I'? When and how does the text use them? (cf. interpersonal meanings)	Paul mostly uses 'we' when explaining that sharks are being harmed by humans. His specific examples are of people in distant countries, but he uses 'we' when referring to the problem and the need for a solution "if we keep on killing our sharks". (See 5D) Most uses of 'you' and 'me' or 'I' are in typical syntax such as "where do you think we...". Perhaps noteworthy is Paul's fairly frequent use of personal pronouns to establish himself as the educator, as the one with the knowledge and as the director of the interaction: e.g "Now I'm telling you all this so that you take note" and "I'll tell you, but first you must tell me what's going to happen if you take the shark away out of the whole equation".
2L. What modal verbs are used (e.g. should, must,	Few are used. The only one perhaps of significance is in relation to the story about the

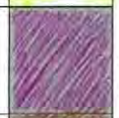
could, can, etc.)	man walking in Kruger Park and getting eaten by a lion: "But the lion goes out to hunt, and the man couldn't just walk where *he* wanted. Exactly the same for us".
2M. Are there any nominalisations in the text? When are they used?	?
2N. When are active and passive constructions used? Are there any common themes attached to the use of these different voices? What is usually foregrounded or backgrounded in these constructions? What types of agents are used – people/things?	Mostly active constructions, but I don't feel that these are significantly influential. People are agents (often negatively) and sharks are agents (mostly positively).
2O. In the text as a whole which information is put first? What is thematised?	Narrative starts with sharks (first approx 100 words exchanged) then moves to marine ecology generally (next approx 1200 words exchanged), then back to sharks specifically (final 650 words exchanged).
2P. What are the effects of these choices on the text?	This is consistent with the focus of the lesson on sharks preceding the visit to the SOSF shark centre.
2Q. Is there mixing of genres?	No
2R. If there is mixing of genres, what are the effects of these choices on the text?	{not applicable here}

3. Social Interpretation

3A. What social frameworks is the text a part of (e.g. gender, race, economy, business, politics, family, class, income, age, sex, property, geography, etc.)?	The narrative is located quite strongly in a South African framework (examples given, language and colloquialisms used), aimed consciously at a young audience – hence simplification of language and concepts. Assumptions seem of a working class audience (references to a dog in the front yard, people's enjoyment of eating KFC). However, links made to a wider social context beyond Cape Town (Kruger Park) and extending – somewhat stereotypically – to foreign countries and cultures. Asian groups that eat shark fin soup or hunt sharks are represented as 'enemies' of sharks, and as 'we' are on the sharks' side, they are our enemies too, by implication. As suggested in 2K, Paul's narrative reflects the conventional dynamic between knowledgeable educator and less-knowledgeable learner. This is in keeping with the institutional context of this narrative: implementing environmental awareness programmes to school children.
3B. What typical kinds of social knowledge do these frameworks suggest?	? Acknowledgement of perspective that sharks are killers.

4. Deconstructive Interpretation

4A. Does any aspect of the text's internal structure (descriptive, representative, social) appear to contradict or undermine the text's preferred reading?	Generalisations and simplified explanations (process reduction) may undermine the credibility of the environmental 'message' if interrogated by a more environmentally informed audience.

Category for coding	Colour
Who / what is constituted as moral objects?	
What kinds of values of nature are constituted?	
How are the ontological relations of Humans and Nature constituted? (integrated or separate; historically, geographically, discursively...)	
Which relational spaces are touched upon? (how are we relating to things? Political, gendered, individual, situated everyday...)	
How are solutions to the environmental crisis constituted?	
How are the causes of the environmental crisis constituted?	
Emergent other... (economics; agentive)	

6. Who / what is constituted as moral objects?

NATURE					
Non-human animals able to experience pain and suffering	***Non-human animals with a sense of self***	***Social non-human animals***	***All individual organisms***	***Ecosystems and species***	***Other***
				Sharks: an animal that has been there for 400 million years It's gonna be extinct Now why are we just harping on the Great White Shark? Because the Great White Shark is a killer shark and it's on top of the food chain. It's on top of the food chain In Cape Town, or in South Africa, in America, in Australia, the Great White Shark is a protected species which means if you kill it, or if you try to kill it, they will take you and they will give you... now it's only a fine... it's only a fine, but we come back to the main thing.	

				The shark is a top, top predator, And I just want to show you that all that different steps, if you take the shark away...if you take the shark away.... but first you must tell me what's going to happen if you take the shark away out of the whole equation, if we keep on killing our sharks, if we keep on taking away. Now let me tell you something, something quite amazing about the shark. From the bottom up, for the shark I look exactly like a seal. So, it's just a case of mistaken identity.	
HUMAN					
Present human generations	***Present and future human generations***	***Past, present & future human generations***	***Local human generations***	***Global human generations***	***Other***
	And it is our responsibility to see that it's there for future				

	generations				

7. What kinds of values of nature are constituted?

INTRINSIC VALUE				
Inherent worth (independent of moral agents)	***Inherent value (dependent on moral agents)***	***Systemic or emergent value (dependent on transactional processes between nature and humans)***	***Other***	
		Right, this, you take that away and the fish in the sea will increase, right, will increase, your seals will increase. Right, when your tummy's full, where do you go? ... Right, to the toilet. And that's what's going to happen to the sea, it's going to start smelling. Because there's nothing there to keep the balance, right. Balance means to keep it equal, right?		
INSTRUMENTAL VALUE				
Demand value (nature provides satisfaction for felt preferences)	***Transformative value (nature encounters transform preferences and***	***Constitutive value (the conception of nature constitutes the conception of humanity)***	***Need value (nature meets human needs)***	***Other***

	meaning)			

8. How are the ontological relations of Humans and Nature constituted?

INTEGRATION				
Shared geographical space	***Shared historical space***	***Shared biological features***	***Discursively constructed community***	***Other***
			Is it a producer? Is it a consumer? So this is your primary, and this is your secondary, so producers there and secondary there. Where does it go on the food chain?	
SEPARATION				
Separate geographical space	***Separate historical space***	***Different biological features***	***Nature excluded from discursive community***	***Other***
			But the lion goes out to hunt, and the man couldn't just walk where he wanted. Exactly the same for us. *Hy gaan vir my byt. Hy sien*	

			die kos en ek behoort nie daar nie. [He's going to bite me. He sees the food and I don't belong there.]	

and I have a little friend here... Now her name is Penny [penguin model]. And Penny is also...one of the things that sharks love to eat. And I'll tell you why. Penguins and seals and big fish, right, and even dolphins, and Great White Sharks will eat other sharks.

And it's not true that sharks eat humans. They absolutely despise and hate human flesh. They hate it. Even if they bite a human being, like I said it's a case of mistaken identity. But they will go around the corner and they will actually vomit everything up because there's no nutritional value in human flesh.

9. Which relational spaces are touched upon?

A space of individual worldviews	***A political space (institutions for decision-making)***	***A gendered space***	***A discursive space***	***A situated everyday practical space***	***Other***
	the Great White Shark is a protected species which means if you kill it, or if you try to kill it, they will take you and they will give you... now it's only a fine... it's only a fine.		So there's enough for everybody to eat, but there isn't enough for everybody's greed. (line 124-125)		

10. How are solutions to the environmental crisis constituted?

As identifications with Nature and a deeper sense of belonging	*As an egalitarian political system that acknowledges the suffering of humans and non-humans*	*As practices of care, partnership, kinship, love, friendship etc.*	*As local narratives of human-nature integration*	*Treated as an empirical question, a task for open-ended, pluralistic enquiries*	*Other*
	So there's enough for everybody to eat, but there isn't enough for everybody's greed		it is our responsibility to see that it's there for future generations		

11. How are the causes of the environmental crisis constituted?

As an inability to	*As egalitarian hierarchical institutional*	*As patriarchal power*	*As discursively constituted disconnected &*	*Treated as an empirical question, a task for open-ended pluralistic*	*Other*

identify with nature	*relations*	*relations*	*dominant relationships to nature*	*enquiries*	
			and we are killing 100 million sharks a year! we are the biggest enemy of – not just sharks – but of the planet in the whole. Right. of every animal, every living species, in the last 100 years we've caused more damage than all our ancestors before that. They take the sharks, they cut off the fins, this one, the back, all the fins, the rest of the body, they take it and throw it back into the water. Right? Huh? They throw it back into the water. And they take the fins and they make some soup. They're making shark fin soup. And out in the East, in China, the Malaysian countries all		

			out there, it's a delicacy for them. And some of the islands, they catch, like for initiation, there the boys must go out and they must kill a shark.		

APPENDIX 18:

ANALYSIS OF EXTRACT FROM PAUL'S EETDP COURSE ASSIGNMENT ON SHARKS

(CASE STUDY 1)

CASE STUDY 1A

Extract from Paul's Assignment

Environmental Ethics Analytical Tool

(Adapted from Kronlid & Ohman, 2011)

We in the City of Cape Town have a coast line that spans over more than 300 kilometres which we can arguably say it is one of the most beautiful we will find on the planet with its big variety of plant and animal life in and out of the sea. With this beauty also comes a huge amount of responsibility to care for it so that it can be sustained and protected for future generations. ...

... In recent years, we in Cape Town also had some shark incidents that did not go unnoticed by the public as well with the authorities that are responsible for the safety on our beaches and the people that use these beaches as a recreational facility. Also understanding the unique value that the coast offers, and considering the current pressures on our resources the city is required to that take urgent action to reverse the current trends and secure our coastal assets. ...

... And yes sharks are out there and part of our coast line and our Marine diversity that needs to be protected and not just killed.

1. Who / what is constituted as moral objects?

NATURE					
Non-human animals able to experience pain and suffering	***Non-human animals with a sense of self***	***Social non-human animals***	***All individual organisms***	***Ecosystems and species***	***Other***
				a coast line that spans over more than 300 kilometres which we can arguably say it is one of the most beautiful we will find on the planet with its big variety of plant and animal life in and out of the sea.	
HUMAN					
Present human generations	***Present and future human generations***	***Past, present & future human generations***	***Local human generations***	***Global human generations***	***Other***
	sustained and protected for future generations (line 3).				

2. What kinds of values of nature are constituted?

INTRINSIC VALUE				
Inherent worth (independent of moral agents)	***Inherent value (dependent on moral agents)***	***Systemic or emergent value (dependent on transactional processes between nature and humans)***	***Other***	
	a coast line that spans over more than 300 kilometres which we can arguably say it is one of the most beautiful we will find on the planet with its big variety of plant and animal life in and out of the sea sharks our Marine diversity			
INSTRUMENTAL VALUE				
Demand value (nature provides satisfaction for felt preferences)	***Transformative value (nature encounters transform preferences and meaning)***	***Constitutive value (the conception of nature constitutes the conception of humanity)***	***Need value (nature meets human needs)***	***Other***
			that use these beaches as a recreational facility unique value that the coast offers our coastal assets	

3. How are the ontological relations of Humans and Nature constituted?

INTEGRATION				
Shared geographical space	***Shared historical space***	***Shared biological features***	***Discursively constructed community***	***Other***
SEPARATION				
Separate geographical space	***Separate historical space***	***Different biological features***	***Nature excluded from discursive community***	***Other***
yes sharks are out there and part of our coast line			the city is required to that take urgent action to reverse the current trends and secure our coastal assets	

4. Which relational spaces are touched upon?

A space of individual worldviews	***A political space (institutions for decision-making)***	***A gendered space***	***A discursive space***	***A situated everyday practical space***	***Other***
	authorities that are responsible for the safety on our beaches		With this beauty also comes a huge amount of responsibility to care for it		

5. How are solutions to the environmental crisis constituted?

As identifications with Nature and a deeper sense of belonging	*As an egalitarian political system that acknowledges the suffering of humans and non-humans*	*As practices of care, partnership, kinship, love, friendship etc.*	*As local narratives of human-nature integration*	*Treated as an empirical question, a task for open-ended, pluralistic enquiries*	*Other*
					As a managerial solution: authorities that are responsible for the safety on our beaches the city is required to that take urgent action to reverse the current trends and secure our Marine diversity that needs to be protected and not just killed

6. How are the causes of the environmental crisis constituted?

As an inability to identify with nature	*As egalitarian hierarchical institutional relations*	*As patriarchal power relations*	*As discursively constituted disconnected & dominant relationships to nature*	*Treated as an empirical question, a task for open-ended pluralistic enquiries*	*Other*
					current pressures on our resources

APPENDIX 19:

ANALYSIS OF FAAIZ'S SMART LIVING PRESENTATION (CASE STUDY 1)

Environmental Ethics Analytical Tool

(Adapted from O'Regan, 2006 and Kronlid & Ohman, 2011)

CASE STUDY 1B

Analysis of Faaiz's Smart Living Presentation

CDA.01-07

1. Generalised review of vocabulary, tone, concepts and intention

KEY:

- Collective responsibility; OUR environment; personal connection
- Imperatives
- Awareness raising agenda
- Change-oriented agenda

TRANSCRIPTION OF FAAIZ'S PRESENTATION AT BELLVILLE CIVIC CENTRE:

Good morning everybody, thank you Patrick for the introduction. My name is Mohamed Faaiz Adams. I'm one of the employees in the Environmental Resource Management Department. And this morning I'm coming to share with you about our natural environment[R1]. It basically is to get us all on board, it's something that you know, I mean just sort of in the back our minds; what is [indistinct word] environment, what is our cause and effects on the natural environment, what can we do to actually support the natural environment. And today we are doing that in a presentation on Smart Living, coming back to the handbook in front of you now, is a very good resource, it's called the Smart Living Handbook. And we think in the City that this resource can be used as a tool to actually help[R2] our natural environment. ...tative. Because if *you* know of the natural environment, who else would know? [R3]

So this morning when you woke up, we just breathed. We didn't need anything. Did we ask our children did you go buy oxygen for us, to sustain us for the week? Did we do that? No.[R4] So this is what Smart Living will do to you. We want to make you aware that you breathe oxygen, where does it come from. Does anybody know where oxygen comes from? {Pause, indistinct response from audience}. It's in the air, right, in the air! But what manufactures oxygen? {Pause, indistinct response from audience}. Trees, correct, trees! And trees aren't [indistinct]. So if oxygen is, if we need oxygen, and we use it in our bodies actually more than we might ever want to. We also give off...? {audience members reply 'carbon dioxide} ... carbon dioxide. And then the plants again, from the day to the night, uses the carbon dioxide to make something up. With the sunlight and the plants release all kinds of good things. [R5]Making those things part of our natural environment. This is what Smart Living wants to do. We want to make you aware that we have a partnership with the natural environment[R6]. Who of us woke up this morning and took a shower? ... one, two, three, four, five... Oooe, now I know why there's a terrible smell in the room! {laughter}[R7]. But this is what you need to know[R8]. You walked in the shower, you opened the shower and water came out. Where does the water come from? And don't tell me from the tap. {laughter}. You know, when we do with small children at school we ask them, where does water come from and they say from the tap. And where does milk come from? They say Pick 'n Pay. {laughter}.

Is that the kind of generation we want to build the future? [R9]No. The other thing, when you switch on the light, where does the electricity come from? {Audience member replies: from the switch}. Don't tell me that. {laughter}. Where does it come from? The vision of Smart Living wants to inculcate in us the knowledge and awareness of whatever we do, we have an impact on the natural environment. Remember we said it looks like we give off carbon dioxide? What if we as humans produced more carbon dioxide in the atmosphere than it can handle? What happens to it? {Audience member: it's gonna be [indistinct]}. It goes into the atmosphere, remains there and becomes a buffer for sunlight to deflect back into space. So, it causes what we say, global warming. A very long- known phenomena right, by people in the world already. They are [real?]. What does global warming do? Each of {indistinct word} ; it changes our climate. When it heats up the planet it melts the ice on the poles and all that water's coming to us. You don't have to buy a property on the beachfront now. In eight year's time or even less we'll all have beachfront properties along the Western Cape because 1.1 meter rise in the sea level or 3 metres is gonna flood the whole Cape Flats[R10]. That is because of global warming. Who is responsible for it? Ultimately, we are[R11]. Why? Carbon dioxide is being introduced in the atmosphere. This is what [indistinct]. That everything you do has an impact on the environment. How can we do things differently?

5' 04"

{Showing Powerpoint slides}

This is an outline... I bought this... showing the borders of Cape Town from Atlantis right down to Gordon's Bay. We are approximately 3.6 million citizens. But who can they think of globally. But now you're thinking thousand rate payers. That's {indistinct sentence}. What will become, what does this tell you? What is in the {indistinct word}? Because they need houses? Unemployment[R12]? I think what Mr {indistinct word}, could that be? So there is challenges. What I'm talking about is our [R13]environment – there's a lot of challenges facing the city[R14]. Yvonne {?} and {indistinct word} already. So they have been prioritized. What comes first: looking after the environment or building houses? [R15]But what we're currently doing, we are concentrating on the twenty-five thousand plus employees of which you're going to form part of, to change our mindsets[R16]. *We* can actually make a difference. We own houses, we all pay electricity bills and we all pay water bills. We intend to make change or do things differently after the {indistinct word}. That resource that you have in your hand doesn't become something that you shove on the shelf. I mean to encourage you, when I walk out of here, you need to be encouraged [R17]to read, read that thing. Why do people come to Cape Town? I've got a friend here {gestures to Lausanne}, she's come from Grahamstown to come to Cape Town. But Cape Town is attracting people because of this beauty; its natural beauty[R18]. Of the six world floristic kingdoms, Cape Town is one of them, the Cape floristic kingdom, and the uniqueness of that is it's unique in the sense it's the only kingdom that consists of fynbos[R19]. Not Stellenbosch, not Rosenbosch, not Kirstenbosch, but fynbos! Did you know that {indistinct word} preview {indistinct word} Capetonians. Fynbos. There are two biospheres within Cape Town: Kogelberg and West Coast. Two World Heritage Sites. It's the beauty of the natural environment that pulls people to Cape Town. A national park in the city: Table Mountain National Park. Thirty local nature reserves. I've got a couple of things here that I want to give away today. If anybody with ideas can put up their hands. Anybody tell me the name of one of the nature reserves.

{interaction between Faaiz and some members of the audience and he throws CCT branded water bottles to two who got the correct answers[R20].}

This book will inform you of our natural beauty guide. Don't be uninformed in the City of Cape Town, {indistinct word}. Don't ... {indistinct sentence} places you must see before you die. {comment from member of audience}. If you haven't seen the {indistinct word} – you haven't seen Cape Town yet, don't die.

But you all know our natural vegetation; that is what you call...? That is? {pause and get response from audience}. Fynbos! I've got a couple of bottles. Hands please. Our natural flower comes from this. {interaction as people call out answers}. Our national flower, please! {"protea"} Protea! Who said protea?

[09' 40"]

What is the national animal? {Interaction as people call out answers}. Springbok, daarsei! What's the national bird? {interaction as people call out answers}. The blue crane. There you go lady, thank you. {throws CCT bottle to woman who correctly answered}. What is our national fish? Galjoen. Now I'm gonna catch you. What is our national sport? {interaction as people call out answers}. Please stand up sir, stand up. This is a true South African. Jukskei. It is a national sport. Although it was developed in the apartheid era, it's still considered our national sport. Jukskei, have you ever played it?

Right, coming back to this. Robben Island {indistinct word} that absolute, that picture makes you proud to be a Capetonian. But in every environment out there, besides the big white sharks that can eat you[R21], is everything fine? It looks fine. But {indistinct word} everything that you can find down there. We need to make something, to think different from today onwards to help it, the sea life we have. Have you noticed that our snoek is so scarce? What are the food sources that {indistinct word}? Why haven't in Cape Town? Why? They all {indistinct phrase} probably.

[11' 50"]

[Next PowerPoint slide] We are... here's our natural fauna and flora. In the centre is the villain[R22], the Cape Town villain. He {indistinct word} around all day {indistinct word}, do you know why? Because we made him like that[R23]. Remember how you're driving around Cape Point. What do you take along: bananas, and food and biscuits. To throw out at the {indistinct word} baboons. When they see people now, they see... food. So when {indistinct word} we change our environment, we change our climate, now we starting to change our {indistinct word}. This guy is breaking into the house. He opens the fridge, takes out the bread, puts butter and jam on the bread and eats it there.

Smart Living wants to change the attitude towards this. We must realise that these are our cross-pollinators and our environmental indicators[R24], indicators. When women {indistinct words}, they tend to. Remember, they serve a purpose in our ecosystems. If you take them away or you go 'Pshhhhh' [gestures spraying an aerosol can], a bee comes into the house 'Pshhhhh!'. It's the only animal, or, or insect that can make honey, and you're killing it. Smart Living wants to make you part of nature, make you part of nature[R25]. You must be part of the natural environment so you can do things positively for that environment.

There's a frog there [gestures to PowerPoint slide] on your left hand side, right at the top corner. It's only found on Table Mountain. Who knows what the name of the frog is? {Interaction as people call out answers} Proudly Capetonian! Table Mountain Ghost Frog. It's only found on Table Mountain. And if

that frog disappears, then we have a problem because it indicates whether the environment is still healthy. On the other end [of the screen] is something that is, we find these frogs in the Cape Flats. Right in the lower corner, on the right hand side. What is the name of that frog? {Interaction as people call out answers}. Leopard toad. {Indistinct sentence}. And we stand, most people would say they are crazy; we stand between two and four in the morning watching those leopard toads cross the road {indistinct word} and they come back in their environment. That's how important they are[R26]. If they are not there, then you must worry. [R27]

{14' 35"}

[Next slide] Capetonians find any reason to have a party. We are vibrant people. We're considered by the international people as the most friendliest people in the world.

Fishing. We've just spoken about fishing. Our farming people, what we call backyard organic farms. But, and this is a big but: this city's space is so caught up with issues [referring to PowerPoint slide of 'brown issues'] that we find it difficult to go out there and speak to people about the natural environment when those list of issues is still evident [R28]and {indistinct word}. We need to address it, but how are we gonna do it? We cannot wait until we have done that. We should be doing something now. So those people who are in a position to do something different, look at that Smart Living Handbook and try to incorporate those little small things that will be, that can be a positive contribution to the natural environment. I think the solution of {indistinct word 'womf?'} is a stone's throw away. The weather is {indistinct phrase}.

15' 46"

Water: communal taps still 15, 16 years into democracy and people have to walk kilometres to collect water, to collect firewood to cook food[R29]. Pollution. All of us drove by car to get here today. But did you think that this could, on a different side, that that's gonna {indistinct phrase} you by the fuel in your car? So the city took an integrated, with the departmental environmental policy, and devised four impact strategies: biodiversity, coastal zone management, energy and climate change, and air quality. And with that, the land is developed, the natural environment is {indistinct phrase}. This is where we come in; with the Smart Living; where we go out and tell people of the environment, of the natural environment. Those things that are pressing in our environment[R30], the threats and the challenges and how we can help.

16' 52"

Smart living. Why? Why smart living? It saves you money[R31]. It saves you resources. And it saves your environment. But ultimately, it's the right thing to do[R32]. Don't we agree that the environment is giving us wide sustainable services? If those don't work we haven't got oxygen, we haven't got {indistinct word}. So the whole issue of the Smart Living Handbook is to make sustainable development a reality in each and every home, and how many blinking thousand households actually want to have a {indistinct word} by living on {indistinct phrase}. So we're starting on our doorstep with our employees.

So just to give you an idea, the Smart Living Handbook consists of four things: waste, we are all part of the waste {indistinct word}. So it will teach you how to minimise waste. Energy: we all pop out energy. And you know energy may be along carbon dioxide. How do we reduce energy usage? Water. How do

we reduce water? Eugene always tells me the best way to save water is to drink beer {laughter from audience}. But it takes up to six litres of water to make one litre, one pint of beer[R33]. And he says the other thing is: shower with your neighbour {laugher}.

{18'23"}

And the other theme is biodiversity[R34]. So in each section in the handbook we look at key challenges, the city, how does it respond to it, interactive ways of how you can reduce your impact on the rest of the environment. That's what you're going to find in here. Don't walk out of here cast {indistinct word} on your shoulder. So very colourful, very practical. It gives you the energy cycle, it's also good for projects for your children[R35]. Energy cycle: where does that energy come from? Know that the biggest source of energy is the sun which is very much under-utilised by us and we're still burning fossil fuels to generate our electricity[R36]. Onto that graph you see there {indistinct phrase}. The guy's standing there with a kortbroek and sandals. And the {indistinct phrase} that's his foot size. That illustrates to you that every South African on average generates eight ton of carbon dioxide per year. That's a lot of carbon dioxide. So we need to reduce that. How can we do that? Smart Living Handbook will teach you how to do that.

Also there's a quiz there. It will teach you how environmentally friendly are you really? Even though a few of us makes compost in the garden, do you have a garden or do you just have a pavement? A pavement, it's an easier way round. Creating more biodiversity and less waste, that's the ultimate goal, plan.

[20' 00"}

It says here how to fix your cistern. Why? Every drop of water that plop-plop-plop out of your tap is money plop-plopping out of your pocket[R37]. Of course a valuable resource [R38]{indistinct word}.

It teaches you waste management. Who here does recycling at home? From today on you will be doing it. There's a lady. I will give you a bottle lady, just for the fact that you are recycling. Thank you, just pass it on to the lady at the back. {sends a CCT plastic water bottle to a member of the audience}. We are responsible for the waste we generate. Either you can leave it at Pick 'n Pay and Shoprite; you know that toothpaste you buy, it's in a box, and then it's in a tube. Do you need the box? {Some voices from the audience say 'no'}. We don't need the box. So leave the box at Pick 'n Pay. We are all responsible for what we buy, so buy sustainable, buy in tins {indistinct phrase} so you won't want to take the one at the bottom there.

Energy efficiency. Who of us sitting here uses compact fluorescent lights in their homes? It produces 80% light and 20% heat and it lasts six times longer than a normal light. And {indistinct word} cost of that {indistinct word} . A compact fluorescent will cost you about R35 – R40, but if you calculate the amount of times that you replace them, don't let anyone {indistinct phrase} and say no it's expensive, because it lasts you six to eight times longer than a normal light. This will give you a very good way of saving energy[R39]. Do you see the guy at the back of the taxi? {Referring to PowerPoint slide}.

Also, one of the big energy consumers in your house is geysers. Who's got solar geyers? You are in the pound seats colleague, in the pound seats. That thing pays itself off in three to five years and then

you're in the pound seat. It uses 40 – 50% less of your electricity; it costs you 40- 50% of your electricity bill. That's just money back in your pocket. [R40]

Water conservation. Anybody got a water-saving device in their homes, like aerators or a water-saving shower costs R300 in a hardware store. But it will save you a total of R7000 per annum[R41], just that one showerhead usage. Because it uses less water. It also saves you 2 1000 tons of {indistinct word} at the power station. Saves you five tons of CO2 generated at the power station there[R42]. And it saves you I think it would be 1 000 litres of water for usage by using that shower head. So it's a smart thing to have a water efficient shower head in your bathroom.

And of course biodiversity. If we don't look after our, ecology is gonna spiral out of control [R43]we won't have biodiversity. It is already dying off at extreme cost of {indistinct word}. And if we're not gonna do something about it, who's gonna do something about it? So the question we must ask is are we living sustainably? If the answer is no, then we must ask what are we gonna do about it? Don't just sit there and wait and say it's the City's problem, provincial government's problem, national government's problem[R44]. Pointing fingers at everybody else but remember when one finger's pointing at someone else, 4 fingers are pointing at yourself. So let's be realistic that we all have something to do with the natural environment. If you want to have more information, you can go to www.capetown.gov.za/environment and click on Smart living. You'll have everything you can do, all the information, all the contacts around smart living. Thank you very much.

2. Descriptive Interpretation (after O'Regan, 2006)

2A. What's the genre (e.g. advertisement, news report, narrative, political statement, notice etc.)?	Lecture as part of a staff training session
2B. What is the topic?	Smart Living Handbook and its relevance to the City of Cape Town.
2C. How is the topic being presented (e.g. formal, informal, persuasive, aggressive, angry, friendly, humorous, comic, etc.)?	Formal in the sense that it is in the form of a scheduled lecture within a limited time slot; PowerPoint slides have been prepared in advance with limited prospect of deviation, no two-way dialogue with the learner group. Faaiz's style is enthusiastic, motivating, almost evangelical. He draws on locally relevant examples ("Who of us woke up this morning and took a shower?") and frequently uses humour.
2D. What is the preferred reading (the main message of the text; the reading which accords with the way the text seems to want to be read; the reading of minimal consensus)?	*Cape Town is a beautiful, vibrant city that attracts many tourists, but it faces challenges in terms of its resources. Everybody needs to (and can and should) get involved with responding to the environmental challenges in Cape Town, and the CCT employees play a key role in that, not just in their paid work, but in their personal lives. Taking environmental action starts with small, simple, practical actions at the household level. This not only saves money but saves environmental resources too. The Smart Living Handbook is available to support CCT employees to achieve this.*
2E. Who might be the ideal reader of this text? E.g. A person who ...	*A person who is newly employed in the CCT and who aspires to take local, practical environmental action but isn't sure how to go about it.*

3 Representative Interpretation

3A. How is the text organised visually? For example, does the text use words and pictures? If so, what is the balance between words and pictures?	Not applicable here.
3B. If the text is a combination of visual and written modes, or is written in a variety of formats, what is on the left (in the given position)? What is on the right (in the new position)? What is located in the upper part of the text (in the ideal	Not applicable here.

position)? What is located in the lower part of the text (in the real position)? (cf. ideational, interpersonal and textual meanings)	
3C. What are the effects of these choices on the text?	Not applicable here.
3D. What kind of vocabulary (including metaphors and descriptions) is used in the text? E.g. formal/informal, positive/negative, casual/dramatic, emotional/serious	Frequent use of **change-oriented** vocabulary especially wrt to taking environmental action e.g. "We should be doing something now"; "... if we're not gonna do something about it, who's gonna do something about it?" and "We need to make something, to think different from today onwards to help it". Frequent use of **negative or dramatic environmental scenarios** e.g. "In eight year's time or even less we'll all have beachfront properties along the Western Cape because 1.1 meter rise in the sea level or 3 metres is gonna flood the whole Cape Flats"; "...there's a lot of challenges facing the city"; and "If we don't look after our biodiversity, ecology is gonna spiral out of control, we won't have biodiversity. It is already dying off at extreme cost"
3E. What semantic fields (word families) do vocabulary choices belong to?	
3F. What vocabulary (including metaphors and descriptions) is associated with the participants in the text? Do these choices create a particular impression of the participants?	Audience (new CCT employees) appears generally to be regarded as environmentally uninformed but nonetheless well-intentioned potential agents. E.g. "... this morning I'm coming to share with you about our natural environment. It basically is to get us all on board, it's something that you know, I mean just sort of in the back our minds"; "
3G. Is there any vocabulary which seems very important?	Discussed above.
3J. What tenses are used in the text? Do any of these seem very important?	Not highly relevant here.
3K. Does the text use 'we', 'you' or 'I'? When and how does the text use them? (cf. interpersonal meanings)	Frequent use of **inclusive vocabulary** especially wrt environmental concerns and actions e.g. "... our natural environment"; "whatever we do, we have an impact on the natural environment"; "Who is responsible for it? Ultimately, we are"; and "... we all have something to do with the natural environment".
3L. What modal verbs are used (e.g. should, must, could, can, etc.)	**Imperatives** are quite frequent (5 uses of the word 'must' in relation to environmental action and change).
3M. Are there any nominalisations in the text? When are they used?	
3N. When are active and passive	Mostly active constructions; people are strongly represented as agents. (see section 3D).

constructions used? Are there any common themes attached to the use of these different voices? What is usually foregrounded or backgrounded in these constructions? What types of agents are used – people/things?	
3O. In the text as a whole which information is put first? What is thematised?	
3P. What are the effects of these choices on the text?	
3Q. Is there mixing of genres?	No.
3R. If there is mixing of genres, what are the effects of these choices on the text?	

4. Social Interpretation

4A. What social frameworks is the text a part of (e.g. gender, race, economy, business, politics, family, class, income, age, sex, property, geography, etc.)?	The most dominant social framework is geographical, that of being Capetonians and to a lesser extent, South Africans. "This book will inform you of our natural beauty guide. Don't be uninformed in the City of Cape Town"; "... that picture makes you proud to be a Capetonian" and "Remember how you're driving around Cape Point". A shared social objective of **money-saving** is assumed. "Every drop of water that plop-plop-plop out of your tap is money plop-plopping out of your pocket"; "That thing pays itself off in three to five years and then you're in the pound seat. It uses 40 – 50% less of your electricity; it costs you 40- 50% of your electricity bill. That's just money back in your pocket". General assumption that all participants are a heterogenous group with access to resources although many may actually be living in low-income areas without such common, taken-for-granted experiences: E.g. "Who of us woke up this morning and took a shower? ... one, two, three, four, five... Oooe, now I know why there's a terrible smell in the room!"; "Remember how you're driving around Cape Point. What do you take along: bananas, and food and biscuits" and "We own houses, we all pay electricity bills and we all pay water bills".
4B. What typical kinds of social knowledge do these frameworks suggest?	Familiarity with the local natural environment. Assumption that people's ways of knowing and engaging are heterogenous, based on geographical solidarity. Assumption that people know the basic science behind many of the environmental issues under discussion.

5. Deconstructive Interpretation

5A. Does any aspect of the	

5A. Does any aspect of the text's internal structure (descriptive, representative, social) appear to contradict or undermine the text's preferred reading?	

6. Who / what is constituted as moral objects?

NATURE					
Non-human animals able to experience pain and suffering	***Non-human animals with a sense of self***	***Social non-human animals***	***All individual organisms***	***Ecosystems and species***	***Other***
				Of the six world floristic kingdoms, Cape Town is one of them, the Cape floristic kingdom, and the uniqueness of that is it's unique in the sense it's the only kingdom that consists of fynbos. And of course biodiversity. If we don't look after our biodiversity, ecology is gonna spiral out of control, we won't have biodiversity. It is already dying off at extreme cost. Leopard toad.... And we stand, most people would say they are crazy; we stand between two and four in the morning watching those leopard toads cross the road {indistinct word} and they come back in their environment. That's how	

				important they are.	
HUMAN					
Present human generations	***Present and future human generations***	***Past, present & future human generations***	***Local human generations***	***Global human generations***	***Other***
{the moral considerability of people is so deeply embedded that it is silently assumed and taken for granted. Thus, there are no clear textual examples where this perspective is articulated although it is implicit.}	You know, when we do [this teaching] with small children at school we ask them, where does water come from and they say from the tap. And where does milk come from? They say Pick 'n Pay. {laughter}. Is that the kind of generation we want to build the future? No.		15, 16 years into democracy and people have to walk kilometres to collect water, to collect firewood to cook food. Why smart living? It saves you money. It saves you resources. And it saves your environment.		**Uncertainty:** ... there's a lot of challenges facing the city. ... So they have been prioritized. What comes first: looking after the environment or building houses?

7. What kinds of values of nature are constituted?

INTRINSIC VALUE				
Inherent worth (independent of moral agents)	***Inherent value (dependent on moral agents)***	***Systemic or emergent value (dependent on transactional processes between nature and humans)***	***Other***	
INSTRUMENTAL VALUE				
Demand value (nature provides satisfaction for felt preferences)	***Transformative value (nature encounters transform preferences and meaning)***	***Constitutive value (the conception of nature constitutes the conception of humanity)***	***Need value (nature meets human needs)***	***Other***
			We must realise that these are our cross-pollinators and our environmental indicators, indicators. ... Remember, they serve a purpose in our ecosystems. If you take them away or you go 'Pshhhhh' [gestures spraying an aerosol can], a bee comes into the	

			house 'Pshhhhh!'. It's the only animal, or, or insect that can make honey, and you're killing it. And if that frog disappears, then we have a problem because it indicates whether the environment is still healthy Don't we agree that the environment is giving us wide sustainable services? If those don't work we haven't got oxygen, we haven't got {indistinct word}. the biggest source of energy is the sun which is very much under-utilised by us.	

8. How are the ontological relations of Humans and Nature constituted?

INTEGRATION				
Shared geographical space	***Shared historical space***	***Shared biological features***	***Discursively constructed community***	***Other***
		our natural environment a tool to actually help our natural environment.	... that we have a partnership with the natural environment. everything you do has an impact on the environment. Cape Town is attracting people because of this beauty; its natural beauty.	**Ontological relations constituted as natural services:** So this morning when you woke up, we just breathed. We didn't need anything. Did we ask our children did you go buy oxygen for us, to sustain us for the week? Did we do that? No.

			Smart Living wants to make you part of nature, make you part of nature. how you can reduce your impact on the rest of the environment. So let's be realistic that we all have something to do with the natural environment.	
SEPARATION				
Separate geographical space	***Separate historical space***	***Different biological features***	***Nature excluded from discursive community***	***Other***
I bought this... showing the borders of Cape Town from Atlantis right down to Gordon's Bay A national park in the city: Table Mountain National Park. Thirty local nature reserves.			You walked in the shower, you opened the shower and water came out. Where does the water come from? And don't tell me from the tap. {laughter}. You know, when we do with small children at school we ask them, where does water come from and they say from the tap. And where does milk come from? They say Pick 'n Pay. {laughter}. Is that the kind of generation we want to build the future? No. But in every environment out there, besides the big white sharks that can eat you, is everything fine?	

			what can we do to actually support the natural environment?	

9. Which relational spaces are touched upon?

A space of individual worldviews	*A political space (institutions for decision-making)*	*A gendered space*	*A discursive space*	*A situated everyday practical space*	*Other*

10. How are solutions to the environmental crisis constituted?

As identifications with Nature and a deeper sense of belonging	*As an egalitarian political system that acknowledges the suffering of humans and non-humans*	*As practices of care, partnership, kinship, love, friendship etc.*	*As local narratives of human-nature integration*	*Treated as an empirical question, a task for open-ended, pluralistic enquiries*	*Other*
			You must be part of the natural environment so you can do things positively for that environment.	How can we do things differently? We need to make something, to think different from today onwards to help it, the sea life we have.	**A. Solutions constituted as changed domestic practices:** So those people who are in a position to do something different, look at that Smart Living Handbook and try to incorporate those little small things that will be, that can be a positive contribution to the natural environment. ...every South African on average generates eight ton of carbon dioxide per year. That's a lot of carbon dioxide. So we need to reduce that. How can we do that? Smart Living Handbook will teach you how to do that.

			Carbon dioxide is being introduced in the atmosphere. ... we change our environment, we change our climate, now we starting to change our {indistinct word}.	That's a lot of carbon dioxide.	

APPENDIX 20:

3-PAGE COURSE HANDOUT OF AFRICAN AND WESTERN APPROACHES TO CONSERVATION

Handout during Session 3; February 2009

A 20 minute trip through African and Western approaches to conservation, God, gods, nature, Earth, emotion, science, politics, ethics, sufficiency and ecofeminism!
African and Western approaches to conservation

•Due to globalisation and the mixing of cultures, its not easy to point out what is "African" and what is "western".

•"Western" is a general term that is used to describe European and American culture as it has come to dominate the world since the industrial revolution.

•We can only talk about things being "African" or "western" in a very generalised, historical way.

African and Western approaches to conservation

•I will now show some pictures and statements and I want you to say whether you think they are referring to "African" or "Western" people.

I was married at 23, and went to work in the mines after I was married. I used to weave baskets when I was about 12 years old; I cannot read or write. I am a drawer in the mine, and work from 6 in the morning to 6 at night. I stop about an hour at midday to eat my lunch; I have bread and butter for lunch; I get nothing to drink. I have two children, but they are too young to work. I know a woman who has gone home and washed herself, taken to her bed, delivered a child, and gone to work again after less than one week.

"Western" approaches to conservation

•There have been many influences on western society and its relationship with nature, for example:

–Rise of Christianity that replaced animist religions such as Paganism (e.g. Pan = Satan)

–Concept of heaven and hell and temporal nature of this world

–Interpretations of Genesis that humans are given dominion over nature to control and use it.

"Western" approaches to conservation

•There have been many influences on western society and its relationship with nature, for example:

–The thinking of philosophers such as Descartes: "*I think therefore I am*" largely seen as the start of a worldview that sees our bodies and minds as separate entities.

–Dominance of logical, rational thinking over feelings, intuition and emotion.

–Advances in science based on view of the universe governed by mechanical laws e.g. Newtonian physics – reductionism and positivism

"Western" approaches to conservation

•There have been many influences on western society and its relationship with nature, for example:

–Extension of the idea of separation of mind and body to separation of humans and nature
"Western" approaches to conservation

•Approach to conservation has been shaped by these and many other general trends – closely linked to colonial mentality and a top-down managerial scientific approach.

•Put up fences and move people out
"Western" approaches to conservation
"African" approaches to conservation

•Most traditional African (and European, Asian, Australian, American, etc.) societies do not view humans as separate from nature.

•Conservation is not even a concept that exists in such societies because there is an inherent (built-in) respect for nature.

•Human activities are governed by social and economic structures that ensure some level of harmony with nature.
"African" approaches to conservation

•For example, animist religions – not one GOD but many gods often represented in nature e.g. sun, moon, earth, trees, water, mountains, animals, etc.

•Social and economic practices and systems are not linear but cyclical – like patterns in nature.

•Living people still connected to their ancestors (and will one day be ancestor to their descendants)\

"African" approaches to conservation

•Intimate relationship and connection between each person, their God(s) and nature (the Earth) is ever changing and cyclical but balanced.

•Happiness and success is not measured by material possessions and technological development alone – more through the achievement of inner peace and contentment through knowing ones place in the world, the sense of purpose and meaning provided by this culture embedded in its natural environment.
Science and emotion

•Harmonious relationship between people and nature (environment) requires less scientific technological development and rational management.

•Many argue that humans need to rather develop our emotional maturity and depth of feeling for all life forms.

•With this will come a humbleness and compassion for all life and a deep feeling of the pain and destruction our way of living is causing the Earth
Sufficiency

•We are consuming too much

•Many argue that humans have become slaves to their egos that always wants more, more, more…

•Our capitalist economy reflects this greed, we are constantly told the economy needs us to consume.

Sufficiency

•We look up to rich people as if they are gods – the more someone flashes their wealth, the more society seems to respect them.

•It is argued that we need to change our values to recognise when enough is enough.

•Our needs for a quality and meaningful life are really very simple – all of humanity could live a healthy and sustainable life.

•This is the principle of sufficiency – recognizing when we have enough and allowing this to filter into our social and economic structures.

Globalisation and Green Imperialism

•Unfair access to resources on global scale leads to power by the 'developed' world to define how environment and conservation issues are understood (e.g. through media and education systems).

•Resulting structures and actions to protect the environment is seen as a form of imperialism.

•Rich nations have achieved their wealth through colonialism and plunder of Asia, Africa and South America.

Globalisation and Green Imperialism

•They can now afford clean technology, spend resources on cleaning and greening and rehabilitation.

•Many have achieved this by moving their dirty industry to poor countries – they claim to be providing jobs and stimulating economic growth. (this process is one aspect of globalisation)

•In reality, they are extracting natural resources, cheap labour and creating pollution in the poor countries while they can import the cheap, finished goods.

•This is sometimes referred to as the greening of the "north" and the browning of the "south".

Globalisation and Green Imperialism

•As a southern nation, we should ask ourselves: where does this lead to?

•Where will our resources come from to green our own nation once we have sold all our natural resources, polluted our water, air and soil and all of our once young and strong working population are sick and diseased from poor working and living conditions?

Ecofeminism

•A movement born out of the union of feminist and ecological thinking.

•It is the belief that the social mentality that leads to the domination and oppression of women is directly connected to the social mentality that leads to the abuse of nature.

•Argues that it should redefine how societies look at productivity of women and nature who have mistakenly been deemed as passive, allowing them to both to be ill-used.

•Example = stream/forest and child rearing

APPENDIX 21:

ANALYSIS OF EXTRACT FROM MONDI WETLANDS PROGRAMME 2009 EVALUATION REPORT (CASE STUDY 2)

Environmental Ethics Analytical Tool

CASE STUDY 2
Extract from MWP Evaluation Report
CDA.02-02

(Adapted from O'Regan, 2006 and Kronlid & Ohman, 2011)

Relevance of Strategies

NGOs still have an important advocacy and watchdog role to play, particularly in those government and industry sectors with a significant impact on natural resources, but less significant considerations of their environmental impact. However, there has been an increasing shift from lobbying in the form of 'shouting at' government or industry, to NGOs playing a support and partnering role to these key decision-makers and land-users. The MWP has done this well, particularly through the collaborative development and deployment of wetland delineation, assessment and management tools, and tools for planning, assessing and reporting land use in agriculture (SuSFarMS). This strategy or approach has helped them to stay with (and indeed contribute to) the shift in the environmental arena, from awareness (and alarm) raising to the developing better sustainability practices.

The MWP's goal is 'social change' towards better wetland management. The Millennium Ecosystem Assessment states that changes in social systems are not keeping pace with the changes in ecosystems that they need to address. Thus, the MWP is on the right track. But are they making any headway? To answer this, we need to consider what is meant by 'social change'.

The social changes required for greater environmental sustainability and justice involves:

- Changes in society's **perceptions** about natural resources including wetlands (awareness, understandings, values, worldviews).

- Setting up or improving the **structures and systems** with which to take better care of natural resources like wetlands.
- Our **practices and actions** including traditions and development decisions, which directly and indirectly affect natural resources – including wetlands.

Perceptions about wetlands

In the early years of its existence the MWP has focussed strongly on creating awareness and advocating that South Africans consider the value of wetlands more strongly. This work has borne fruit, and it is appropriate that it is no longer a main focus in the programme. There is however a need to keep advocating, particularly among new partners and as new staff join existing partners in government and industry. Increasingly, however, advocacy is focussed on 'what we can do', while 'why it is important' becomes a smaller, although still important, component of awareness and training initiatives. Capacity-development to help government, industry and individual land-users better understand and manage wetlands, is an important dimension of this work, and can take the form of formal courses but also informal learning opportunities, as suggested in the WATER Case Study (Chapter 7).

Sustainability practices and actions to protect & repair wetlands

Much of the MWP's current work is in developing the practical tools and resources with which to protect and repair wetlands or better manage the land use activities in catchments which impact on wetlands. Examples are the SuSFarMS system, the Wise Use guidelines, and the wetland management plans for Mondi. This work (although just one element of the social change required) has great potential for realising actual improvements to South Africa's wetlands. It would therefore be important to build monitoring and evaluation mechanisms into this work, where possible, and to initiate and participate in research which can help us get a better grasp of the impact of all the programme's collaborative work with others, on the condition of wetlands. Such research programmes and monitoring and reporting tools have not yet been developed, or put into use, and should be prioritised.

1. Descriptive Interpretation

1A. What is the frame of the text (i.e. What elements are part of this text)?	written text
1B. What's the genre (e.g. advertisement, news report, narrative, political statement, notice etc.)?	evaluation report
1C. What is the topic?	Mondi Wetlands Programme and its progress towards bringing about social change for better wetlands management.
1D. How is the topic being presented (e.g. formal, informal, persuasive, aggressive, angry, friendly, humorous, comic, etc.)?	Formal; reflective; summative; rational.
1E. What is the preferred reading (the main message of the text; the reading which accords with the way the text seems to want to be read; the reading of minimal consensus)?	MWP's strategy of collaborative co-learning and development for better wetlands management is appropriate and effective, especially in the light of current global socio-ecological insights and concerns. Part of this strategy involves a move away from awareness raising and a focus on environmental values, towards capacity-development, collaborative action, problem-solving and the development of practical tools and resources in support of better wetland management.
1F. Who might be the ideal reader of this text? E.g. A person who ...	Employees or partners of MWP, or anyone with an interest in approaches to managing wetlands and other freshwater systems.

2. Representative Interpretation

2A. How is the text organised visually? For example, does the text use words and pictures? If so, what is the balance between words and pictures?	text only
2B. If the text is a combination of visual and written modes, or is written in a variety of formats, what is on the left (in the given position)? What is on the right (in the new position)? What is located in the upper part of the text (in the ideal position)? What is located in the lower part of the text (in the real position)? (cf. ideational, interpersonal and textual meanings)	N/A
2C. What are the effects of these choices on the text?	N/A

2D. What kind of vocabulary is used in the text? E.g. formal/informal, positive/negative, casual/dramatic, emotional/serious	Formal and serious vocab; academic;
2E. What semantic fields (word families) do vocabulary choices belong to?	?
2F. What vocabulary is associated with the participants in the text? Do these choices create a particular impression of the participants?	Collectively, the formal, academic / professional vocab establishes the MWP and its staff as informed, professional and effective yet reflexive. "MWP is on the right track" ; "important advocacy and watchdog role"; "support and partnering role to these key decision-makers and land-users"; "collaborative development and deployment of wetland delineation, assessment and management tools"; "important dimension of this work"; "can help us get a better grasp of the impact of all the programme's collaborative work with others".
2G. Is there any vocabulary which seems very important?	The vocab is very in line with current South African government policy and related discourses: "sustainability" "collaborative development" ; "capacity development"; and also in line with current global socio-ecological discourses: "social systems"; "protect and repair wetlands or better manage the land use activities in catchments which impact on wetlands"; "practices and actions including traditions and development decisions".
2J. What tenses are used in the text? Do any of these seem very important?	Almost entirely present tense – suitable for an evaluation which is looking at its current practices and effectiveness. One or two sentences in future tense as the document considers future prospects and choices.
2K. Does the text use 'we', 'you' or 'I'? When and how does the text use them? (cf. interpersonal meanings)	No. Text is very neutral and refers to the MWP as an entity.
2L. What modal verbs are used (e.g. should, must, could, can, etc.)	Of the text's 546 words, the word "should" appears only once ("Such research programmes and monitoring and reporting tools have not yet been developed, or put into use, and should be prioritised") and the word "must" does not appear at all. The text is evidently not concerned with imperatives but more with reflections and analysis.
2M. When are active and passive constructions used? Are there any common themes attached to the use of these different voices? What is usually foregrounded or backgrounded in these constructions? What types of agents are used – people/things?	Majority are active constructions but I don't feel their use is strategic or influential. No real pattern emerges.
2N. In the text as a whole, which information is put first? What is thematised?	{As this is an extract from a longer report, this is not relevant here}.
2O. What are the effects of these choices on the text?	N/A
2P. Is there mixing of genres?	No.
2Q. If there is mixing of genres, what are the effects of these choices on the text?	N/A

3. Social Interpretation

3A. What social frameworks is the text a part of (e.g. gender, race, economy, business, politics, family, class, income, age, sex, property, geography, etc.)?	Legislative and policy framework; Environmental Management framework; Social Change, Learning and Development framework.
3B. What typical kinds of social knowledge do these frameworks suggest?	Basic, underlying knowledge is that NGOs and government have systems in place to manage environmental resources i.e. there are structures through which to act responsibly re environment. Also, recognition that society is changing and striving to be more collaborative and responsible.

4. Deconstructive Interpretation

4A. Does any aspect of the text's internal structure (descriptive, representative, social) appear to contradict or undermine the text's preferred reading?	No. But some points are made but not substantiated esp. the claim that "it is appropriate that it [creating awareness and considering the value of wetlands] is no longer a main focus in the programme".

6. Who / what is constituted as moral objects?

NATURE					
Non-human animals able to experience pain and suffering	***Non-human animals with a sense of self***	***Social non-human animals***	***All individual organisms***	***Ecosystems and species***	***Other***
				WETLANDS: • take better care of natural resources like wetlands (l.15) • advocating that South Africans consider the value of wetlands more strongly (l.20) • realising actual	Natural resources (l.3)

				improvements to South Africa's wetlands (I.31) • work with others, on the condition of wetlands. (I.33) • to protect and repair wetlands or better manage the land use activities in catchments which impact on wetlands (I.28)	
HUMAN					
Present human generations	***Present and future human generations***	***Past, present & future human generations***	***Local human generations***	***Global human generations***	***Other***
					Sustainability practices (I.8) 'social change' towards better wetland management (I.9)

7. What kinds of values of nature are constituted?

INTRINSIC VALUE				
Inherent worth (independent of moral agents)	***Inherent value (dependent on moral agents)***	***Systemic or emergent value (dependent on transactional processes between nature and humans)***	***Other***	
INSTRUMENTAL VALUE				
Demand value (nature provides satisfaction for felt preferences)	***Transformative value (nature encounters transform preferences and meaning)***	***Constitutive value (the conception of nature constitutes the conception of humanity)***	***Need value (nature meets human needs)***	***Other***

			land-users (I.5) land use in agriculture (I.6) take better care of natural resources like wetlands (I.15) help government, industry and individual land-users better understand and manage wetlands (I.24) Wise Use guidelines, and the wetland management plans (I.29)	

8. How are the ontological relations of Humans and Nature constituted?

INTEGRATION				
Shared geographical space	***Shared historical space***	***Shared biological features***	***Discursively constructed community***	***Other***
SEPARATION				
Separate geographical space	***Separate historical space***	***Different biological features***	***Nature excluded from discursive community***	***Other***
			important advocacy and watchdog role to play (I.2) changes in social systems are not keeping pace with the changes in ecosystems that they need to address. (I.10) social changes required for greater environmental sustainability and justice (I.12) Setting up or improving the **structures and systems** with which to take better care of natural resources like wetlands. (I.15) Our **practices and actions** including traditions and development decisions, which directly and indirectly affect natural resources (I.16) advocacy is focussed on 'what	

			we can do' (l.23) developing the practical tools and resources with which to protect and repair wetlands or better manage the land use activities in catchments which impact on wetlands (l.28).	

9. Which relational spaces are touched upon?

A space of individual worldviews	*A political space (institutions for decision-making)*	*A gendered space*	*A discursive space*	*A situated everyday practical space*	*Other:* *A managerial space*
			Changes in society's **perceptions** about natural resources including wetlands (l.14) a need to keep advocating (l.22)	stay with (and indeed contribute to) the shift in the environmental arena, from awareness (and alarm) raising to the developing better sustainability practices (l.7-8) the programme's collaborative work with others, on the condition of wetlands (l.33)	wetland delineation, assessment and management tools, and tools for planning, assessing and reporting land use in agriculture (l.6)

10. How are solutions to the environmental crisis constituted?

As identifications with Nature and a deeper sense of belonging	*As an egalitarian political system that acknowledges the suffering of humans and non-humans*	*As practices of care, partnership, kinship, love, friendship etc.*	*As local narratives of human-nature integration*	*Treated as an empirical question, a task for open-ended, pluralistic enquiries*	*Other: Improved Environmental Management*
				NGOs playing a support and partnering role to these key decision-makers	collaborative development and deployment of wetland delineation,

				and land-users (I.4-5) Changes in society's perceptions about natural resources (I.14) creating awareness and advocating (I.20) awareness and training initiatives. Capacity-development (I.24) important to build monitoring and evaluation mechanisms into this work, where possible, and to initiate and participate in research (I.31-32)	assessment and management tools (I.6) Setting up or improving the structures and systems with which to take better care of natural resources (I.15) developing the practical tools and resources with which to protect and repair wetlands (I.28)

11. How are the causes of the environmental crisis constituted?

As an inability to identify with nature	*As egalitarian hierarchical institutional relations*	*As patriarchal power relations*	*As discursively constituted disconnected & dominant relationships to nature*	*Treated as an empirical question, a task for open-ended pluralistic enquiries*	*Other*
			government and industry sectors with a significant impact on natural resources, but less significant considerations of their environmental impact (I.2-3) society's perceptions (I.14)	changes in social systems are not keeping pace with the changes in ecosystems that they need to address (I.10) practices and actions including traditions and development decisions (I.16) land use activities in catchments (I.29)	